C. F. War Production Board

Box 15

[redacted]

~~(JCS, CCS Classified)~~

THE WHITE HOUSE

WASHINGTON

C. F.
War Production Board
folder

March 11, 1942.

MEMORANDUM FOR

WAYNE COY: x4240

Will you speak to me about this?

F.D.R.

x4207

Letter from Hon. Gardner Jackson, ~~Under Secretary~~ of Agriculture, 3/7/42 to the President, marked "Personal & Confidential". States "Yesterday figures were conveyed to me in the utmost confidence on production schedules in relation to the goals set by you for 1942." States that at the same time he was told that Don Nelson has decided, under persuasion from the Army, that the goals are unattainable. He is reported to me to be wavering on the question of whether he should say that this is so. Specifically, one item in the President's goals is being spoken against by the Army, according to his information. That is the item on anti-aircraft guns. The Army is reported to him as saying that the goal the President set for this year is far beyond need. Gives figures on output in January of anti-aircraft guns, merchant ships, tanks and airplanes, and states it is his understanding that the Office of (over)

x4735

x25

x178
x99
x4488
x249 official

x4619

Facts and Figures is urging the publication of these figures as a spur to the production drive, and that the Nelson office is resisting. Mr. Jackson's own personal reaction is that publication of these facts will do good to the effort of our country. His only query is whether they would give data to the enemy which the enemy may not already have. Refers to speech by Phil Murray, and expresses hope that the President heard it or that he will get a chance to read it.

x2546

EXECUTIVE OFFICE OF THE PRESIDENT

OFFICE FOR EMERGENCY MANAGEMENT

WASHINGTON, D. C.

File Confidential

C. F. War Production Board

March 18, 1942

MEMORANDUM TO MISS GRACE TULLY:

From: Wayne Coy WC x4240

I am returning herewith a letter sent to me under date of March 11 by the President. I did speak to the President about it and he asked that I let Don Nelson see the letter, which I did this morning.

The letter is being returned for your files.

Attachment

UNITED STATES
DEPARTMENT OF AGRICULTURE
OFFICE OF THE UNDER SECRETARY
WASHINGTON, D. C.

PERSONAL & [redacted]

March 7, 1942

The President
The White House

Attn: Gen. E. M. Watson

Dear Mr. President:

Yesterday figures were conveyed to me in the utmost confidence on production schedules in relation to the goals set by you for 1942. At the same time I was told that Don Nelson has decided, under persuasion from the Army, that the goals are unattainable. He is reported to me to be wavering on the question of whether he should say that this is so.

Specifically, one item in your goals is being spoken against by the Army, according to my information. That is the item on anti-aircraft guns. The Army is reported to me as saying that the goal you set for this year is far beyond need.

On that question of anti-aircraft guns the figures conveyed to me are: January output up 40% over December and 11% ahead of January production schedules. Contracts for 1942 delivery are 34% of the 20,000 goal for this year set by you.

On merchant ships, January deliveries were up 89% over December, but 32% behind schedule; contracts for 1942 are 75% of the goal of 8,000,000 tons set by you.

Tanks were up 10% in January over December, and 10% ahead of January production schedules, with contracts for 1942 delivery 80% of the 45,000 tanks set by you as the goal.

Airplanes were up 12% in January output over December, but 10% below January production schedules. The contracts placed by the end of January for 1942 delivery represent 61% of the 60,000 planes set by you as the goal for this year.

My understanding is that the OFF is urging the publication of these figures as a spur to the production drive, and that the Nelson office is resisting. I note in this morning's press that Mr. Harrison of Nelson's office says your goals are attainable, so it is possible that the OFF boys have persuaded Nelson not to go back on the goals but to

DECLASSIFIED
E.O. 11652, Sec. 3(E) and 5(D) or (E)
Agriculture Dept letter, 11-8-72
MAR 28 1973

push ever harder for them. My own personal reaction is that publication of these facts will do good to the effort of our country. My only query is whether they would give data to the enemy which the enemy may not already have.

I hope you heard Phil Murray's speech last night or that you get a chance to read it over the week end. I spent three hours with him day before yesterday going over in detail his relationships and problems with the committee which meets with you, and his relationships with all other agencies of government. I hope to get my impressions to Wayne Coy just as soon as this Farm Security Administration and agriculture fight lets up a bit.

May you continue to be well.

Yours sincerely,

Gardner Jackson

Gardner Jackson

F. D. R. War Production Board

THE WHITE HOUSE
WASHINGTON

May 25, 1942.

MEMORANDUM FOR

HON. DONALD M. NELSON

x4735

Dear Don:-

I like the method of your tabulation of objective vs. deliveries, as contained in your tabulation with your letter of May 22nd. I think this is a simple form. Will you please let me have the same thing on about the fifteenth of every month?

F. D. R.

No papers accompanied the original of this memorandum to Mr. Nelson.

x773

[redacted]

WAR PRODUCTION BOARD

WASHINGTON, D. C.

May 22, 1942

IN REPLY REFER TO:

Dear Mr. President:

I have delayed in answering your letters of May 1 and May 4 in order that I might make a thorough investigation of our production status in relation to the items for which you have defined objectives. I can assure you that we consistently have been working to push our production schedules up to the levels you have set. I am glad to be able to report that we have made definite progress in this direction since the schedules of estimated production attached to your letter of May 4 were compiled.

The "estimated production" column in your tabulation is based upon forecasts of April 1. I am enclosing a retabulation which adds to your table a column showing 1942 production through April, and two columns showing respectively the production forecasts as of May 1 and the deviation of these from your established objectives.

This shows that there has been definite progress in our production planning since April. Thus the Tank situation remains satisfactory. The Anti-aircraft category shows the earlier deficit in the 40mm guns cut in two, and the 37mm and 90mm programs brought into substantial balance with objectives. The Ordnance Department states that the presently shown deficit in the 40mm category is due to questions as to the suitability of this weapon for use on self-propelled mounts in protecting moving columns of troops. Plans for substituting twin mounted 50 and/or 20mm weapons are now under development. The Antitank Gun program shows the 37mm deficit changed to a surplus, and the 3" and 57mm deficit substantially reduced. (Actually there is sufficient gun production planned to wipe out two thirds of this latter deficit, but production plans for the accompanying mounts and carriers have not yet been fully evolved)

The Machine Gun program is still far from satisfactory although it, too, shows definite improvement over the April estimates. The cal. 50 deficit has been reduced from 20,763 to 7,017, but the estimated deficit for the cal. 30 weapons shows only a slight decrease—from 81,569 to 81,252. I have directed that steps be taken at once to clear up this situation. Since the deficiency shown is due primarily to slowness in defining required types rather than to any real lack of production capacity, I expect to be able to give you a more encouraging report shortly.



×4488
×178

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E.O. 11652, Sec. 3(E) and 5(D) or (E)
Commerce Dept. Letter, 11-15-72
By RHP, Date MAR 14 1973

[redacted]

WAR PRODUCTION BOARD

WASHINGTON, D. C.

IN REPLY REFER TO:

The Airplane production schedules for Combat and Operational categories are substantially the same as they were in April. The slight differnces between the April and May forecasts are to be accounted for mainly by changes in the reporting base (which has now been standardized). This gap of some 11,000 planes between objectives and developed schedules has been one of my major concerns. I can assure you that it will continue to receive my focussed attention and effort until the deficiency is eliminated, if that is humanly possible. I feel confident that, at the very least, the apparent deficit will be substantially reduced.

We received only yesterday the proposals of the Army Navy Munitions Board for revised priorities and allocation ratings to implement the program set forth in your letter of May 1. I share completely your expressed opinion that the key to fulfillment of objectives lies in the prompt and effective development of procedures for assuring that industrial materials and tools are channeled directly to the 1942 production of munitions, and subsequently to fighting equipment producible in 1943, with every other use subordinated. We have been bending every effort to devise procedures to produce this result, and we shall work directly with the Army Navy Munitions Board to this end. ×3716

Without such centralizing direction as is provided by your letter of May 1, we should be working without the clearly-defined objectives that are indispensable if our work is to be efficient. Please know that I appreciate fully the helpfulness of your directives, and that my complete energy and devotion will be focussed upon carrying them out.

Very sincerely yours,

Donald M. Nelson

The President
The White House
Washington, D.C.

FOR VICTORY BUY UNITED STATES DEFENSE BONDS AND STAMPS

×249 official

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E.O. 11652, Sec. 3(E) and 5(D) or (E)
Commerce Dept. Letter, 11-15-72
By RHP, Date
MAR 14 1973

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E.O. 11652, Sec. 3(E) and 5(D) or (E)
Commerce Dept. Letter, 11-16-72
By RHP, Date MAR 14 1973

[redacted]

1942 PRESIDENT'S OBJECTIVE, ACTUAL PRODUCTION AND ESTIMATED PRODUCTION

	President's Objective	Actual Production Jan. 1,'42 to March 31,'42	Actual Production Jan.1,'42 to Apr.30,'42	Estimated '42 Production (as of Apr.1)	Difference Between Production Objective and April 1 Estimate	Estimated '42 Production (as of May 1)	Difference Between Production Objective and May 1 Estimate
AIRCRAFT							
Long Range Heavy and Medium Bombers	11,300	980	1,401	7,728	- 3,572	7,742	- 3,558
Light, Dive and Torpedo Bombers	11,000	1,198	1,221	8,101	- 2,899	7,849	- 3,151
Pursuits, 2 and 1 Engine	16,000	2,415	3,133	12,585	- 3,415	12,474	- 3,526
Observation and Transports	6,700	1,293	1,957	5,330	- 1,370	5,481	- 1,219
TANKS							
Heavy	115	0	0	340	+ 225	115	0
Medium (M3 and M4)	14,000	1,878	2,695	17,470	+ 3,470	17,629	+ 3,629
Light (M3, M3A1, M5, T7, M2A4)	10,588	1,159	1,716	10,811	+ 223	10,833	+ 245
ANTIAIRCRAFT GUNS							
40-mm A.A. (Wheeled and S.P.)	11,100	65	430	6,532	- 4,568	8,675	- 2,425
37-mm A.A.	3,500	121	250	1,771	- 1,729	3,250	- 250
90-mm A.A.	2,800	233	370	3,703	+ 903	3,096	+ 296
ANTITANK GUNS							
37-mm (Wheeled and S.P.)	17,000	1,876	2,429	15,786	- 1,214	17,796	+ 796
3-inch and 57-mm (Wheeled and S.P.)	8,491	2	77	3,335	- 5,156	5,341	- 3,150
MACHINE GUNS							
(Ground, Tank and Antiaircraft)							
Cal. .30	275,000	24,667	36,478	193,431	-81,569	193,748	-81,252
Cal. .50	125,000	10,229	16,903	104,237	-20,763	117,983	- 7,017

WAR PRODUCTION BOARD
Statistics Division
May 21, 1942

[redacted]

DECLASSIFIED
E.O. 11652, Sec. 3(E) and 5(D) or (E)
Commerce Dept. Letter, 11-16-72
By RHP, Date [redacted]
MAR 14 1973

COPY

THE WHITE HOUSE

WASHINGTON

C. F.
War Production Board

May 4, 1942.

Dear Don:

A check up on the attached in regard to aircraft, tanks, anti-aircraft guns, anti-tank guns, and machine guns disturbs me because of the size of the minus figures in the last column. In other words, the difference between the January objective and the present production, figured in terms of the year 1942, are much too large.

Military plans have to be built around available aircraft, tanks, guns, ammunition and ships.

What can we do to come closer to the objective than we are doing at the present time?

In regard to the shipbuilding program, it also is behind and I am taking this up with Land who will speak to you about the materiel side of it. x1705 x99

Very sincerely yours,

(Signed) FRANKLIN D. ROOSEVELT

Honorable Donald M. Nelson, x4735
Chairman, War Production Board,
Washington, D. C.

Enclosure. (list of figures in memo to the Pres. dated April 25th, 1942)

copies to Chiefs of Staff x5014

Copies sent to Major General WB Smith, Room 254, Public Health Bldg.

x249 official
x4488
x178

THE WHITE HOUSE
WASHINGTON

C
O
P
Y

April 25, 1942

MEMORANDUM FOR THE PRESIDENT:

On January 3, amended on January 12, you notified the various responsible officials that the following schedules of production must be obtained in 1942. Alongside of these objectives I am showing the actual production for the first quarter and the present estimated production.

	President's Objective	Actual Production January, February, March	Estimated Production	Difference Between Objective & Production
AIRCRAFT				
Long Range Heavy & Medium Bombers	11,300	980	7,728	- 3,572
Light, Dive and Torpedo Bombers	11,000	1,198	8,101	- 2,899
Pursuits	16,000	2,415	12,585	- 3,415
Observation & Transports	6,700	1,293	5,330	- 1,370
TANKS				
Heavy	115	0	340	+ 225
Medium	14,000	1,878	17,470	+ 3,470
Light	10,588	1,159	10,811	+ 223
ANTIAIRCRAFT GUNS				
40 mm A.A.	11,100	65	6,532	- 4,568
37 mm A.A.	3,500	121	1,771	- 1,729
90 mm A.A.	2,800	233	3,703	+ 903
ANTITANK GUNS				
37 mm	17,000	1,876	15,786	- 1,214
3" and/or 57 mm	8,491	2	3,335	- 5,156
MACHINE GUNS (Ground, Tank & Antiaircraft)				
Cal. .30	275,000	24,667	193,431	- 81,569
Cal. .50	125,000	10,229	104,237	- 20,763

When this is signed, return to me and I will have copies made of the attached table of figures to go with carbon of letter to Don Nelson for the Chiefs of Staff.

djb

[redacted]

THE COMBINED CHIEFS OF STAFF
WASHINGTON

April 24, 1942

MEMORANDUM TO MR. HARRY L. HOPKINS: x4117

I am attaching herewith the tables on requirements and production of items in the President's directive of January 3, as requested by you.

These materials were prepared by Mr. Lubin. x4529

J. H. Burns
Major General, U. S. Army
Executive
Munitions Assignments Board

x4763

DECLASSIFIED
JCS letter, 9-18-73
& OSD letter, 5-3-72
By RHP, NLR, Date DEC 4 1973

[redacted]

C. F.

War Production Board

May 1, 1942

[redacted]

My dear Mr. Nelson:

Early in January I advised you of the production objectives which were to be accomplished in 1942 and 1943 for shipping and for specific types of military and naval equipment, so that our troops as well as the troops of our associates in the United Nations could be equipped to cope with enemies whose ruthless ambitions for world domination have lead to their accumulation of the reserves for war over a period of years. x4193

I advised you, at that time, that the concept of our industrial capacity must be completely overhauled under the impulse of the peril to our Nation.

I am apprehensive that the schedules established at that time, for 1942, with such modifications as have been made in the interim, are not being met and I am convinced that a more determined effort must be made at once if the requisite objectives are to be accomplished.

The objectives which must be realized in 1942 are listed herewith:

Aircraft - 60,000 - of which 45,000 will be combat or operational.

Antiaircraft Guns - 17,400 - of which 2,800 shall be 90 mm caliber or larger.

Tanks, Armored Cars and Self-propelled Artillery - 46,523 units - of which 24,700 shall be tanks.

Machine Guns - 400,000 machine guns - exclusive of those required by aircraft.

x249 Official
x4488
x178
x102-A

DECLASSIFIED
By Deputy Archivist of the U.S.
By H. J. Stewart Date JAN 28 1972

There must be added to the above those items of complementary equipment required for a decisive land and air offensive involving amphibious landing operations.

The objective for shipping is to provide in 1942 a minimum of 9,000,000 deadweight tons. I can not overemphasize the necessity that this objective be met, as the success of our war effort must rest on our ability to provide the shipping required for the transportation of our own troops and their supplies, and to continue the flow of essential military equipment to our associates in the United Nations.

The objective for naval construction in 1942 should provide for the completion of those vessels which can be commissioned prior to July 1, 1943, and for the equipment for those vessels which can be launched prior to July 1, 1943. A lower priority should be assigned to these vessels now under construction which cannot be completed by June 30, 1943, except for ships of light category designed for convoy protection and for submarines which can be completed during the calendar year 1943.

The accomplishment of the above objectives must include the complementary weapons for the supporting troops required in the utilization of the military equipment contemplated in these objectives for offensive action. Moreover, every effort must be made to achieve the further production necessary for the training of additional troops, to provide assistance to our associates in the United Nations, and to provide other needed items of war equipment of lesser import. However, a balance in these latter items must not be attained at the expense of the specific items which I have enumerated herein.

I have instructed the Joint Chiefs of Staff to issue the necessary directive to the Army and Navy Munitions Board so that it may revise and submit for your immediate consideration the proposed priorities and allocations of critical materials which will be in accord with the strategical objectives which they have presented and on which this letter is based. I know that your office will assist the Army and Navy Munitions Board in this revision and in approving the necessary changes without delay.

I realize that certain facilities will be required for the production of basic industrial materials needed for this program. The requisite priorities and allocations of materials to provide

×732,

×18-Misc. Naval Bldg Folder

for these facilities must be established, of course. Such priorities and allocations should receive the concurrent approval of the Army and Navy Munitions Board. Other facilities necessary in our war effort but not essential to this program must be deferred until their construction can be undertaken without detriment to this program.

The distribution of critical materials and the allocation of machine tools must be directed and controlled so that this program is achieved. Firm measures may be necessary to secure compliance with the priorities and allocations established for this purpose and such measures should be placed under way without delay.

x4404

We can not foretell the critical period in our war effort and maximum production of major items of military equipment must be obtained without delay.

Very sincerely yours,

(Signed) Franklin D. Roosevelt

The Honorable
Donald M. Nelson,
Chairman, War Production Board,
Washington, D. C.

x4735

DECLASSIFIED
By Deputy Archivist of the U.S.
By W. J. Stewart Date JAN 28 1972

May 1, 1942

[redacted]

MEMORANDUM FOR JOINT CHIEFS OF STAFF ×5014

Subject: Recommendations to Joint Chiefs of Staff for Priority of Production of War Munitions.

1. I concur in the recommendations submitted by the Joint Chiefs of Staff in letter of April 10, 1942 to govern the priority in production of war munitions and particularly in the emphasis given in paragraph 6 thereof to three broad classifications of war materials to include aircraft and antiaircraft, with related equipment and munitions; cargo shipping, tankers, troop transport, and the forces which protect them; and the equipment for a decisive land and air offensive involving amphibious landing operations. ×99

2. However, in order that these objectives may be accomplished, I feel that it is necessary to establish specific objectives for the major items of equipment involved. Therefore, I have furnished a directive to Mr. Donald Nelson, Chairman, of the War Production Board which establishes these specific objectives and is consistent with the recommendations which you have submitted to me. A copy of this directive is enclosed herewith.

3. It is directed that the Joint Chiefs of Staff issue the necessary directives to the Army and Navy Munitions Board for the establishment of priorities within the Services which will accord with your recommendations and with my directive to Mr. Nelson. ×3716

(Signed) Franklin D Roosevelt

×25
×18

Enclosure:
Copy of letter
to Mr. Nelson.

DECLASSIFIED
By Deputy Archivist of the U.S.
By W. J. Stewart Date MAR 28 1972

1. Army Memo
2. Navy Memo

I have instructed the Joint Chiefs of Staff to refer the necessary directive to the Army and Navy Munitions Board so that it may review and submit for your immediate consideration the proposed priorities and allocations of critical materials ~~with~~ which will be in accord with the strategical ~~plans~~ objectives which they have presented and on which the letter is based. I know that your office will assist the Army and Navy Munitions Board in this review and in approving the necessary changes without delay.

Franklin D. Roosevelt

OF 30

[redacted]

[redacted] By authority of CG., S.O.S.

WAR DEPARTMENT
HEADQUARTERS, SERVICES OF SUPPLY
WASHINGTON, D. C.

4/25/42 Date — D.D.S. Initials

April 25, 1942

Mr. Harry Hopkins, #117
The White House.

Dear Mr. Hopkins:

The inclosed drafts have been cleared with the Chief of Operations, General Eisenhower, and the Deputy Chief of Staff, General McNarney, in General Marshall's absence.

A copy of these drafts will be brought to the attention of General Marshall as soon as he returns.

Respectfully yours,

LUCIUS D. CLAY,
Brigadier General, General Staff Corps,
Deputy Chief of Staff for Requirements and Resources.

Incls.:
2 Drafts: Ltr to Mr. Nelson
Memo to Joint Chiefs of Staff

Franklin D. Roosevelt Library
DECLASSIFIED
DOD DIR. 5200.9 (9/27/58)
Date- 2-26-59
Signature- Carl F. Spencer



[redacted]

[redacted]

Draft

April 25,1942.

MEMORANDUM FOR JOINT CHIEFS OF STAFF

Subject: Recommendations to Joint Chiefs of Staff for Priority of Production of War Munitions.

1. I concur in the recommendations submitted by the Joint Chiefs of Staff in letter of April 17-1942 to govern the priority in production of war munitions and particularly in the emphasis given in paragraph 6 thereof to three broad classifications of war materials to include aircraft and antiaircraft, with related equipment and munitions; cargo shipping, tankers, troop transport, and the forces which protect them; and the equipment for a decisive land and air offensive involving amphibious landing operations.

2. However, in order that these objectives may be accomplished, I feel that it is necessary to establish specific objectives for the major items of equipment involved. Therefore, I have furnished a directive to Mr. Donald Nelson, Chairman, of the War Production Board which establishes these specific objectives and is consistent with the recommendations which you have submitted to me. A copy of this directive is enclosed herewith.

3. It is directed that the Joint Chiefs of Staff issue the necessary directives to the Army and Navy Munitions Board for the establishment of priorities within the Services which will accord with your recommendations and with my directive to Mr. Nelson

The President

Incl:
cy ltr Chrmn WPB

[redacted]

[redacted]

ROUGH
DRAFT

Mr. Donald M. Nelson, Chairman,

War Production Board,

Washington, D. C.

My dear Mr. Nelson:

Early in January I advised you of the production objectives which were to be accomplished in 1942 and 1943 for shipping and for specific types of military and naval equipment, so that our troops as well as the troops of our associates in the United Nations could be equipped to cope with enemies whose ruthless ambitions for world domination have lead to their accumulation of the reserves for war over a period of years.

I advised you, at that time, that the concept of our industrial capacity must be completely overhauled under the impulse of the peril to our Nation.

I am apprehensive that the schedules established at that time, for 1942, with such modifications as have been made in the interim, are not being met and I am convinced that a more determined effort must be made at once if the requisite objectives are to be accomplished.

[redacted]

The objectives which must be realized in 1942 are listed herewith:

Aircraft - 60,000 - of which 45,000 will be combat or operational.

Antiaircraft Guns - 17,400 - of which 2,800 shall be 90mm caliber or larger

Tanks, Armored Cars and Self-propelled Artillery - 46,523 units - of which 24,700 shall be tanks

Machine Guns - 400,000 machine guns - exclusive of those required by aircraft.

There must be added to the above those items of complementary equipment required for a decisive land and air offensive involving amphibious landing operations.

The objective for shipping is to provide in 1942 a minimum of 7,578,000 deadweight tons. I can not overemphasize the necessity that this objective be met, as the success of our war effort must rest on our ability to provide the shipping required for the transportation of our own troops and their supplies, and to continue the flow of essential military equipment to our associates in the United Nations.

The objective for naval construction in 1942 should provide for the completion of those vessels which can be commissioned prior to July 1,1943, and for the equipment for those vessels which can be launched prior to July 1,1943. A lower priority should be assigned to these vessels now under construction which cannot be completed by June 30,1943, except for ships of light category designed for convoy protection and for submarines which can be completed during the calendar year 1943.

[redacted]

The accomplishment of the above objectives must include the complementary weapons for the supporting troops required in the utilization of the military equipment contemplated in these objectives for offensive action. Moreover, every effort must be made to achieve the further production necessary for the training of additional troops, to provide assistance to our associates in the United Nations, and to provide other needed items of war equipment of lesser import. However, a balance in these latter items must not be attained at the expense of the specific items which I have enumerated herein.

I have instructed the Joint Chiefs of Staff to issue the necessary directive to the Army and Navy Munitions Board, so that its requests for priorities and for allocations of critical materials will be in accord with the strategical objectives which they have presented and on which this letter is based. Their recommendations must be approved.

I realize that certain facilities will be required for the production of basic industrial materials needed for this program. The requisite priorities and allocations of materials to provide for these facilities must be established, of course. Such priorities and allocations should receive the concurrent approval of the Army and Navy Munitions Board. Other facilities necessary in our war effort but not essential to this program must be deferred until their construction can be undertaken without detriment to this program.

The distribution of critical materials and the allocation of machine tools must be directed and controlled so that this program is achieved. Firm measures may be necessary to secure compliance with the priorities and allocations established for this purpose and such measures should be placed under way without delay.

[redacted]

[redacted]

We can not foretell the critical period in our war effort and maximum production of major items of military equipment must be obtained without delay.

Sincerely yours,

[redacted]

file

C.F.

War Production Board

[redacted]

IMPORTANT

NEW AND REVISED ABSTRACTS

GOVERNMENT STOCKPILES

FOR

THE COMMODITY CHART BOOK

xW.C.

THIS distribution for THE COMMODITY CHART BOOK comprises a new abstract on tropical spices, 57 revised abstracts, and revised studies on government stockpiles.

A considerable number of the abstracts enclosed with this Index page show important changes in one or more of the major phases. Your attention is directed particularly to the following revised abstracts: Aluminum, asphalt, aspirin, building brick and clay tile, crude and general-purpose synthetic rubber, fuel oil, kyanite, lumber: all species, construction, Douglas fir, hardwood, softwood; mercury, platinum, shearlings, sodium nitrate, tannic acid, titanium ores, and wool.

All abstracts and other material in each weekly distribution should be inserted promptly in THE COMMODITY CHART BOOK, after you have examined the issues. All old copies removed from the Book should be destroyed immediately. Such action is necessary because of the highly confidential nature of the abstracts.

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E.O. 11652, Sec. 3(E) and 5(D) or (E)
Commerce Dept. Letter, 11-15-72
By RHP, Date MAR 14 1973

Quincy Adams

Quincy Adams
Editor
THE COMMODITY CHART BOOK

October 9, 1942

×773

×4735

THE COMMODITY CHART BOOK

New Abstracts Shown in Parentheses.

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Kyanite	10-9-42
Lead	9-25-42
Magnesite	9-25-42
Magnesium	10-2-42
Manganese Ore	9-25-42
Mercury	10-9-42
Mica, Block	10-9-42
Mica Splittings	10-9-42
Molybdenum	10-2-42
Monazite Sand	10-9-42
Nickel	9-25-42
Optical Glass	9-25-42
Platinum	10-9-42
Radio Quality Quartz	9-25-42
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Titanium Ores: Rutile & Ilmenite	10-9-42
Tungsten	9-25-42
Vanadium	10-9-42
Zinc	10-9-42
Zinc Oxide	10-9-42
Zirconium	10-2-42

Tab: CHEMICALS

Subject	Date Issued
Ammonia: Anhydrous	10-9-42
Aniline	9-25-42
Benzene	10-9-42
Butyl Alcohol	10-9-42
Chlorine Gas	10-9-42
Dibutyl Phthalate	9-25-42
Diphenylamine	9-25-42
Ethyl Alcohol	10-9-42
Glycerin	10-9-42
Hexamethylenetetramine	10-2-42
Methyl Alcohol	10-9-42
Naphthalene	10-9-42
Nylon	10-9-42
Phenol	10-9-42
Rayon	9-25-42
Sodium Nitrate	10-9-42
Sulfur	9-25-42
Tanning Materials	10-9-42
Toluol	9-25-42

Tab: FOOD & DRUGS

Subject	Date Issued
Agar	9-25-42
Aspirin	10-9-42
Belladonna	10-2-42
Caffeine & Theobromine	10-9-42
Coffee, Tea & Cocoa	10-2-42
Edible Fats & Oils	9-25-42
Ergot	10-2-42
Fish Liver Oils	10-2-42
Henbane-Stramonium	10-2-42
Iodine	10-2-42
Meats	10-2-42
Opium	10-2-42
Quinine	9-25-42
Red Squill	10-2-42
Sugar	10-9-42
Sulfa Drugs	9-25-42
Tannic Acid, U.S.P.	10-9-42
(TROPICAL SPICES)	10-9-42

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Burlap	10-2-42
Casein	10-9-42
Castor Oil	9-25-42
Cattle Hides	10-9-42
Coconut Oil, etc: Lauric Acid Group	9-25-42
Containers: Corrugated & Fiber	9-25-42
Cork	9-25-42
Cotton Bag Fabrics	9-25-42
Cotton Linters	10-2-42
Cotton, Long Staple	10-9-42
Fuel Wood	10-2-42
Gypsum	8-28-42
Gypsum Wallboard & Sheathing	10-2-42
Hog Bristles	10-2-42
Horsehair	10-9-42
Istle	10-9-42
Jute	10-2-42
Kapok	9-25-42
Linseed Oil	10-2-42
Lumber: 1. All Species	10-9-42
Lumber: 2. Hardwood	10-9-42
Lumber: 3. Softwood	10-9-42
Lumber: 3a. Douglas Fir	10-9-42
Lumber: 3b. Southern Pine	9-25-42
Lumber: 4. Construction	10-9-42
Lumber: 5. Container & Shipping	9-25-42
Lumber: 6. Manufactures	9-25-42
Lumber: 7. Railroad Tie	9-25-42
Mahogany	9-25-42
Manila Fiber	10-2-42
Neatsfoot Oil	10-9-42
Palm Oil	10-9-42
Plywood	9-25-42
Rapeseed Oil	10-2-42
Resin	10-2-42
Rubber, Crude & General-Purpose Synthetic	10-9-42
Rubber, Reclaimed	10-9-42
Rubber, Special Purpose Synthetic	9-25-42
Shearlings	10-9-42
Shellac & Lac	10-2-42
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Sisal -Henequen	10-2-42
Teak	10-2-42
Tung Oil	10-2-42
Turpentine	10-2-42
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Wool, Raw	10-9-42

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Army & Navy Munitions Board List of August 25, 1942

Tab: INTEGRATED STUDIES
Cooperage: Tight & Slack 8-28-42
Principal Alloy Metals 8-28-42

Tab: SPECIAL STUDIES
Carbon Electrodes
Government Stockpile: Deliveries, Releases & Balances
Stockpile & Public Purchase Recommendations
Graphite Electrodes

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THE COMMODITY CHART BOOK

Alphabetical List of Contents, Period October 9 - October 16, 1942

New Abstracts Shown in Parentheses.
Group Abbreviations: I-St - Iron & Steel
M-M - Metals & Minerals
F-D - Food & Drugs
OAF - Other Agricultural & Forest Products
SS - Special Studies
Ch - Chemicals
IS - Integrated Studies

Subject	Group	Date Issued
Agar	F-D	9-25-42
Alumina	M-M	10-2-42
Aluminum	M-M	10-9-42
Ammonia: Anhydrous	Ch	10-9-42
Aniline	Ch	9-25-42
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Burlap	OAF	10-2-42
Butyl Alcohol	Ch	10-9-42
Cadmium	M-M	9-25-42
Caffeine & Theobromine	F-D	10-9-42
Carbon Electrodes	SS	10-2-42
Casein	OAF	10-9-42
Castor Oil	OAF	9-25-42
Cattle Hides	OAF	10-9-42
Cement	M-M	9-25-42
Chlorine Gas	Ch	10-9-42
Chromite	M-M	10-2-42
Coal	M-M	10-2-42
Cobalt	M-M	9-25-42
Coconut: Babassu & Palm Kernel Oil. The Lauric Acid Group	OAF	9-25-42
Coffee, Tea & Cocoa	F-D	10-2-42
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Cotton Linters	OAF	10-2-42
Cotton, Long Staple	OAF	10-9-42
Cryolite	M-M	10-2-42
Diamond Dies	M-M	9-25-42
Dibutyl Phthalate	Ch	9-25-42
Diphenylamine	Ch	9-25-42
Edible Fats & Oils	F-D	9-25-42
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Ferrosilicon	M-M	10-9-42
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Fuel Wood	OAF	10-2-42
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Gypsum Wallboard & Sheathing	OAF	10-2-42
Henbane-Stramonium	F-D	10-2-42
Hexamethylenetetramine	Ch	10-2-42
Hog Bristles	OAF	10-2-42
Horsehair	OAF	10-9-42
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Istle	OAF	10-9-42
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Jute	OAF	10-2-42
Kaolin	M-M	9-25-42
Kapok	OAF	9-25-42
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Lead	M-M	9-25-42
Linseed Oil	OAF	10-2-42
Lumber: 1. All Species	OAF	10-9-42
Lumber: 2. Hardwood	OAF	10-9-42
Lumber: 3. Softwood	OAF	10-9-42
Lumber: 3a. Douglas Fir	OAF	10-9-42
Lumber: 3b. Southern Pine	OAF	9-25-42
Lumber: 4. Construction	OAF	10-9-42
Lumber: 5. Container & Shipping	OAF	9-25-42
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Magnesite	M-M	9-25-42
Magnesium	M-M	10-2-42
Mahogany	OAF	9-25-42
Manganese Ore	M-M	9-25-42
Manila Fiber	OAF	10-2-42
Meats	F-D	10-2-42
Mercury	M-M	10-9-42
Methyl Alcohol	Ch	10-9-42
Mica, Block	M-M	10-9-42
Mica, Splittings	M-M	10-9-42
Molybdenum	M-M	10-2-42
Monazite Sand	M-M	10-9-42
Naphthalene	Ch	10-9-42
Neatsfoot Oil	OAF	10-9-42
Nickel	M-M	9-25-42
Nylon	Ch	10-9-42
Opium	F-D	10-2-42
Optical Glass	M-M	9 25-42
Palm Oil	OAF	10-9-42
Phenol	Ch	10-9-42
Pig Iron	I-St	10-9-42
Platinum	M-M	10-9-42
Plywood	OAF	9-25-42
Principal Alloy Metals	IS	8-28-42
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Radio Quality Quartz	M-M	9-25-42
Rapeseed Oil	OAF	10-2-42
Rayon	Ch	9-25-42
Red Squill	F-D	10-2-42
Resin	OAF	10-2-42
Rubber, Crude & Gen'l-Purpose Synthetic	OAF	10-9-42
Rubber, Reclaimed	OAF	10-9-42
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Shellac & Lac	OAF	10-2-42
Silk, Raw	OAF	9-25-42
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Sodium Nitrate	Ch	10-9-42
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Sugar	F-D	10-9-42
Sulfa Drugs	F-D	9-25-42
Sulfur	Ch	9-25-42
Tannic Acid, U.S.P.	F-D	10-9-42
Tanning Materials	Ch	10-9-42
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Tin	M-M	10-9-42
Titanium Ores: Rutile & Ilmenite	M-M	10-9-42
Toluol	Ch	9-25-42
(TROPICAL SPICES)	F-D	10-9-42
Tung Oil	OAF	10-2-42
Tungsten	M-M	9-25-42
Turpentine	OAF	10-2-42
Vanadium	M-M	10-9-42
Wood Pulp	OAF	10-2-42
Wool, Raw	OAF	10-9-42
Zinc	M-M	10-9-42
Zinc Oxide	M-M	10-9-42
Zirconium	M-M	10-2-42

WAR PRODUCTION BOARD, Statistics Division
Materials Branch

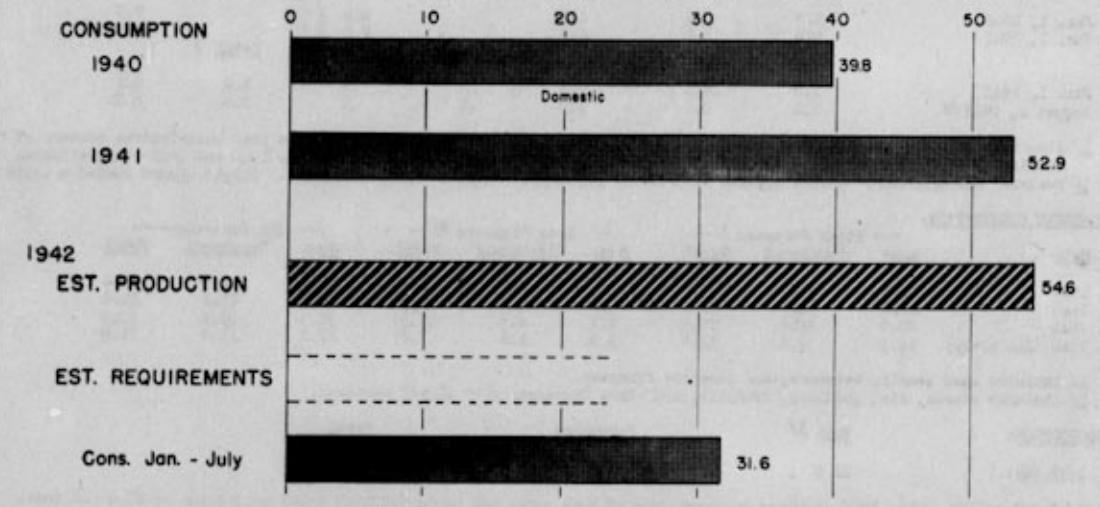
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IRON AND STEEL SCRAP

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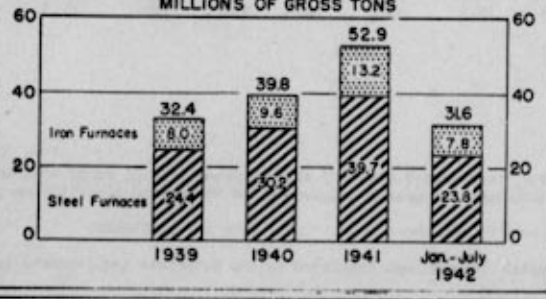
SUPPLY AND DEMAND

MILLIONS OF GROSS TONS



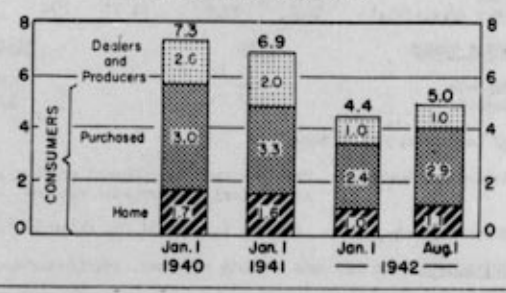
CONSUMPTION BY TYPE OF FURNACE

MILLIONS OF GROSS TONS



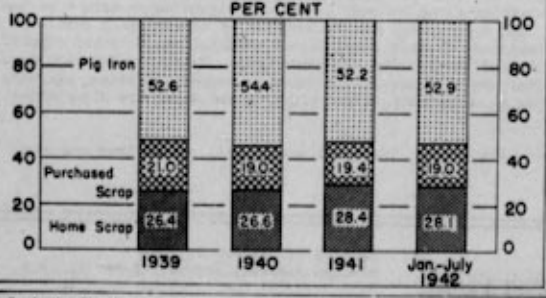
INDUSTRY STOCKS

MILLIONS OF GROSS TONS



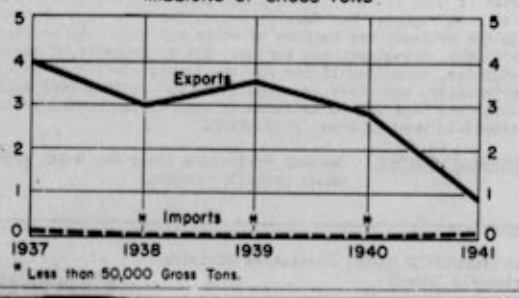
RELATIVE USE OF SCRAP AND PIG IRON IN STEEL FURNACES

PER CENT



EXPORTS AND IMPORTS

MILLIONS OF GROSS TONS



* Less than 50,000 Gross Tons.

War Production Board
Statistics Division
Materials Branch

SEE OTHER SIDE FOR ABSTRACT

Data as of Oct. 2, 1942
Chart Issued Oct. 9, 1942
Revision Due: Oct. 30, 1942

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IRON AND STEEL SCRAP

(Tabular figures in millions of gross tons)

BACKGROUND: Iron and steel scrap consists of all ferrous materials, either alloyed or unalloyed, of which iron or steel is the principal component. Scrap is divided into (1) "home scrap", and (2) purchased scrap. The former is the waste of industrial fabrication used within the producing unit or units; the latter consists of both the waste of industrial fabrication purchased by consumers from producers having no use for their waste product and of objects that have been discarded on account of obsolescence, failure, or other reason. Ninety-eight percent of scrap is charged into the blast furnace, steel furnace, or cupola to produce new pig iron, steel, or castings; two percent is rerolled or otherwise used without remelting.

STOCKS: 1/

Date	Home	Purchased	Total	Dealers and Producers 2/ 3/			Total
Jan. 1, 1940	1.7	3.0	4.7		2.6		7.3
Jan. 1, 1941	1.6	3.3	4.9		2.0		6.9
				Dealers	Producers	Total	
Jan. 1, 1942	1.0	2.4	3.4	.8	.2	1.0	4.4
August 1, 1942 4/	1.1	2.9	4.0	.8	.2	1.0	5.0

1/ Stocks in 1940 and 1941 include stocks in transit. This amount has been omitted in the 1942 calculations because of the difficulty of determining it accurately. 2/ Breakdown by producers and dealers for 1940 and 1941 not available.
3/ Dealers' and producers' stocks consist entirely of purchased scrap. 4/ Preliminary. Slight upward revision anticipated.

DOMESTIC CONSUMPTION:

	— Steel Furnaces 1/ —			— Iron Furnaces 2/ —			— All Furnaces —		
Date	Home	Purchased	Total	Home	Purchased	Total	Home	Purchased	Total
1939	13.6	10.8	24.4	3.9	4.1	8.0	17.5	14.9	32.4
1940	17.6	12.6	30.2	4.8	4.8	9.6	22.4	17.4	39.8
1941	23.6	16.1	39.7	6.7	6.5	13.2	30.3	22.6	52.9
1942 (Jan.-July)	14.2	9.6	23.8	3.6	4.2	7.8	17.8	13.8	31.6

1/ Includes open hearth, bessemer, and electric furnaces.
2/ Includes cupola, air, puddling, crucible, and blast furnaces; also direct castings.

PRODUCTION:

	Home 1/	Purchased	Total
1942 (Est.)	31.0	23.6	54.6

1/ Based on Jan.-June, 1942, average recovery rate of home scrap and estimated 1942 ingot production of 86.0 net tons.

RELATIVE USE OF SCRAP AND PIG IRON:

	— Steel Furnaces —				— Iron Furnaces —				— All Furnaces —			
Period	Home	Purchased	Pig Iron	Total	Home	Purchased	Pig Iron	Total	Home	Purchased	Pig Iron	Total
1939	26.4%	21.0%	52.6%	100%	31.7%	33.4%	34.9%	100%	27.4%	23.4%	49.2%	100%
1940	26.6	19.0	54.4	100	32.0	32.2	35.8	100	27.6	21.5	50.9	100
1941	28.4	19.4	52.2	100	33.4	32.4	34.2	100	29.4	21.9	48.7	100
1942 (Jan.-July)	28.1	19.0	52.9	100	30.5	35.6	33.9	100	28.6	22.1	49.3	100

FOREIGN TRADE:

	1939	1940	1941
Exports	3.6	2.8	0.8
Imports	1/	1/	.1

1/ Less than 50,000 tons.

Government Purchase: The Iron and Steel Branch on June 1, 1942, recommended that 1.5 million gross tons of scrap iron and/or scrap steel be purchased outside the continental boundaries of the United States and imported for use.

Note: Jan-July, 1942: imports totaled 34,984 gross tons, exports 89,576 gross tons. Later data not available.

REQUIREMENTS: At the date of this abstract, requirements estimates had not been completed by the Materials Requirements Section.

SPECIAL PROBLEMS: The current and potential shortage of iron and steel scrap is a serious threat to capacity operation of the steel industry. In order to collect all possible scrap, the Conservation Division instituted a nation-wide drive under the National Salvage Program, and set an over-all goal of 15 million gross tons to be collected during the last half of this year. To accomplish this end, the country has been divided into thirteen regions, and quotas have been established for each region. War Materials Inc. has been organized to subsidize scrap reclamation from projects which cannot be handled in the ordinary way because of costs and other difficulties. The most likely foreign sources of economically available supplies are Cuba, Argentina, and Mexico. The governments of these countries, however, have placed restrictions on scrap exports. In addition, ocean facilities for the transportation of bulky iron and steel scrap are inadequate. Freight rates have increased materially, and there is competition for bottoms from such other heavy tonnage commodities as copper, nitrates, and manganese. Scrap shortage can be relieved to some extent by increasing pig iron capacity, since pig iron and scrap are alternative raw materials used in steel production.

GOVERNMENT CONTROL: General Preference Order No. M-24, effective October 11, 1941, and amendments, placed iron and steel scrap under priority control.

WAR PRODUCTION BOARD, Statistics Division
Materials Branch

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Data as of October 2, 1942
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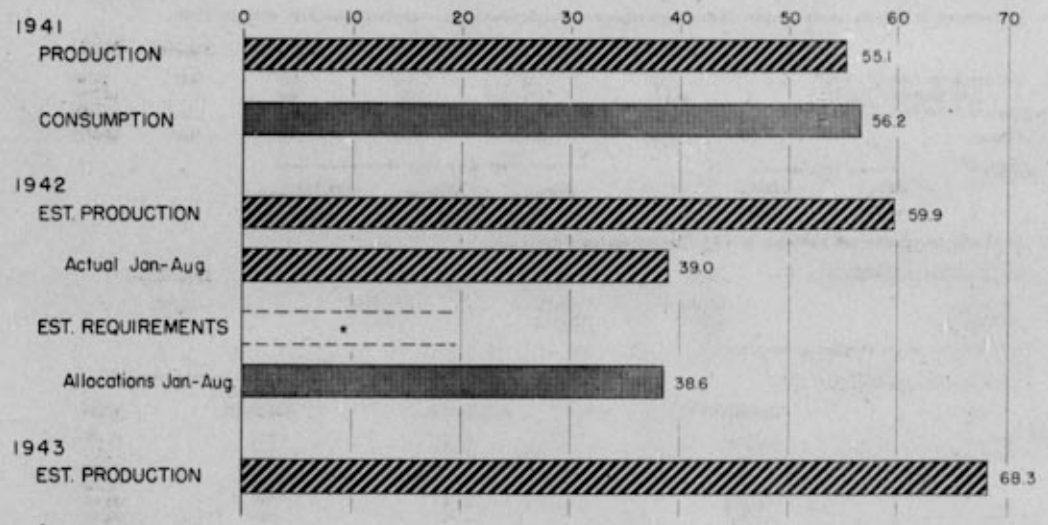
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PIG IRON

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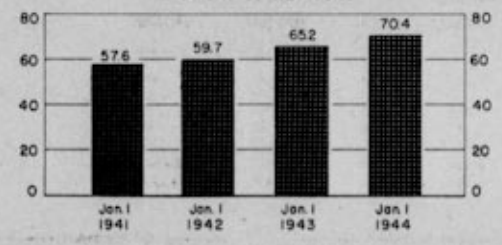
MILLIONS OF NET TONS



* Estimates being revised

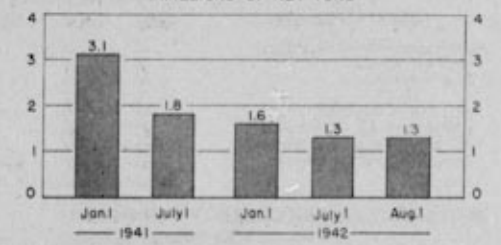
ESTIMATED CAPACITY

MILLIONS OF NET TONS



STOCKS

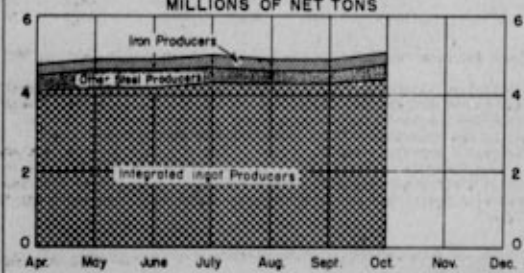
MILLIONS OF NET TONS



DISTRIBUTION OF ALLOCATIONS

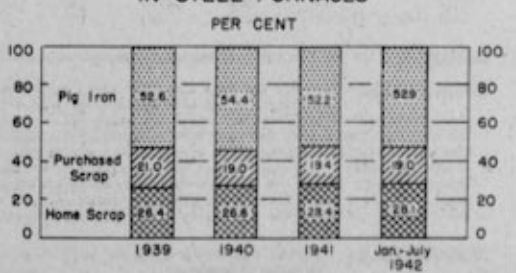
1942

MILLIONS OF NET TONS



RELATIVE USE OF SCRAP AND PIG IRON IN STEEL FURNACES

PER CENT



War Production Board
Statistics Division
Materials Branch

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Data as of Oct. 2, 1942
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PIG IRON
(Tabular figures in thousands of net tons)

BACKGROUND: Pig iron is the term applied to iron produced by the reduction of iron ore in a blast furnace. The iron so produced may be used to make iron castings or other iron products, or may be converted into steel by the usual refining and purification process. When used for making steel, the pig iron usually is mixed in the furnace with varying quantities of steel scrap. In 1940, 87 percent of pig iron was consumed in steel-making furnaces, 9.8 percent in iron-making furnaces, and 3.2 percent in direct castings. Since sufficient quantities of steel could not be produced without it, pig iron is an absolute essential for the steel industry.

The physical properties of pig iron vary widely, depending upon its composition, rate of cooling, and heat treatment subsequent to casting. It is made in many grades classified according to raw material content, use, and chemical composition.

ESTIMATED CAPACITY: 1/

	1941	1942	1943	1944
January 1	57,609	59,674	65,215	70,351

1/ Included in figures above are the following estimates of additional capacity anticipated in 1942 and 1943:

	New Furnaces	Restoration	Enlargement	Sintering	Relining	Total
January 1 to June 30, 1942	720	176	285	135	140	1,456
July 1 to December 31, 1942	2,480	791	568	246	-	4,085
January 1 to July 31, 1943	4,918	-	-	218	-	5,136
Total	8,118	967	853	599	140	10,677

STOCKS: 1/

1941		1942		
Jan. 1	July 1	Jan. 1	July 1	August 1
3,138	1,834	1,581	1,257	1,296

1/ Stocks in transit are included in 1941 figure, excluded for 1942.

PRODUCTION AND CONSUMPTION:

	1940	1941	1942 (Est.)	1943 (Est.)
Production	46,072 1/	55,101 1/	59,892	68,331
Consumption	46,186	56,202	N.A.	N.A.

1/ Includes blast furnace silvery iron.

PRODUCTION AND ALLOCATIONS: (1942)

Month	Production 1/	Allocations: For Producers' Own Use	Allocations: To Merchant Iron Users	Total
January	4,947	4,058	722	4,780
February	4,455	3,756	701	4,457
March	4,990	4,158	731	4,889
April	4,837	4,086	726	4,812
May	5,025	4,152	735	4,887
June	4,890	4,164	699	4,863
July	4,998	4,199	736	4,935
August	4,955	4,199	745	4,944
September (est.)	4,920	4,220	709	4,936
October (est.)	4,499	4,355	729	5,084

1/ Includes blast furnace silvery iron.

Distribution of Allocations - April Through October, 1942

Pig Iron Consumers	April	May	June	July	August	September	October
Independent Steel Foundries	42	48	44	42	48	40	48
Cast Car Wheels	20	9	7	2	4	3	4
Pipe: Pressure	66	69	67	69	67	69	63
Soil	23	25	17	16	14	13	10
Misc. Iron Foundries	289	292	263	268	258	276	285
Independent Ingot Mold Makers	87	84	80	87	84	80	85
Non-integrated Ingot Producers	149	159	163	174	169	159	172
Integrated Ingot Producers	4,136	4,201	4,222	4,277	4,300	4,296	4,417
Total	4,812	4,887	4,863	4,935	4,944	4,936	5,084

RELATIVE USE OF SCRAP AND PIG IRON: (In percentages)

Date	Steel Furnaces: Scrap Home	Steel Furnaces: Scrap Purchased	Steel Furnaces: Pig Iron	Steel Furnaces: Total	Iron Furnaces: Scrap Home	Iron Furnaces: Scrap Purchased	Iron Furnaces: Pig Iron	Iron Furnaces: Total	All Furnaces: Scrap Home	All Furnaces: Scrap Purchased	All Furnaces: Pig Iron	All Furnaces: Total
1939	26.4%	21.0%	52.6%	100%	31.7%	33.4%	34.9%	100%	27.4%	23.4%	49.2%	100%
1940	26.6	19.0	54.4	100	32.0	32.2	35.8	100	27.6	21.5	50.9	100
1941	28.4	19.4	52.2	100	33.4	32.4	34.2	100	29.4	21.9	48.7	100
1942 (Jan.-July)	28.1	19.0	52.9	100	30.5	35.6	33.9	100	28.6	22.1	49.3	100

REQUIREMENTS: At the date of this abstract, requirements estimates had not been completed by the Materials Requirements Section, WPB.

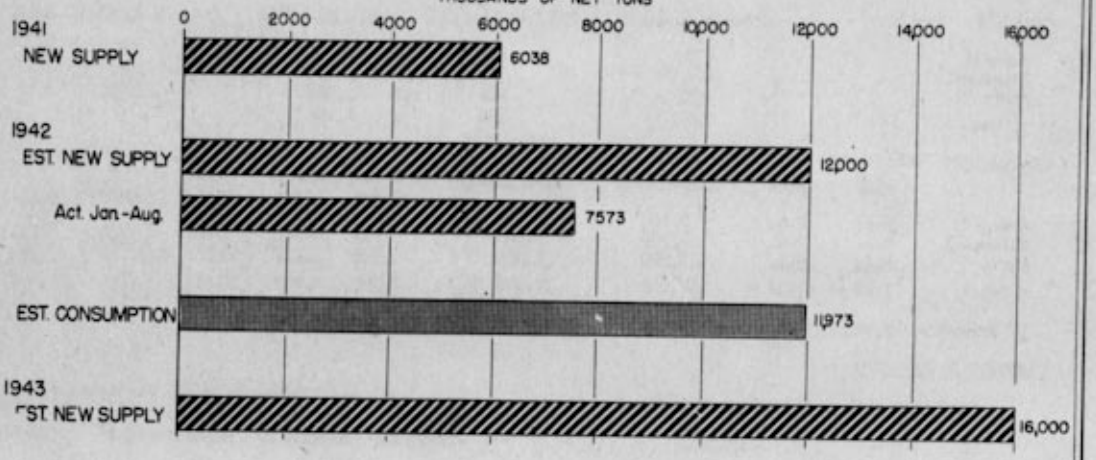
SPECIAL PROBLEMS: Pig iron and iron and steel scrap are, within wide limits, alternative raw materials used in steel making. Normally, the price differential between the two is the chief factor determining changes in the relative proportions of each in steel furnaces. In the iron and steel industry, pig iron is produced both by some steel companies and by merchant blast furnaces. The merchant furnaces do not make steel themselves but sell the pig in the open market, as do some other producers. Although a scarcity was first experienced in scrap, demand for pig iron has increased greatly under the impact of the military program, and the amount available on the open market has diminished. The result of this trend is that some steel plants and foundries which have to buy pig iron on the market have not been able to obtain enough to meet their requirements for war production and essential civilian needs. Pig iron, therefore, has been placed under complete allocation in order that the product may be distributed in such a way that steel plants and foundries may secure their essential war-time needs.

GOVERNMENT CONTROL: General Preference Order No. M-17 of August 1, 1941, as amended, controls the distribution of pig iron. All pig iron is under allocation.

STEEL PLATES

SUPPLY AND DEMAND

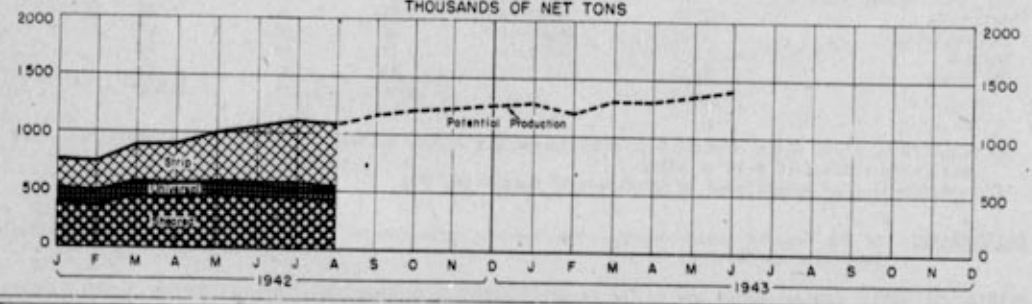
THOUSANDS OF NET TONS



PRODUCTION BY TYPE

1942-1943 BY MONTHS

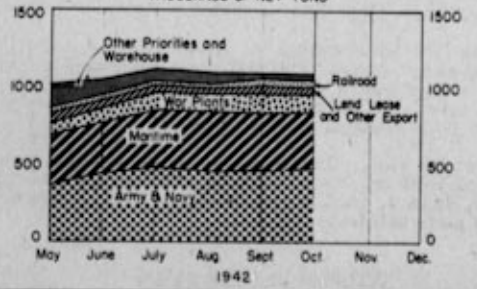
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CONSUMPTION

BY MAJOR WAR CATEGORIES

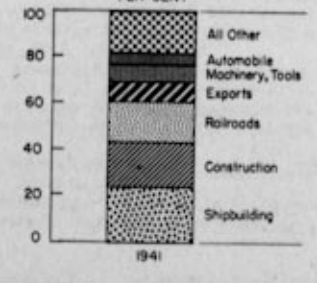
THOUSANDS OF NET TONS



CONSUMPTION

BY CONSUMING INDUSTRIES

PER CENT



War Production Board
Statistics Division
Materials Branch

Data as of Oct. 2, 1942
Chart Issued Oct. 9, 1942
Revision Due Oct 30, 1942

SEE OTHER SIDE FOR ABSTRACT

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STEEL PLATES
(Figures in thousands of net tons)

BACKGROUND: Steel plate is one division of a large class of finished steel products known as flat hot rolled steel. Plates are classified as sheared and universal, according to the kind of mill in which they are rolled. Sheared plates are rolled between horizontal rolls and sheared on all edges to the dimensions required. Universal plates are rolled between horizontal and vertical rolls to thicknesses and widths required, and sheared only on the ends to the lengths desired. Strip mills are being converted to plate production, some such mills now being able to roll plate up to 90" in width, others up to 1½" in thickness. Plates are classified according to composition as carbon steel plates, low metalloid plates, alloy steel plates, and stainless steel plates.

CAPACITY: (Monthly)	January 1, 1942	February 4, 1942	July 20, 1942	January 1, 1943 (Est.)
Sheared	325	401	495	530
Universal	114	125	136	150
Strip	286	406	633	600
Total	725	932	1,264	1,280

PRODUCTION: (Shipments)

	1940	1941	1942 (Est.)	1943 (Est.)	1942 Actual Jan.-March	April-June	Jan.-June	July	August
Sheared	N.A.	N.A.	5,500	7,000	1,210	1,336	2,546	447	430
Universal	N.A.	N.A.	1,500	2,000	357	371	728	126	116
Strip	N.A.	N.A.	5,000	7,000	825	1,252	2,077	551	552
Total	4,128 1/	6,038 1/	12,000	16,000 2/	2,392	2,959	5,351	1,124	1,098

1/ Breakdown by mill types not available. 2/ Revision downward anticipated.

CONSUMPTION PATTERN:

Annual 1941 - By Consuming Industries	Percent		Current 1942 - By Major War Categories: August Shipments	September Requests 1/	September Determination 2/	October Determination 2/
Agriculture	1.9%	Army	174	310	211	225
Aircraft	0.1	Navy	270	337	255	255
Automobile	4.6	Maritime	374	408	369	360
Construction	19.0	War Plants	110	160	125	115
Machinery, Tools	7.5	Ship Repairs	10	18	14	14
Oil, Gas, Water, Mineral	2.6	Lend-Lease	31	11	22	21
Railroads	17.6	Other Exports	32	54	28	34
Shipbuilding	23.9	Railroads	36	38	47	38
Exports	8.5	Warehouse	33	69	14	14
All Other	14.3	All Other	28	30	15	15
Total	100.0%	Total	1,098	1,435	1,100	1,091

1/ Requests by steel plate consumers upon producers for August delivery, supported by allocation orders or preference ratings of A-10 or higher.
2/ Determination as established by Requirements Committee, WPB.

REQUIREMENTS: At the date of this abstract, requirements estimates had not been completed by the Materials Requirements Section.

SPECIAL PROBLEMS: Rising demand had so far exceeded capacity by late 1941 that, on December 1, steel plates were placed under complete allocation. On January 1, 1942, steel plate producers had a backlog of unfilled orders amounting to 4,586 thousand tons, or more than three-fourths of entire 1941 production. The greatest shortage has been in heavy armor plate produced on sheared mills and urgently needed by the Army, Navy, and Maritime Commission. To release sheared plate capacity for the most important uses, specifications are being revised wherever possible to utilize medium and light plate from converted strip mills. Plate production from these mills now exceeds 500 thousand tons.

By the end of July, plate production in 1942 had surpassed the entire output for 1941. Although the need for plate continues, the increasing shortage of other finished items has demanded a more balanced flow of steel. For this reason, WPB has partially adopted a monthly quota system, under which the mills are directed to produce specific amounts of each major steel product. Under this plan, plate shipments may be stabilized in the neighborhood of 1,000 to 1,100 thousand tons per month.

GOVERNMENT CONTROL: General Preference Order M-21, August 10, 1941, placed steel in all forms under full priority control. General Allocation Order No. 1 - December 1, 1941, placed steel plates under complete allocation. Supplementary Order M-21-c, March 9, 1942, supersedes General Allocation Order No. 1, includes stainless steel plates, and formalizes plate allocations system.

SUMMARY:

Annual Supply Estimates	
1942	12,000
1943	16,000

Estimated 1942 Consumption	
[redacted]-Aug. Shipments	7,573
[redacted]-Dec. at 1,100 (Est.)	4,400
Total 12 months	11,973

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

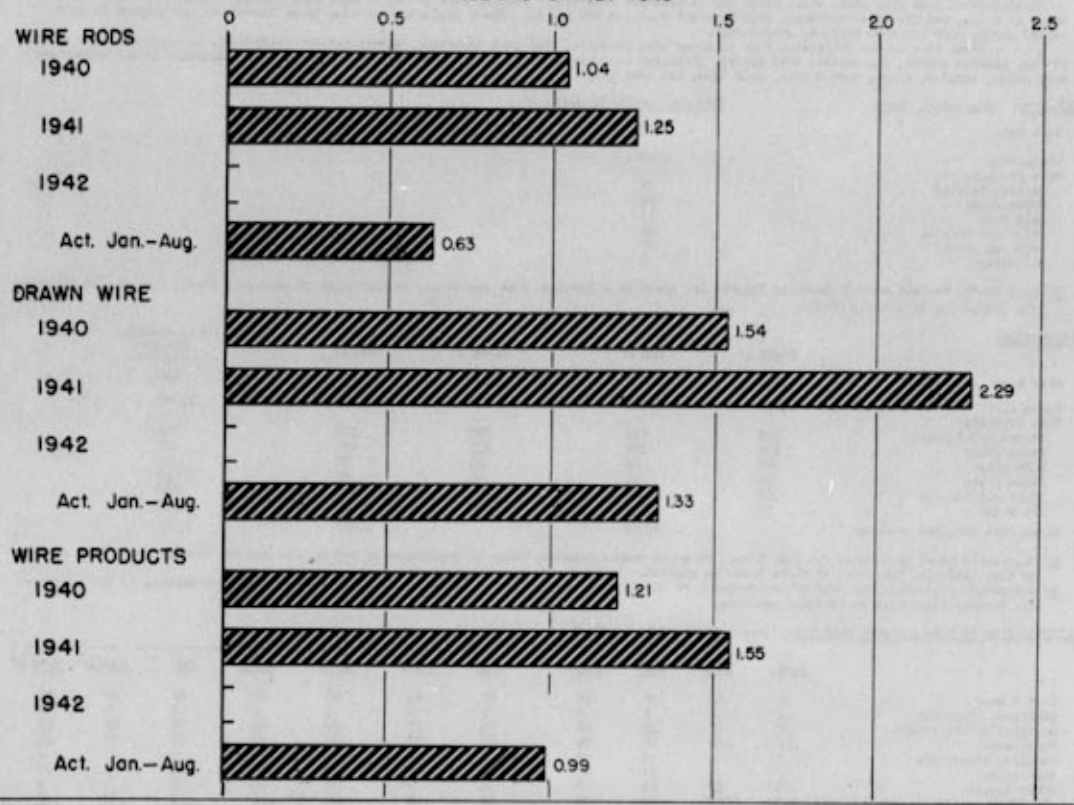
Data as of October 2, 1942
Revised Abstract Issued October 9, 1942
Next Revision Due: October 30, 1942

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STEEL: WIRE AND WIRE PRODUCTS

SUPPLY – NET PRODUCTION

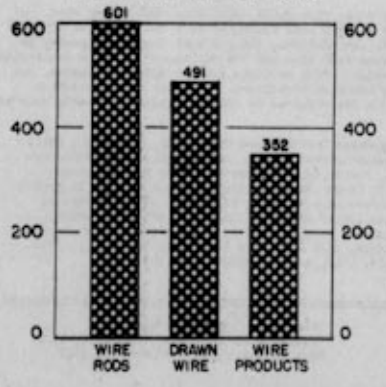
MILLIONS OF NET TONS



MAXIMUM MONTHLY CAPACITY

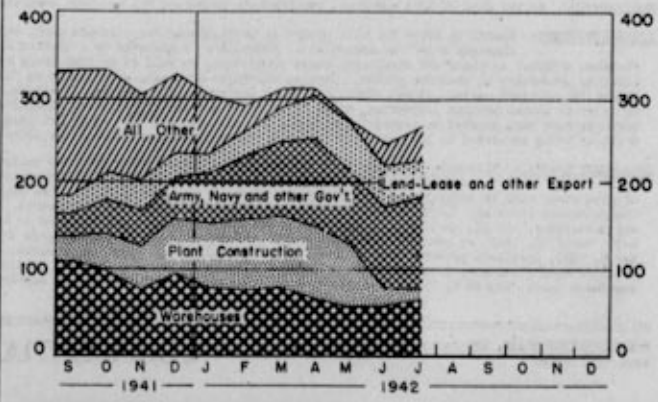
SEPTEMBER, 1942

THOUSANDS OF NET TONS



WIRE PRODUCTS CONSUMPTION

THOUSANDS OF NET TONS



WAR PRODUCTION BOARD
Statistics Division
Materials Branch

SEE OTHER SIDE FOR ABSTRACT

Data as of Oct. 3, 1942
Chart Issued Oct. 9, 1942
Revision Due Oct. 30, 1942

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Commerce Dept. Letter, 11-15-78
By RHP, Date

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STEEL: WIRE AND WIRE PRODUCTS
(Tabular figures in thousands of net tons)

BACKGROUND: Wire and wire products are a significant branch of the steel industry, manufactured from semi-finished material known as wire rods. Rods are hot-rolled from billets to an approximate round cross section and are produced in coils of one continuous length, wound counter-clockwise. Custom in the industry has set the minimum diameter at approximately 0.210 - .218 in., commonly known as #5 rod; the largest diameter is 0.734 (47/64) in.

Wire is produced from hot-rolled rods by cold-drawing through an iron, alloy steel, or diamond die. Although wire ordinarily is thought of as being round, it may have any one of an indefinite number of sectional shapes, as required by the particular use for which it is devised. The more common shapes are square, hexagon, octagon, oval, half-oval, half-round, triangular, and flat. Flat drawn wire should be distinguished from flat steel wire, which may be produced from either rods or wire by one or more cold rolling processes. The maximum width is ½ in., and the cross-sectional area does not exceed 0.050 sq. in. Steel products exceeding these dimensions are classed as cold rolled strip, cold finished bars, or shaped wire.

Steel wire may be fabricated into numerous wire products. The most important, manufacturers' trade wire, is converted into bolts, rivets, machine screws, cap screws, wood screws, chain, and innumerable other fabricated wire commodities. Other important wire products are wire nails, staples, fence, barbed wire, bale ties, and wire hoops.

CAPACITY: (September, 1942)

	Maximum Monthly Capacity 1/
Wire rods	601
Drawn Wire	491
Wire Products	
Barbed, twisted	53
Woven fence	92
Bale ties	15
Nails and Staples	116
Rope and strand	23
All Other	53

1/ Form PD-99. Maximum monthly capacity figures are based on a 160-hour week, assume the availability of necessary steel, and make no allowance for production of other products.

PRODUCTION:

	1940		1941		1942, Jan-Aug.
	Gross 1/	Net 2/	Gross 1/	Net 2/	Net 2/
Wire Rods	4,352	1,042	5,266	1,248	632
Drawn Wire	3,072	1,540	4,023	2,285	1,327
Wire Products					
Barbed and Twisted	219	214	280	280	204
Woven Fence	258	230	313	297	87
Bale ties	68	68	82	82	76
Fence posts	64	54	68	68	26
Nails and Staples	649	641	782	782	560
All Other	73	3	96	39	33
Total wire and wire products		2,752		3,833	2,313

1/ Represents total production for each item. To avoid double counting owing to conversion of rod to wire and the further conversion of wire to wire products, the total of these items is omitted.
2/ Represents production for sale of the material at the level of production as indicated, exclusive of shipments to members of the industry for further conversion to finished products.

DISTRIBUTION OF WIRE AND WIRE PRODUCTS: (Sept. 1941 - July 1942) 1/

	1941				1942						
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June 1/	July 1/
Army & Navy	23	38	43	44	55	68	82	97	81	88	98
Maritime, Other U.S.	2	2	1	3	2	4	4	4	4	8	6
Division of Priorities	28	43	48	64	74	80	92	83	76	19	15
Warehouses	110	100	78	96	80	79	82	68	57	59	64
Civilian Allocation	3	4	5	3	3	2	1	-	-	-	-
Lend-Lease	2	8	17	16	8	19	32	48	54	44	37
Other Export	20	21	16	13	12	9	6	4	3	1	3
All Other	143	117	97	89	67	30	12	7	2	39	40
Total	331	333	305	330	303	291	311	311	277	251	265

1/ Figures and classification based on AIS Form 17 (derived from PD-73), except for June and July, 1942, which are based on PD-138. June and July classification not strictly comparable to preceding months.

REQUIREMENTS: At the date of this abstract, requirements estimates had not been completed by the Materials Requirements Section, WPB.

SPECIAL PROBLEMS: Demand is heavy for wire products, particularly for aircraft cord, welding wire, wire nails, bale ties, all spring wire, and numerous other war essentials. Production is affected by a limited supply of wire rods resulting from the diversion of semi-finished material to plate and structural shape production, as well as to lend-lease export. In addition, rod and heat treating capacity is limiting production on numerous grades. Serious shortages are being experienced in fine wires, both high and low carbon, due to the extraordinary demand for aircraft cables, signal wires, and wires for protective wrapping of shipboard cables. Wire products are not under allocation, but, in order to assure maximum production, nails, bale ties, and welding wire are controlled by means of directives. A number of conservation measures have been adopted to restrict the demand for wires to the most essential uses. This has resulted in idle finishing equipment, some of which is being converted to the production of wire products necessary to the war effort.

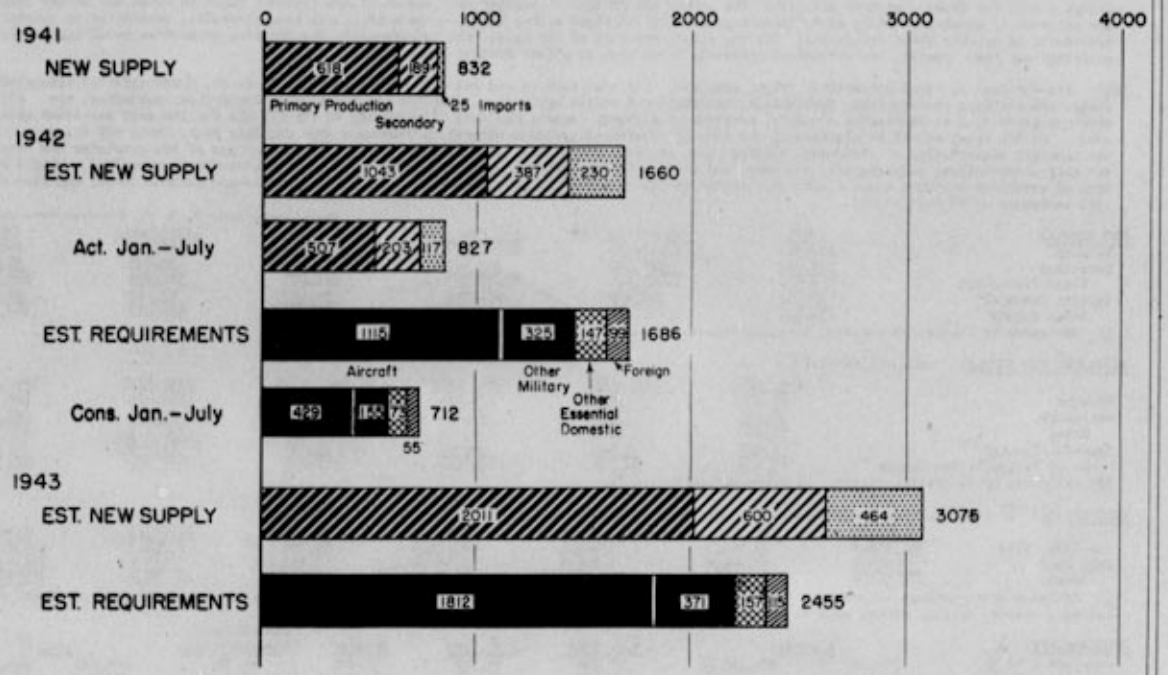
GOVERNMENT CONTROL: Wire rods in common with all steel were placed under priority control by General Preference Order M-21, August 10, 1941. The uses of wire and wire products are restricted by a number of government orders: P-101, January 24, 1942, limits use of flat steel wire in printing and publishing industries. L-50, March 2, 1942, as amended, restricts use of materials in the telephone communication industry. L-37, May 9, 1942, limits production of musical instruments. L-49, March 29, 1942, restricts use of wire in springs and mattresses. L-104, April 25, 1942, limits production of bobpins and hairpins to low carbon steel wire at 50 percent of 1941 average. L-30, March 30, 1942, as amended, restricts use of steel wire hooks on coat hangers to 5 percent of weight of completed article. M-126, May 5, 1942, prohibits processing of iron and steel for 400 common civilian products. Amendment L-49, August 4, 1942, prohibits production of mattresses containing iron and steel on September 1, 1942, and production of studio couches, sofa beds, and lounges on November 1, 1942. Amendment L-104, August 8, 1942, permits manufacture of hairpins and bobpins to September 15, 1942, at 50 percent of 1941 average.

ALUMINUM

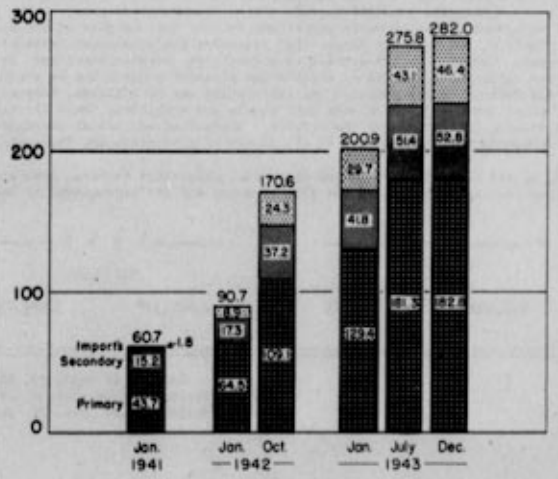
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SUPPLY AND DEMAND

MILLIONS OF POUNDS

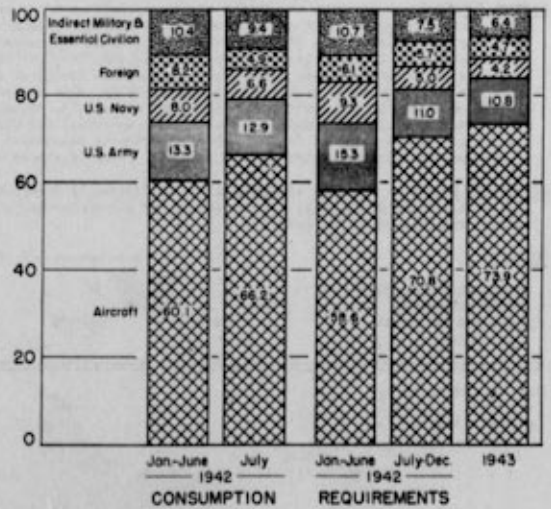


EST. NEW SUPPLY
BY TYPE
SELECTED MONTHS



CONSUMPTION AND REQUIREMENTS

PER CENT



WAR PRODUCTION BOARD
Statistics Division
Materials Branch

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Data as of Oct. 2, 1942
Chart Issued Oct. 9, 1942
Revision Due: Oct. 30, 1942

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ALUMINUM
Unit: Thous. Pounds

BACKGROUND: Although comprising 8% of the earth's surface, aluminum is never found in a free state but always in chemical combination, usually oxides, some of its principal minerals being bauxite, alunite, diaspar, and such silicates as kaolin and feldspar. The chief commercially feasible source has been bauxite. The ore is refined, principally by the Bayer process, into the intermediate productof alumina, which is reduced by an electrolytic process, cryolite being used as the flux, into aluminum. To obtain one ton of aluminum, approximately 4 tons of bauxite ore are reduced to 2 tons of alumina. In the electrolytic processing of this amount of alumina, 1500 lbs. of carbon electrodes, 50 lbs. of cryolite, 144 lbs. of fluorspar, and 9400 k.w.h. of electric power are used to produce 1 ton of aluminum.

Aluminum, one of the lightest common metals (169.3 lbs. per cu.ft.; copper, 556.4; steel, 483.8; magnesium, 108.8) is alloyed usually for commercial use, its principal alloys being copper, silicon, manganese, magnesium, nickel, and chromium. Broadly, the aluminum alloys are of two types - wrought and cast. The former are further classified as: common alloys (soft) - those in which the harder tempers are produced by strain hardening after annealing; and high strength alloys (hard) - those which are heat-treatable, responding to thermal treatments to improve their properties. Casting alloys are also of two types: non-heat-treated, the improved properties resulting solely from alloying; and heat-treated, heat-treatment processes being used to effect further improvement.

USES: Pre-war uses included automotive, train, airplane, ship construction and fittings and accessories therefor, conductors for electricity, bridge and building construction, furnishings, household and office appliances, utensils and containers, decoration, packaging, etc. Although aluminum production is increasing steadily, pressure of military demands has made it necessary to curtail all but the most essential civilian needs. Of the total amount of aluminum in the form of fabricated products shipped to consumers thus far this year, about 60% has gone into the aircraft construction of airframes, landing gear, engines, propellers, and fittings. The greater percentage of the remainder has been used for ship construction, tank engines, ordnance, and other military purposes where lightness combined with strength is essential. Only a minimum of essential civilian needs - such as deoxidation agent in the making of steel, manufacturing portable and machine tools, and some chemical equipment - has been filled.

NEW SUPPLY:	1941	1942 (Est.) 1/	1943 (Est.) 1/	1942 Jan-Mar	1942 Apr-June	1942 July
Primary	618,311	1,043,035	2,010,957	193,521	223,350	90,033
Secondary	188,363	186,770	599,670	69,134	99,473	35,078
Total Production	806,674	1,429,805	2,610,627	262,655	322,823	125,105
Imports (Canada)	25,268	230,437	464,418	39,427	57,190	20,148
Total Supply	831,942	1,660,242	3,074,645	302,082	380,013	145,253

1/ Estimated by Statistics Section, Aluminum-Magnesium Branch.

ESTIMATED NEW SUPPLY: (selected months) 1/

	Jan. 1941	Jan. 1942	Oct. 1942	Jan. 1943	July 1943	Dec. 1943
Primary	43,670	64,512	109,125	129,358	181,323	182,760
Secondary	15,222	17,293	37,170	41,760	51,390	52,830
Total	58,892	81,805	146,296	171,118	232,713	235,590
Imports (Canada)	1,813	8,907	24,321	29,762	43,078	46,284
Total Estimated New Supply	60,705	90,712	170,617	200,880	275,791	282,014

1/ Estimated by Statistics Section, Aluminum-Magnesium Branch.

CONSUMPTION: 1/ (Total shipments of fabricated products by ultimate use)

	Aircraft	U.S. Army	U.S. Navy	Exports	Indirect Military	Essential Civilian	Total
Jan-June, 1942	351,956.4	79,206.3	53,487.1	47,801.5	59,780.2 2/	2,258.7	593,090.2
July 1942	77,411.4	14,884.0	7,746.3	5,780.6	10,791.4	119.8	116,733.6
Total	428,969.8	94,090.3	61,233.4	54,582.1	70,571.6	2,378.6	711,825.8

1/ Excludes intra-company shipments of prime fabricators. 2/ Includes approximately 7 million lbs. aluminum in the form of sheet, rod and bar, shapes, tubing, rivets sold to aircraft companies by distributors.

REQUIREMENTS: 1/	Aircraft		U.S. Army	U.S. Navy	Foreign	Ind.Military, Essen.Civilian	Total 2/	
Jan-June 1942 2/	343,710 3/	404,163 4/	97,648	59,739	19,000	68,589	608,686	669,139
July-Dec 1942 2/	609,200 5/	871,900 7/	115,802	52,167	60,322	78,378	915,869	1,178,569
Year 1943 5/	1,780,000 5/	2,429,700 7/	266,849	103,825	115,342	156,756	2,422,772	3,072,472

1/ Includes net sheet and rod and bar, tubing, extruded shapes, ingot, rivets, powder, forgings, castings, and miscellaneous. 2/ Joint Aluminum Committee - ANCB & WPB - report of 2/24/42. 3/ S-I Initial Aircraft Program. 4/ S-I Ultimate Aircraft Program. 5/ Joint Aluminum Committee - ANCB & WPB - preliminary report of 7/31/42. 6/ S-J Initial Aircraft Program. 7/ S-J Ultimate Aircraft Program. 8/ See footnotes 3/, 4/, 5/, and 7/, which explain reason for two totals.

SPECIAL PROBLEMS: Dominating the entire aluminum program are the possibilities that requirements, particularly for aircraft, have been estimated far in excess of needs and that over-all requirements represent a non-obtainable production goal. These possibilities point to the necessity for reviewing all requirements for both types and numbers of equipment and spare parts needed and for the unit weights of the material required. Owing to inadequate control for the distribution of aluminum, there is the danger that excessive and unbalanced inventories are being accumulated in some plants, with concomitant localized shortages. Should such inventories be accumulated, consideration must be given the problem whether Army and Navy demands, other than aircraft, are being unduly denied or whether the aircraft program can be accelerated. Further, it is doubtful whether projected capacity estimates for both primary production and fabrication can be achieved, because of uncertainty of delivery dates of construction materials for planned plant expansion. Even when such plants are completed, there arises the possibility of shortages of trained labor, experienced management, and housing facilities for the workers. Threatened and actual shortages of alumina and bauxite present further problems. Finally, there are transportation difficulties in all phases of production and fabrication.

GOVERNMENT CONTROL: The uses of aluminum are restricted by Orders M-1-d, g, and i, bringing aluminum under full allocation control, prohibiting, with limited exceptions, its use in any but war contracts, providing for tight control of the flow of scrap and its segregation to insure maximum reusability of the metal.

SUMMARY:

	1942 Jan - June	1942 July - Dec	1943	
Estimated New Supply	582,095 1/	978,147	3,074,645	
Actual Shipments	595,090			
Estimated Requirements	608,686 669,139	915,869 1,178,569	2,422,772	3,072,472

1/ Actual

WAR PRODUCTION BOARD,
Statistics Division
Materials Branch

Data as of Sept. 25, 1942
Revised Abstract issued Oct. 2, 1942
Next Revision due: Oct. 23, 1942

ASBESTOS (Critical Grades)
(All figures in short tons)

CONFIDENTIAL

BACKGROUND: Asbestos is a commercial term applied to several varieties of non-inflammable fibrous minerals which differ in composition and consequent usefulness. There are three commercially important varieties: (a)Chrysotile, a highly fibrous material used in the manufacture of textiles, compressed sheet packings, asbestos cement materials, and other asbestos products; (b)Amosite, a coarse long fiber used generally for insulation and marine type fireproof board; and (c)Blue (Crocidolite) a fiber with high tensile strength used principally in asbestos cement pipe and also, because of its acid resistance qualities, in acid packings.

The United States produces only about 6 percent of its required supplies of asbestos. The domestic production is chiefly chrysotile and is produced principally in Vermont and Arizona. The Vermont fiber is short and is equivalent to the short Canadian fiber. The Arizona production includes some long fiber grades which can be substituted for similar non-ferrous imported types. Relatively high production costs, however, prohibit any material expansion in this area. Canada accounted for about 90 percent of all asbestos imported in 1941. The Canadian production is all chrysotile and has averaged one-half sand and waste used in building materials and one-half crudes and fibers. The latter are principally the shorter and cheaper grades of fiber, supplies of which are and should continue to be adequate. The remaining source of imports is Africa, which produces blue, amosite, and critical grades of chrysotile.

CRITICAL GRADES: African fibers (chrysotile grades C and 0-1 and 2, amosite B-1, B-3, or D-3, and blue asbestos) are critical grades essential for all direct and indirect military use and cannot be replaced to any great extent by the better grades of Canadian fiber (spinning grades) the supply of which is limited. Chrysotile grades, principally from Rhodesia, have a relatively low iron content and are required to meet Navy specifications for some essential electrical insulation. Amosite, found only in the Union of South Africa, is essential for the manufacture of certain types of insulation and fireproof board for the Navy and U. S. Maritime Commission. Blue asbestos, produced in the Union of South Africa, is valued for its high tensile strength for asbestos cement pipe and also its acid resistant qualities for use in acid-proof packings, filter cloths, etc. None of the Canadian grades are as effective for these purposes. Canadian spinning fibers represent the three highest grades of Canadian chrysotile and are used principally in the manufacture of asbestos textiles. Annual production of these grades constitutes only a small percentage of the total annual production of Canadian asbestos.

INDUSTRIAL STOCKS: (1942)

	January 1	June 1	August 1
African:			
Chrysotile, C & 0-1 & 2	3,047	2,557	3,315
Amosite, B-1, B-3, or D-3	4,142	3,299	4,495
Blue	3,268	2,327	2,505
Canadian Crude #1 & #2 and Spinning Fibers	6,403	7,279	7,215

Note: There is a government stockpile of 1,471 tons (September 19, 1942) consisting of Cape blue #3 asbestos only. Stockpile objectives are as follows: chrysotile C & 0-1 & 2, 12,600 tons; amosite, 19,000 tons; and blue asbestos, 12,700 tons.

Source: Cork-Asbestos Branch, WPB.

NEW SUPPLY: (Net Receipts) 1/

	1942 (Est.) 2/	1942 Actual		
		Jan.-March	April-June	Jan.-July
African:				
Chrysotile, C & 0-1 & 2	4,138	21	1,647	2,588
Amosite, B-1, B-3, or D-3	12,210	1,142	2,401	4,455
Blue	6,560	514	780	1,866
Canadian Crude #1 & #2 and Spinning Fibers	24,163	5,323	6,515	14,048

1/ Actual receipts less sales. There is no domestic production of the varieties indicated in the tabulation.
2/ Estimates based on incomplete contracts in 1941 plus 1942 contracts. Losses in shipments are expected to be replaced before the end of the year.

Source: Cork-Asbestos Branch, WPB.

CONSUMPTION: 1/

	1942 (Est.) 1/	1942 Actual 2/		
		Jan.-March	April-June	Jan.-July
African:				
Chrysotile, C & 0-1 & 2	4,194	903	1,038	2,319
Amosite, B-1, B-3, or D-3	6,377	2,156	1,530	3,927
Blue	4,651	1,049	1,205	2,651
Canadian Crude #1 & #2 and Spinning Fibers	24,712	5,766	6,314	14,412

1/ Estimates made by the Cork-Asbestos Branch, WPB, on the basis of anticipated factory consumption. At the date of this abstract, requirements estimates had not been completed by the Materials Requirements Section.
2/ Monthly reports to the Branch from principal consumers.

SPECIAL PROBLEMS: Since only African varieties of asbestos satisfy certain critical military requirements, the essential problem is that of maintaining uninterrupted imports from Rhodesia and the Union of South Africa. The seriousness of the problem is reflected in the fact that, at the present rate of consumption, supplies on hand are adequate, at best, for much less than a year.

GOVERNMENT CONTROL: Conservation Order M-79 (January 20, 1942; amended June 18, 1942) restricts the use of fibers from South Africa to priority rated orders and confines certain grades to particular uses. Asbestos from the Union of South Africa and Rhodesia was placed under General Imports Order M-63, January 13, 1942.

SUMMARY:

	1942		1942 Actual January-July	
African:	Estimated New Supply	Estimated Requirements	New Supply	Consumption
Chrysotile, C & 0-1 & 2	4,138	4,194	2,588	2,319
Amosite, B-1, B-3, or D-3	12,210	6,377	4,455	3,927
Blue	6,560	4,651	1,866	2,651
Canadian Crude #1 & #2 and Spinning Fibers	24,163	24,712	14,048	14,412

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

CONFIDENTIAL

Data as of Sept. 30, 1942
Revised Abstract Issued Oct. 9, 1942
Next Revision Due: Oct. 30, 1942

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Commerce Dept. Letter, 11-15-72
By RHP, Date
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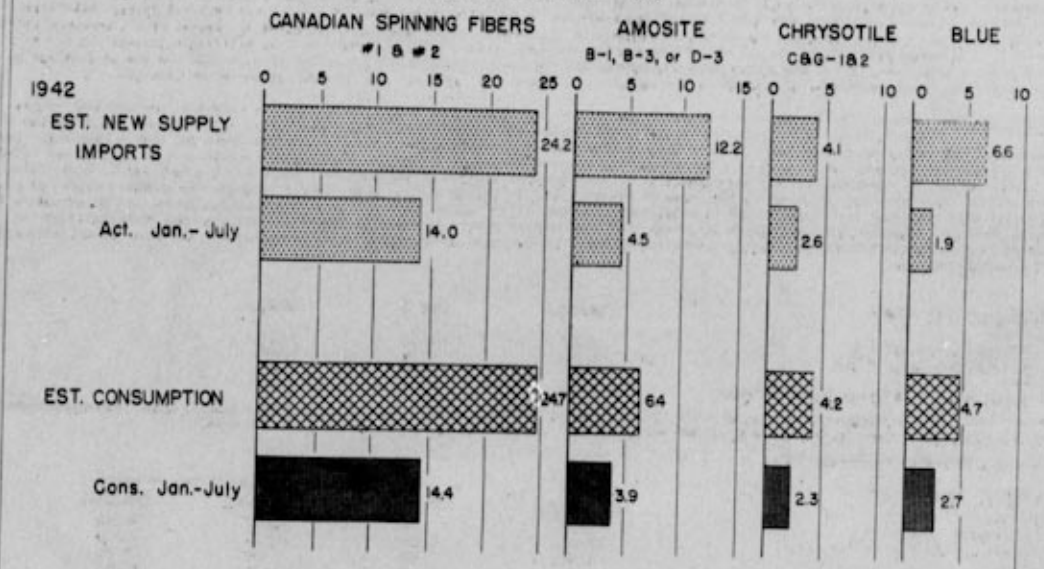
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ASBESTOS

(Critical Grades)

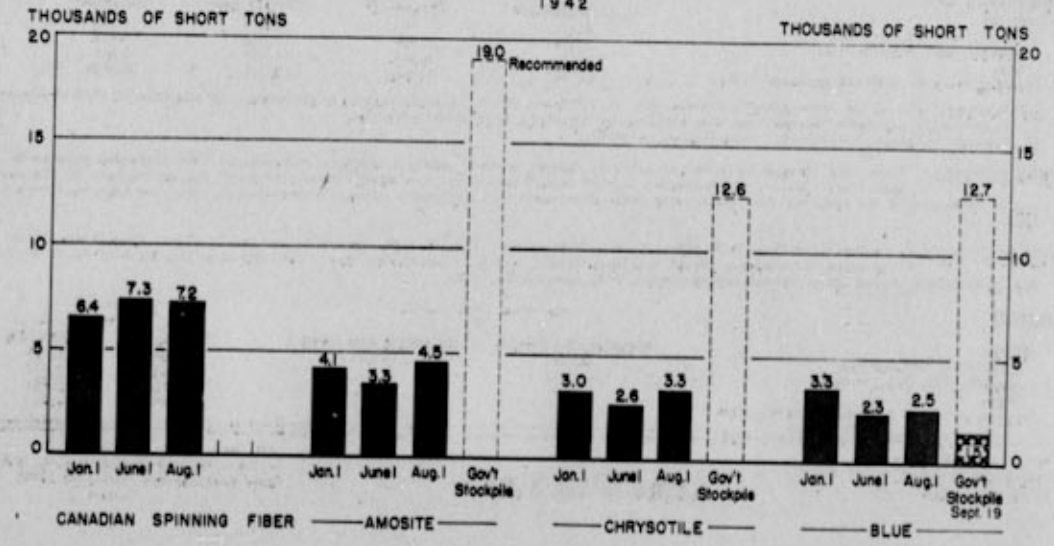
SUPPLY AND DEMAND

THOUSANDS OF SHORT TONS



STOCKS

1942



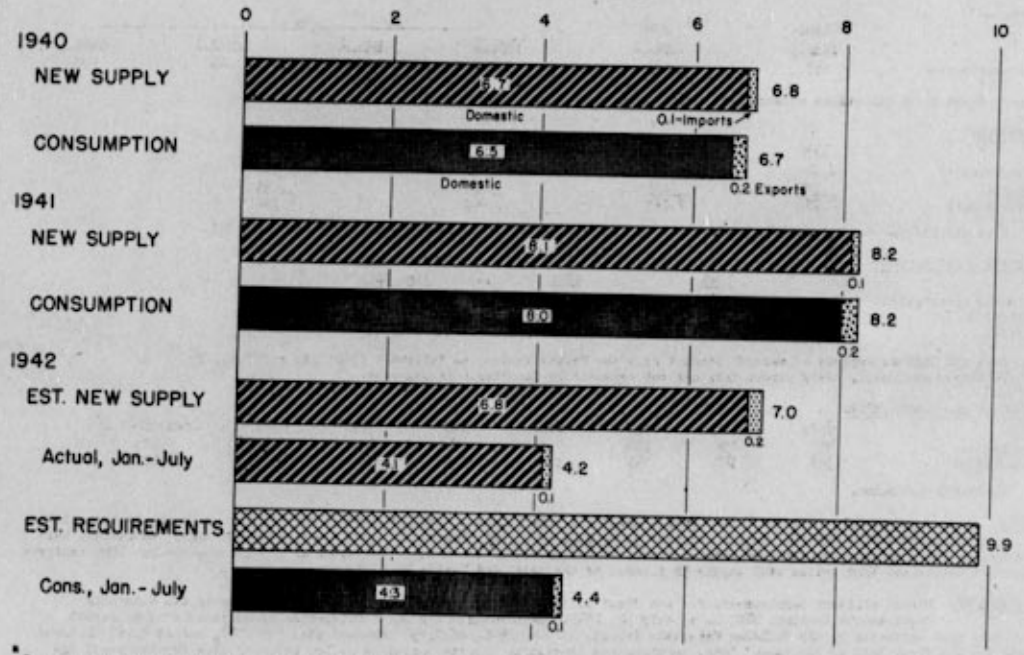
WAR PRODUCTION BOARD,
Statistics Division
Materials Branch

Data as of Sept.30, 1942
Chart Issued Oct. 9, 1942
Revision Due: Oct. 30, 1942

ASPHALT AND ROAD OILS

SUPPLY AND DEMAND*

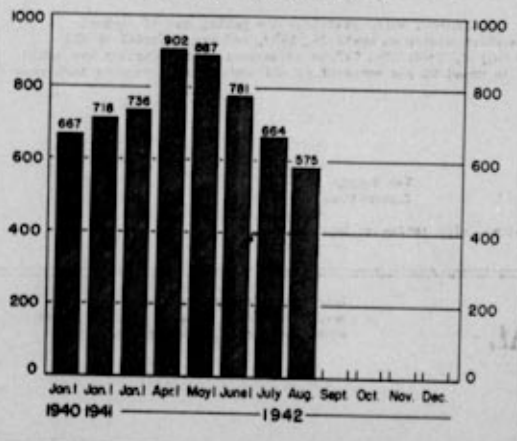
MILLIONS OF SHORT TONS



* Does not include rock asphalt produced in the United States.

STOCKS AT REFINERIES

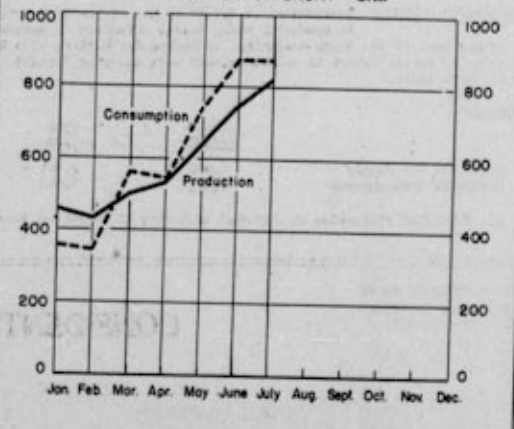
THOUSANDS OF SHORT TONS



PRODUCTION AND CONSUMPTION

1942

THOUSANDS OF SHORT TONS



WAR PRODUCTION BOARD
Statistics Division
Statistics Branch

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SEE OTHER SIDE FOR ABSTRACT

Data as of Oct 1, 1942
Chart Issued Oct 9, 1942
Revision Due Oct 30, 1942

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ASPHALT AND ROAD OILS
(All figures in thousands of short tons)

BACKGROUND: The term asphalt and road oils covers a wide group of products ranging from sheet asphalt and other heavy bituminous compounds to the lighter road oils that are used as a binder for gravel roads or even for settling dust. More than 90 percent of all asphalt is produced by the petroleum refining industry. Imported lake asphalt, as well as imported petroleum asphalt, is included in the statistical summaries below. Native rock asphalt, however, is shown by footnote only, for the reason that the weight of the rock, which is predominant, is merged with the asphaltic content. Furthermore, it is the production and transportation of petroleum asphalt that present the major problems. In the refining of petroleum, the relative yields of heavy industrial fuel oil and asphalt are adjustable within a wide range, according to demand and the type of crude. The current reduction in the volume of crude oil refined and the increased demand for industrial fuel oil automatically result in a reduced supply of asphalt; however, the transportation bottleneck is the directly governing factor in reducing the available supply.

In general, there is no effective substitute for the asphalt used in roofing. Asphalt is a practicable material for repairing existing bituminous surfaced roads. It also is considered as an excellent material for airport runway construction. In other cases, it can be used as an admixture with existing soil, where portland cement aggregates would have to be carried from a distance and could not be considered as reasonably available.

STOCKS:

	1940	1941	1942			
	Jan. 1	Jan. 1	Jan. 1	Apr. 1	July 1	Aug. 1
At refineries	667	718	736	902	664	575

Note: There is no government stockpile of asphalt and road oils.

NEW SUPPLY:

	1940	1941	1942 (Est.)	1942 Actual Jan.-July
Production 1/	6,642	8,084	6,830	4,129
Imports	138	159	170	63
New Supply	6,780	8,243	7,000	4,192

1/ Does not include natural asphalt produced in the United States, as follows: 1940, 491; and 1941, 691.

CONSUMPTION AND EXPORTS:

	1940	1941	1942 Actual Jan.-July
Domestic consumption	6,470	8,000	4,293
Exports 1/	259	225	60 2/
Total	6,729	8,225	4,353

1/ Does not include exports of natural asphalt from the United States, as follows: 1940, 11; and 1941, 11.
2/ Partially estimated. July export data not yet reported by Department of Commerce.

PRODUCTION AND CONSUMPTION:

1942	Jan.	Feb.	Mar.	Apr.	May	June	July	Jan.-July 1/
Production	455	436	507	528	644	741	818	4,129
Consumption	358	347	559	550	743	870	866 2/	4,293

1/ Partially estimated.

IMPORTS: Imports of asphalt into the United States are small even in peace time. Principal sources of supply are Mexico and the Netherlands West Indies. Mexico supplied 50 percent of asphalt imports in 1941, or 79 thousand tons. Netherland West Indies, in the same year, provided 66 thousand tons, or 42 percent of the total. Estimates of asphalt imports for 1942 indicate that the Netherland West Indies will supply 52 percent of the total and Mexico 40 percent.

REQUIREMENTS: Direct military requirements for the final half of 1942 were estimated at 95 thousand tons by the Materials Requirements Section, WPB, as of July 30, 1942. Requirements for war construction and uses other than direct military were estimated by the Building Materials Branch, in June 1942, at 9,750 thousand tons for 1942, and at 5,967 thousand tons for the final half of the year. Total requirements (including exports estimated at 100 thousand tons for the year) are 9,945 thousand tons for the year, and 6,112 thousand tons for the final half of 1942.

SPECIAL PROBLEMS: Adjustment of demand and supply is difficult because of the critical heavy fuel oil situation, and the scarcity of facilities for asphalt transportation. Control of use must take geographical factors into account. Possibility of re-locating roofing plants close to sources of supply is being studied. Organization to assure recurrent advance programming of supply and general use-pattern, both geographically and among essential military and civilian uses, now is in a formative stage. Consumption has been curtailed below requirements previously reported by the Army and the Bureau of Public Roads Administration, especially in the eastern seaboard area, and the anticipated shortage has been minimized.

GOVERNMENT CONTROL: Recommendation No. M5 of the Office of Petroleum Coordinator, which restricts the paving use of asphalt to essential work, became effective in eastern seaboard states on April 28, 1942, and was extended to all states east of the Rocky Mountains, including New Mexico, effective July 2, 1942. The Office of Defense Transportation has taken steps to reduce delays in unloading tank cars carrying asphalt, and to speed up the movement of all tank cars by running such cars in train loads.

SUMMARY:

	1942 Annual	1942 July-Dec.
Estimated New Supply	7,000	3,627 1/
Estimated Requirements	9,945	6,112

	1942 Actual Jan.-July
New Supply	4,192
Consumption and Exports	4,353

1/ Scheduled production as reported to Office of Petroleum Coordinator, plus estimated imports.

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

CONFIDENTIAL

Data as of October 1, 1942
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COPPER (refined)
(In thousand short tons)

BACKGROUND: Copper is a well-known brownish red metallic mineral characterized by a high degree of malleability and conductivity. The U.S. is both the world's largest producer and consumer of copper. Normally more than self-sufficient in copper ores and refining capacity, the U.S. plans on importing almost 1/3 of its new supply in 1942. Brass, the most common alloy of copper, contains an average of 70% of copper. Light and power, communications and transportation, and other electrical uses provide most of the peacetime applications of copper.

MILITARY USES: The largest military application of copper is in brass cartridge and shell cases where extremely rapid expansion and contraction are necessary, and for rotating bands for shells. Copper is also most essential from a military viewpoint in certain items of ordnance, communications, transportation, and power. It is indispensable in naval units where corrosion resistance is of paramount importance such as cupro-nickel condenser tubes, propellers, valves, pumps, and electrical equipment.

USE PATTERN: (Jan-June, 1942) 1/

	Amount	Percent		Amount	Percent
Army & Navy	484.8	52.8%	Non-Military	292.1	24.7%
Ammunition	313.2	33.7	Communications	23.5	2.5
Armament	150.2	16.1	Public Util. & Trans.	76.1	8.2
Construction	56.1	6.2	Electrical & Mechanical	82.5	8.9
Other Uses	61.5	6.8	Construction	21.2	2.3
Other Military	48.5	5.3	Consumer Goods & Misc.	22.8	2.5
Foreign	391.1	41.9	Total	930.5	100.0%

1/ Deliveries by primary fabricators as reported to Copper Branch on PD 123b.

NEW SUPPLY:

	1940	1941	1942	1943
Production: Primary - from Domestic Ores	927.8	975.4	1,109.4 1/	1,256.1
- from Foreign Ores	385.3	419.9	2/	2/
Secondary - from old scrap 3/	333.9	412.7	360.0	500.0
Imports - General	68.7	345.4	272.4 2/	725.9 4/
Total Available New Supply	1,715.7	2,153.4	2,141.7	2,112.0
Secondary production - Industrial scrap 1/5/	198.1	313.7	430.0	600.0
Total	1,913.8	2,467.1	2,571.7	2,712.0
Less: Exports	439.6 6/	114.8	279.0 6/	380.0 6/
Net Available Supply	1,474.2	2,352.3	2,292.7	2,332.0

1/ 1942 data based on actual production for first 7 months and estimates thereafter. 2/ Included in import data. 3/ Includes copper content of alloy scrap. 4/ Excludes African ores and concentrates to be imported under bond, refined, and reexported to the U.K. amounting to 110.2 thousand tons in 1942 and 84.0 in 1943. Import data include foreign ores and concentrates. 5/ Purchased new scrap. Included in these data to reflect difference between finished and rough stock weights used in the estimates of requirements shown below. 6/ Includes some foreign refined copper reexported. 7/ Estimate of foreign mine production available to the U.S.

REFINING CAPACITY: Present total refining capacity estimated at 1,650 thousand tons annually. Facilities for refining an additional 90 thousand tons are now practically complete and are expected soon to enter production.

IMPORTS - General (Jan.-July, 1942)	Chile	Peru	Other South & Central America	1/ Canada	Newfoundland	Mexico	Africa	Other	Jan.-July Total	Jan.-Aug. Total
Refined	213.8	----	---	0.8	---	----	---- 2/	---	214.6	224.9
Blister, Regulus, Pigs & Bars	40.2	14.9	---	1.1	---	52.0	63.6 2/	2.5	156.3	176.4
Ores & Concentrates	1.2	2.8	7.2	16.9	3.2	3.2	0.2	2.7	37.4	46.3

1/ Includes Cuba. 2/ Includes copper brought in under bond amounting to approximately 30 thousand tons for 5 months, January through May.

STOCKS:

	INDUSTRIAL		GOVERNMENT				
	Refiners	Fris. Fab.	Recommended	Purchased	Received	Released	Balance
Jan. 1, 1941	142.8	323.9	----	----	----	----	----
July 1, 1941	98.2	294.8	500.0 1/	304.7	168.5	147.0	21.5
Jan. 1, 1942 2/	75.6	294.5	600.0 1/	485.8	436.2	367.0	69.2
July 1, 1942	62.4	283.4	600.0 1/	973.8	755.7	628.2	127.4
Aug. 1, 1942	60.4	N.A.	600.0 1/	1,124.3	811.0	681.6	129.4

1/ Per annum. 2/ Government stockpile data as of Dec. 27, 1941.

REQUIREMENTS: (As reported by the Materials Requirements Section, Statistics Division, September 11, 1942).

Year	Direct Military 1/	Foreign 2/	Military Construction	Non-Military 3/	Total
1942	1,605	279	127	722	2,733
1943	2,169	360	94	488	3,331

1/ Estimates based upon the 8-J Ultimate Aircraft Program, the Army Supply Program, Sections I and II (June 17, 1942) covering critical and essential type items for the ground and air forces, respectively, and the latest available Navy and Maritime Commission programs. Quantities of finished items were translated into materials according to latest available rough stock bills of materials and specifications. Ammunition requirements based upon cup and disc weights for cartridge cases and rough stock weights for all other components.
2/ These data exclude 110,150 tons of copper in 1942 and 84,000 tons in 1943 to be imported under bond from Africa, refined and reexported to the U.K.
3/ Estimated on a rough stock basis prepared by the Civilian Supply Division August 18, 1942, indicating minimum needs for the production and maintenance of facilities and equipment to effectuate the military program, and for the production and maintenance of civilian goods.

SUBSTITUTION: The possibilities of substituting other materials for copper are limited by the particular application. Where corrosion resistance is necessary, copper and zinc plating on iron and steel can be used. Copper-clad wire can be used for heavy power lines. Steel is being substituted for shell cases. Steps are being taken to substitute silver for copper bus bars. Aluminum has been successfully substituted for most uses of copper. It has been suggested that this type of substitution be given serious consideration for application on a wide scale.

SPECIAL PROBLEMS: Problems of industry are more closely related to expansion of copper mining plants than to increases in copper refining facilities. Additional tonnages are expected to be made available through price adjustments and plans for accelerated amortization or other stimuli. British requirements for U.S. copper may be increased by the threat to shipping of British copper supplies from Northern Rhodesia and Eastern Africa. Imports are endangered by submarine warfare and the vulnerability of Chile's properties to air attack. Keen competition exists for labor because of higher-paying war plant jobs, and consideration is being given to transferring workers from gold mines to work in the copper mines.

GOVERNMENT CONTROL: Copper is subject to allocation and priority regulation as provided in General Preference Order No. M-9-a (amended). The amended Supplementary Order M-9-b regulates copper scrap and copper-base alloys. Conservation Order M-9-c, as amended, prohibits the use of copper in a comprehensive list of civilian articles. Under General Imports Order M-63, as amended, all contracts for imports of refined copper are to be handled solely by the Government. A number of limitation orders restrict the use of copper and copper - base alloys in a variety of items ranging from garment closures through farm tractors and engine power units.

SUMMARY:

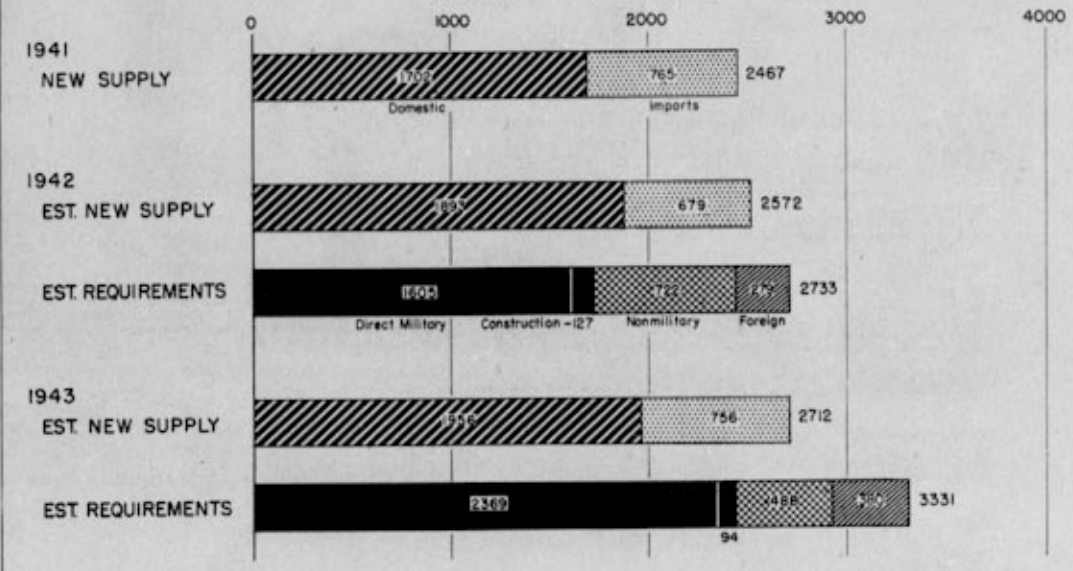
	1942	1943
Estimated Total New Supply	2,572	2,712
Estimated Requirements	2,733	3,331

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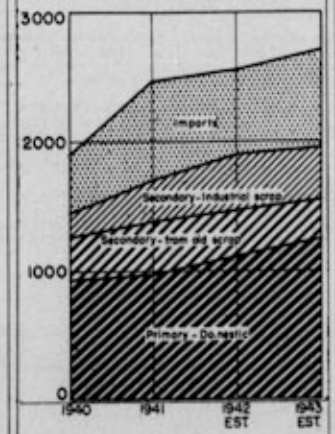
COPPER
(REFINED)

SUPPLY* AND DEMAND
THOUSANDS OF SHORT TONS

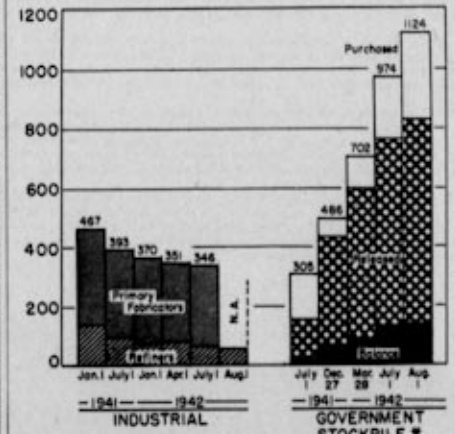


*See section below for breakdown of New Supply

NEW SUPPLY
BY TYPE
THOUSANDS OF SHORT TONS

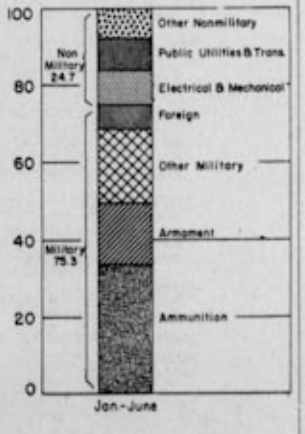


STOCKS
THOUSANDS OF SHORT TONS



*Current stockpile recommendation - 600 thousand short tons

USE PATTERN
1942
PER CENT



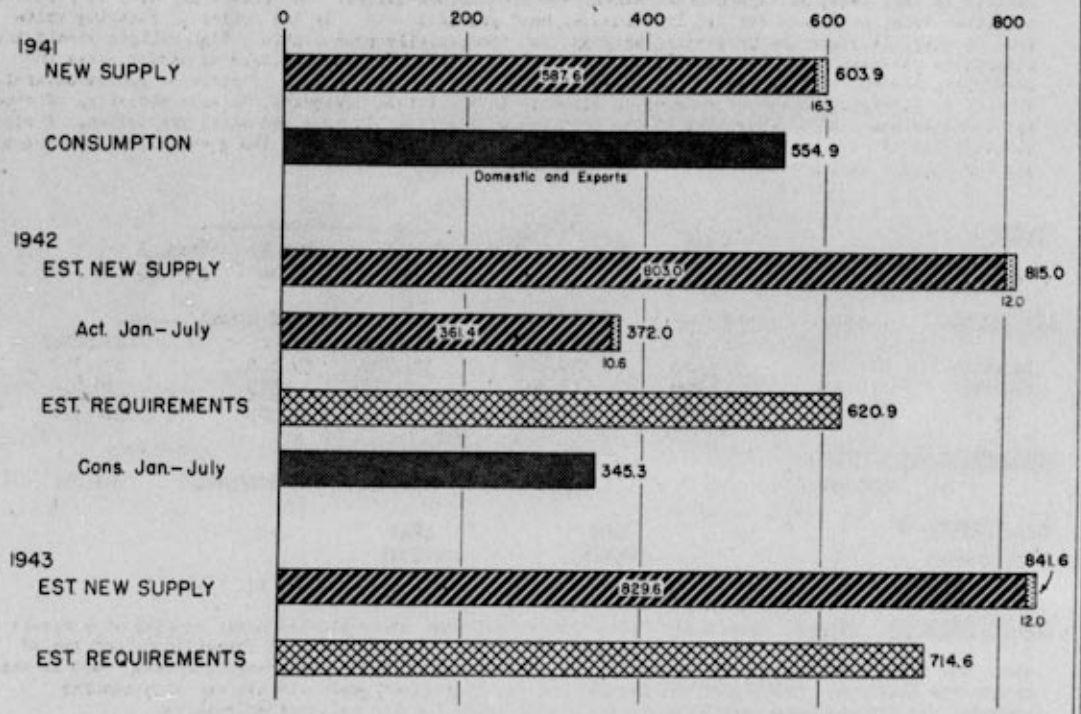
WAR PRODUCTION BOARD
Statistics Division
Materials Branch

Data as of Oct. 2, 1942
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FERROSILICON

SUPPLY AND DEMAND

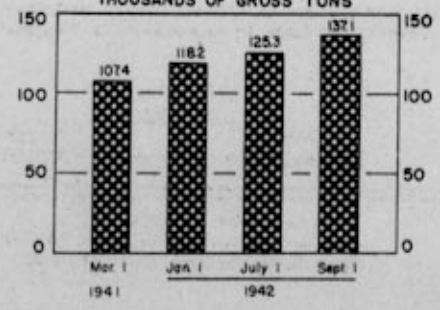
THOUSANDS OF GROSS TONS



STOCKS

PRODUCERS AND USERS

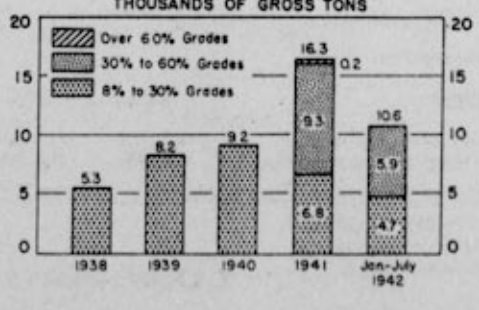
THOUSANDS OF GROSS TONS



IMPORTS

ALL FROM CANADA

THOUSANDS OF GROSS TONS



WAR PRODUCTION BOARD
Statistics Division
Materials Branch

CONFIDENTIAL
SEE OTHER SIDE FOR ABSTRACT

Data as of Oct. 1, 1942
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FERROSILICON

(All figures in gross tons of ferrosilicon)

BACKGROUND: Ferrosilicon is one of the important ferro-alloys used in steel making. Its consumption averages 14.2 pounds for each ton of produced steel. It is prepared in varying ratios of silicon to iron, depending upon the desired silicon content. The lower grades up to 15 percent are commonly produced in blast furnaces, but those in the higher percentages are virtually always the product of the electric furnace.

Ferrosilicon performs two general functions in steel making: (1) deoxidising and purifying the steel, producing a sound, clean metal free from blow-holes; (2) adding silicon content to the steel to secure certain desired properties.

Since ferrosilicon is cheaper than manganese, it is used as a preliminary deoxidiser to reduce the quantity of manganese required for this purpose. Silicon metal is included in varying amounts in cast iron, malleable iron, steel, and non-ferrous alloys. In certain amounts, it produces a brittle iron, excellent for use in shrapnel, hand grenades, etc. By its action in changing white iron to gray, it makes the production of gray iron commercially practicable. High silicon steels show remarkable resistance to corrosion, wear, and heat, and have many applications as moving parts in automotive motors, engines, etc. Special applications of silicon in tool, stainless, and structural steels, in electrical sheets for magnetic circuits in electrical equipment, in case hardening of steel, and in other uses, also contribute to the importance of silicon in iron and steel production. A significant use of high-grade silicon resulting from the war effort has been the generation of hydrogen gas for barrage balloons.

STOCKS:

	July 1, 1941	1942 Jan. 1	1942 July 1	1942 Sept. 1
Producers and Users	107,432	118,208	125,320	137,112

NEW SUPPLY:

	1941	1942 (Est.)	1943 (Est.)	1942 Actual Jan.-June	1942 Actual July	1942 Actual Jan.-July
Domestic	587,627	803,000	829,600	303,748	57,612	361,360
Imports	16,305	12,000	12,000	9,939	693	10,632
Total	603,932	815,000	841,600	313,687	58,305	371,992

CONSUMPTION AND EXPORTS:

1941	1942 Jan.-June	1942 July	1942 Jan.-July
554,940	293,252	52,000(prel.)	345,252

REQUIREMENTS: 1/

	1942	1943
All grades	620,879	714,588

1/ Based on report by Andrew Leith, Chief, Manganese-Chrome Branch, July 27, 1942.

SPECIAL PROBLEMS: Demand. Demand for ferrosilicon increased substantially early in 1942 as a result of expanded steel requirements. In addition, consumption of ferrosilicon per ton of steel has risen some 20 percent because of its substitutability for other scarce metals, such as manganese and aluminum. Additional war demands for the 75 percent grade are its use in producing hydrogen gas for balloons, and in magnesium plants using the ferrosilicon process.

Supply. The basic raw materials of ferrosilicon production - silica rock, coke, and iron ore - are all available within the United States. The essential problem in expanding the supply is one of furnace capacity and electric power. Other essential ferro-alloys compete with ferrosilicon for existing furnace capacity. This, in turn, is limited by the unprecedented demand for electric power resulting from the war effort. New furnaces are being constructed where blocks of electric power are available. Furnaces undergoing repairs during the first half of 1942 have resumed operation, thus affording relief from the recent shortage.

GOVERNMENT CONTROL: Informal allocation of 5 - 20% grades of ferrosilicon in effect through voluntary action of eight producers. Consumers' inventories held to approximately 35 days' consumption.

SUMMARY:

	1942	1943
Estimated New Supply	815,000	841,600
Estimated Requirements	620,879	714,588

	1942 Actual Jan.-July
New Supply	371,992
Consumption and Exports	345,252

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

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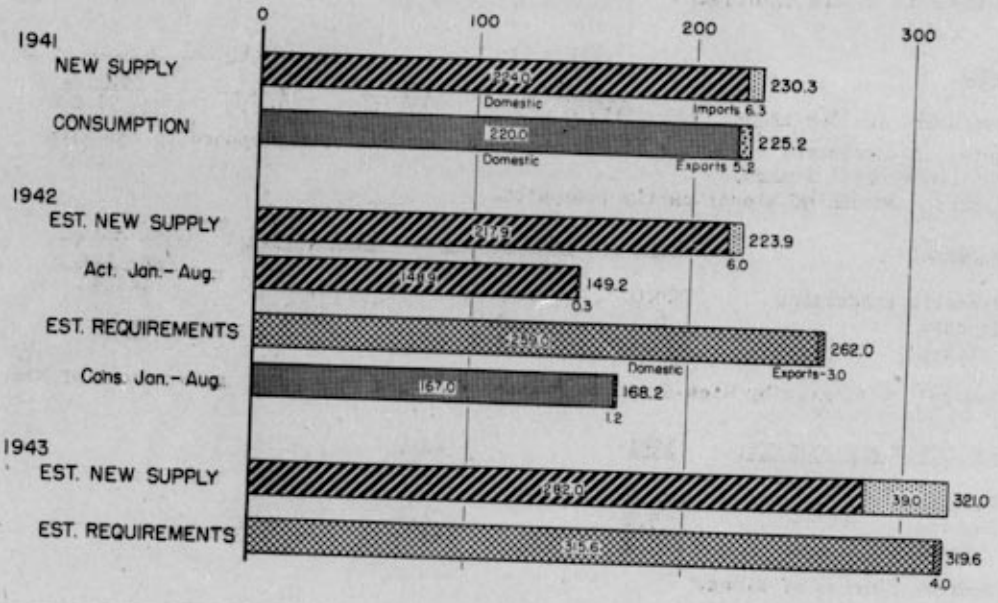
Data as of Oct. 1, 1942
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FLUORSPAR

METALLURGICAL GRADE

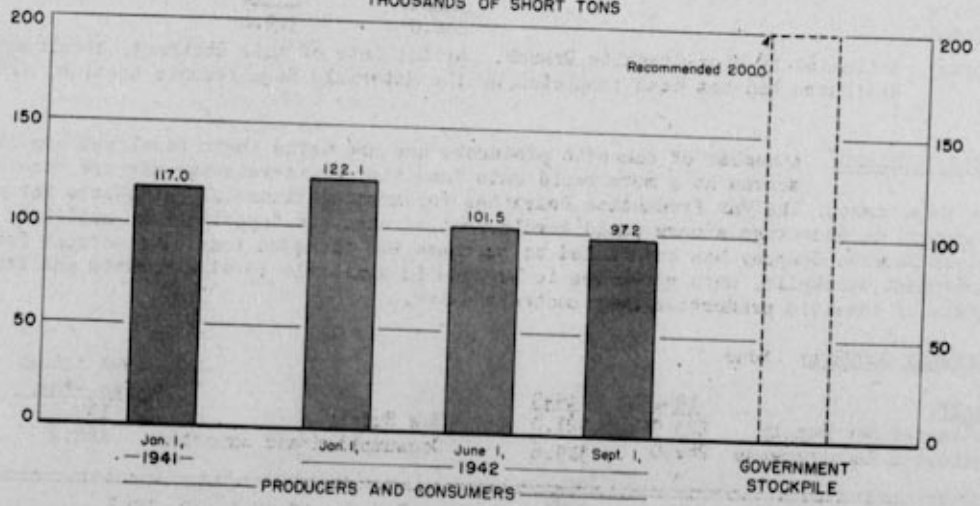
SUPPLY AND DEMAND

THOUSANDS OF SHORT TONS



STOCKS

THOUSANDS OF SHORT TONS



WAR PRODUCTION BOARD
Statistics Division
Materials Branch

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Data as of Sept 30, 1942
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FLUORSPAR - METALLURGICAL GRADE

(All figures in thousands of short tons) CONFIDENTIAL

BACKGROUND: The crude fluorspar of commerce is an ore containing more than 45 percent calcium fluoride (CaF_2) which is prepared by ore-dressing processes for use. There are three grades of merchantable fluorspar--acid (see abstract on fluorspar-acid grade), ceramic, and metallurgical. The latter, containing 85 percent or more CaF_2 and not more than 5 percent SiO_2, is used primarily as a flux in the manufacture of steel.

Supplies of fluorspar are obtained principally from domestic deposits which, if adequately developed, eventually could meet all war requirements. Imported material now is received largely from Mexico. The other available foreign source in the Western Hemisphere is Newfoundland.

STOCKS:

	1941	1942		
	Jan. 1	Jan. 1	June 1	Sept. 1
Producers and Consumers	117.0	122.1	101.5	97.2

Note: A government stockpile of 200 thousand tons has been proposed by the Mica-Graphite Branch.

Source: Bureau of Mines; partly estimated.

NEW SUPPLY:

	1941	1942 (Est.)	1943 (Est.)	1942 Actual Jan.-Aug.
Domestic Production	224.0	217.9	282.0	148.9
Imports	6.3	6.0	39.0	.3
Total	230.3	223.9	321.0	149.2

Source: Estimates by Mica-Graphite Branch, WPB; all other data from Bureau of Mines.

CONSUMPTION AND EXPORTS:

	1941	1942 Jan.-Aug.
Domestic	220.0	167.0
Exports	5.2	1.2
Total	225.2	168.2

Source: Bureau of Mines.

REQUIREMENTS:

	1942 (Est.)	1943 (Est.)
Domestic	259.0	315.6
Exports	3.0	4.0
Total	262.0	319.6

Source: Estimates by Mica-Graphite Branch. At the date of this abstract, requirements estimates had not been completed by the Materials Requirements Section, WPB.

SPECIAL PROBLEMS: A number of domestic producers now are using their developed ore reserves at a more rapid rate than they are developing new ore reserves. For this reason, the War Production Board has recommended financial assistance for mine operators to encourage a more rapid development of unworked deposits. In addition, the Metals Reserve Company has been asked to purchase 200 thousand tons of fluorspar for government stockpile, such purchases to be made in available foreign markets and from excess of domestic production over contract sales.

GOVERNMENT CONTROL: None.

SUMMARY:

	1942	1943
Estimated New Supply	223.9	321.0
Estimated Requirements	262.0	319.6

	1942 Actual Jan.-Aug.
New Supply	149.2
Consumption and Exports	168.2

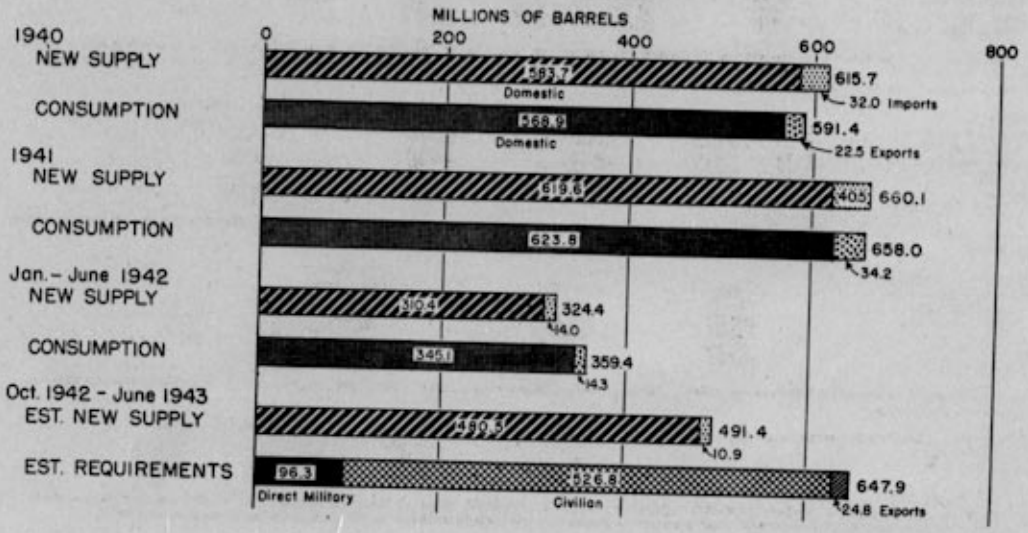
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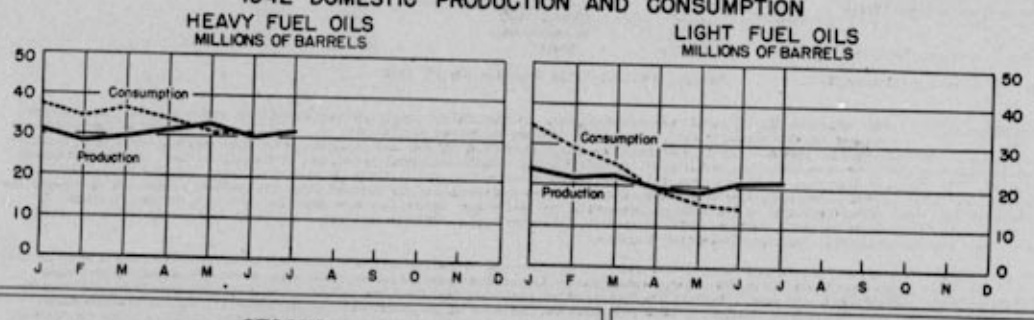
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FUEL OIL

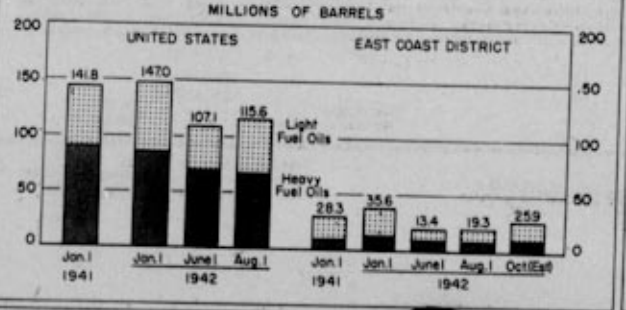
SUPPLY AND DEMAND



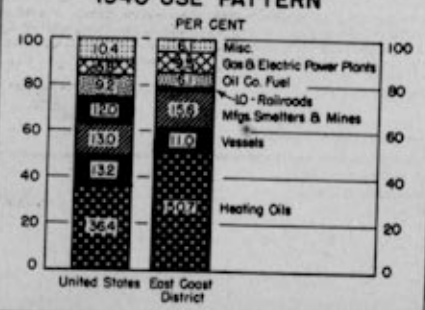
1942 DOMESTIC PRODUCTION AND CONSUMPTION



STOCKS



1940 USE PATTERN



War Production Board
Statistics Division
Materials Branch

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FUEL OIL
(All figures in thousands of barrels)

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BACKGROUND: Fuel oils are some of the products derived by fractional distillation from crude petroleum, and used for domestic cooking and heating, in commercial and industrial installations, and in diesel engines in railway locomotives and ships. Kerosene and distillates are classed as light fuel oils, and residuals as heavy fuel oils. Demand for both types in space heating and industrial uses has increased sharply in the last few years aside from military requirements. For the same calorific value, fuel oil is lighter than coal and half the volume; its quality is more uniform; it is clean and safe; it permits instant temperature control, and requires less labor in handling.

STOCKS:

		1942			
	Jan. 1, 1941	Jan. 1	June 1	Aug. 1	Oct. 1 (Est.)
United States					
Light Fuel Oils	52,858	63,845	38,714	48,662	N.A.
Heavy Fuel Oils	89,308	83,195	68,388	66,935	N.A.
Total United States	141,756	147,040	107,102	115,597	N.A.
East Coast 1/					
Light Fuel Oils	18,947	25,489	6,813	11,503	16,900
Heavy Fuel Oils	9,370	10,145	6,628	7,837	9,037
Total East Coast	28,317	35,634	13,441	19,340	25,937

1/ Coordinator's District No. 1, comprising 17 Eastern States and the District of Columbia, in which the shortage is most critical.
Source: United States, 1941, Bureau of Mines; U.S. 1942 and East Coast, Office of Petroleum Coordinator; Oct. 1 estimate, United States, Civilian Supply Division, WPB, August 20, 1942.

NEW SUPPLY:

					Nine Months Ending
Domestic Production	1940	1941	Jan.-June, 1942	July, 1942	June 30, 1943 (Est.)
Light Fuel Oils	299,762	264,876	126,694	21,486	N.A.
Heavy Fuel Oils	323,920	355,336	183,710	31,535	N.A.
Total	623,682	619,612	310,404	53,021	680,485
Imports	31,995	40,520	13,986	1,187	10,920
Total New Supply	615,677	660,132	324,390	54,211	691,405

Source: Domestic production 1940 and 1941, Bureau of Mines; imports, Department of Commerce; 1943 estimate, Civilian Supply Division, August 20, 1942.

CONSUMPTION & EXPORTS:

			1942 Actual
Domestic Consumption	1940	1941	Jan. - June
Light Fuel Oils	229,795	242,472	139,795
Heavy Fuel Oils	330,874	381,281	209,342
Total	560,679	623,753	349,077
Exports	22,946	34,220	10,354
Total	591,625	657,973	359,431

Source: Domestic consumption 1940 and Jan.-Sept., 1941, Bureau of Mines; Oct., 1941 - May, 1942, Office of Petroleum Coordinator; Exports, Department of Commerce.

REQUIREMENTS: (Nine months ending June 30, 1943)

	Direct Military	Exports	Civilian 1/	Total
Light Fuel Oils	6,797	15,500	336,836	359,133
Heavy Fuel Oils	89,543	9,300	289,907	388,750
Total	96,340	24,800	626,743	647,883

1/ Based on normal winter. Source: Civilian Supply Division, Aug. 20, 1942, based on analysis of trend 1937 - 1940 and available current data. At the date of this abstract, requirements estimates had not been formulated by the Materials Requirements Section.

USE PATTERN: Consumption of all fuel oils in the United States and on the East Coast 1/in 1940.

	Percent of Total			Percent of Total	
	U. S.	East Coast	Use Pattern (cont'd):	U. S.	East Coast
Heating Oils	38.4	50.7	Oil Company Fuel	5.2	6.1
Gas & Electric Power Plants	5.8	9.5	Army, Navy, & Coast Guard	3.0	1.7
Railroads	12.0	1.0	Tractor Fuel	0.8	0.3
Vessels	13.2	11.0	Miscellaneous	6.6	4.1
Mfrs., Smelters, and Mines	13.0	15.6	Total	100.0	100.0

1/ Coordinator's District No. 1. Source: Civilian Supply Division, May 25, 1942.

GOVERNMENT CONTROL: L-56, effective May 13, 1942, restricted delivery of fuel oil for space and central heating, water heating, and cooling equipment in Coordinator's District No. 1 (17 Eastern States and the District of Columbia) to 50 percent of the amounts delivered in the corresponding months of 1941; prohibited the delivery of fuel oil for coal spraying; restricted delivery for use in facilities installed or converted from other fuel after April 13, 1942, (Areas 1 and Washington and Oregon), or June 15 (Area 2, the Middle Western States). The Office of Petroleum Coordinator was authorized to order conversion of facilities to some other fuel. The War Production Board ordered the Office of Price Administration to put into effect a coupon rationing plan for accomplishing the necessary reduction in consumption. Amendment 2 to L-56, effective August 3, was made in preparation for rationing. Deliveries were suspended in Area 1 through September 15 except for the 50 percent for water heating. After October 1, rationing becomes effective in Districts 1 and 2 composed of 30 states of the East Coast and the Middle West, and the District of Columbia.

SPECIAL PROBLEMS: The general shortage of fuel oil is caused by an increased demand for military, industrial, and domestic uses with which the increase of fuel oil yield is not keeping pace. The immediate problem on the East Coast is one of transportation, since there is little production in this area. Many of the tankers which previously have been the principal means of transportation have been diverted to military use. Delivery to the East by tank cars has been increased by the prohibition of their use in the 20 middle and Southwestern states. The government has granted a subsidy for this expensive means of transportation. Existing pipe lines are being put to full use, and additions are being built. Increased use is being made of river barges and lake tankers, but increases in their use depend upon the availability of diesel engines for motive power. Conversion of domestic and industrial installations to the use of some other fuel, reduction of heating temperature and improvement in efficiency of operation are being urged. In spite of these measures, the East Coast without rationing, was faced with a shortage of from 118 to 30b thousand barrels a day in the winter of 1942-1943. Rationing in the Mid-West was introduced in order to divert supplies to the East.

SUMMARY:

	Nine Months Ending June 30, 1943		1942 Actual Jan. - June
Estimated New Supply	691,400	New Supply	324,390
Estimated Requirements	647,883	Consumption & Exports	359,431

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

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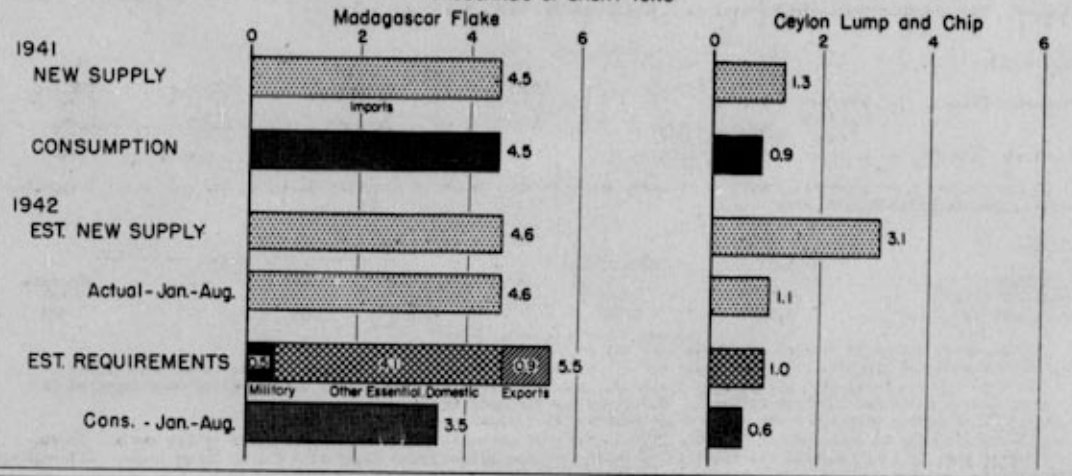
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GRAPHITE

STRATEGIC GRADES

SUPPLY AND DEMAND

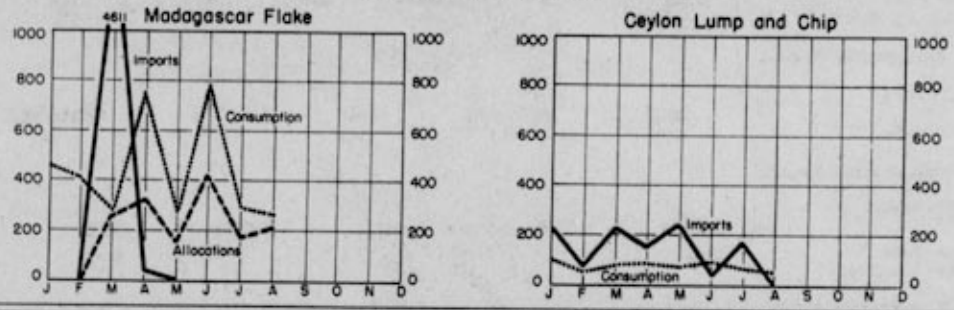
THOUSANDS OF SHORT TONS



NEW SUPPLY, CONSUMPTION AND ALLOCATIONS

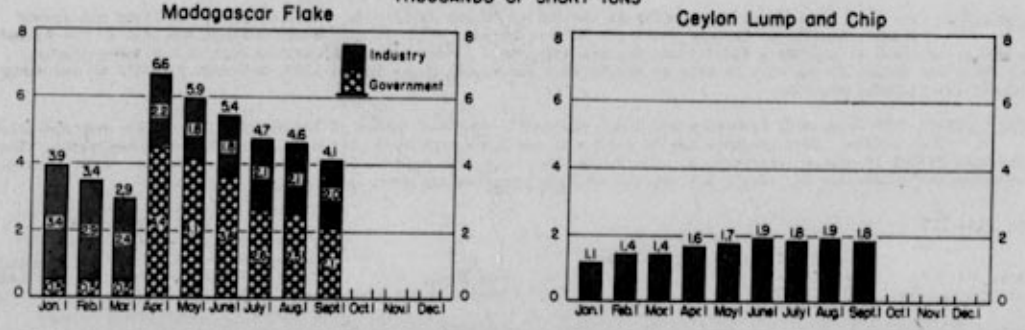
1942 BY MONTHS

THOUSANDS OF SHORT TONS



1942 STOCKS

THOUSANDS OF SHORT TONS



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GRAPHITE - STRATEGIC GRADES
(All figures in short tons)

BACKGROUND: Graphite is a form of carbon. There are two main types: crystalline, which is classified as flake, lump, chip or dust; and non-crystalline or amorphous. The various kinds and grades have somewhat different properties and are not entirely interchangeable. Only the better grades (called crucible grades) of flake, lump, and chip graphite are of strategic importance, since present indications are that supplies of amorphous and low-grade crystalline graphite will be adequate to meet all requirements. Only the strategic forms are dealt with in this abstract. In recent years, the crucible grades of flake have come almost entirely from Madagascar, and of lump and chip from Ceylon. There also will be a considerable production of crucible-grade flake graphite in the United States this year.

USES: Graphite is of considerable importance to the war program. The strategic grades of Madagascar flake and Ceylon lump and chip now are used almost entirely for the manufacture of crucibles, retorts, and stoppers for metallurgical purposes. The domestic flake will be used as a substitute for these two forms.

STOCKS: (1942)

		Jan. 1	April 1	July 1 1/	August 1 1/	Sept. 1 1/
Madagascar Flake -	Government	453	4,469 1/	2,582	2,532	2,067
	Industry	1,474	2,170	2,131	2,095	2,041
	Total	3,927	6,635	4,713	4,627	4,108
Ceylon Lump and Chip -	Industry	1,057	1,565	1,797	1,904	1,844

1/ Do not include a considerable amount of "fines" (graphite that is not of crucible grade) in the government stockpile.
Source: Mica-Graphite Branch, WPB.

NEW SUPPLY: 1/

	1941	1942 (Est.)	1942 Actual			
Imports			Jan.-June	July	Aug.	Jan.-Aug.
Madagascar Flake	4,506	4,641 2/	4,641	0	0	4,641
Ceylon Lump and Chip 1/	1,266	3,081	912	169	0	1,081

1/ The two types cannot be totaled since they are not exactly comparable.
2/ Future imports of graphite from Madagascar are so uncertain that no estimate of them is made here. Hence, the estimated imports total for 1942 is only the amount already obtained. About 1,000 tons of fines were imported in March and an estimated 100 tons in April. These are not included in figures.
1/ Receipts of Ceylon crucible-grade graphite as reported by consumers are taken to represent imports.
Note: Flake graphite is being produced in the United States at present, but nearly all of it is of low grade. In the final half of 1942, several new mines will begin producing higher grade flake on a fairly large scale. Although this graphite is inferior to that from Madagascar, it can be used for crucibles.

CONSUMPTION AND EXPORTS:

	1941	1942 Actual			
		Jan.-June	July	Aug.	Jan.-Aug.
Madagascar Flake	4,508	2,919	287	257	3,463
Ceylon Lump and Chip	903	460	61	50	571

Source: Mica-Graphite Branch.

ALLOCATIONS: (1942)

	March	April-June	July	Aug.	March-Aug.
Madagascar Flake	253	883	169	205	1,510

Source: Mica-Graphite Branch.

REQUIREMENTS: (1942)

	Army and Navy	Other Essential Domestic	Exports	Total
Madagascar Flake	500	4,089	947	5,536
Ceylon Lump and Chip	-	972	-	972

Source: Mica-Graphite Branch, WPB, September 10, 1942. At the date of this abstract, requirements estimates had not been completed by the Materials Requirements Section.

SPECIAL PROBLEMS: The main graphite supply problem in the United States is in regard to the highly important Madagascar flake. Additional imports could not be counted upon prior to the recent British conquest of the island. Consequently, in order to provide a substitute, the domestic flake industry has been developed. It now seems likely, however, that the United States will be able to obtain some Madagascar flake during 1943, although it still is too early to estimate the probable quantity.

GOVERNMENT CONTROL: WPB Order M-61 (February 17, 1942) placed the crucible grades of Madagascar flake under complete allocation. Such graphite may be used only for the manufacture of crucibles (with some exceptions). The Mica-Graphite Branch is urging processors to substitute other types of graphite for the Madagascar flake. Under General Imports Order M-63 (December 28, 1941), all imports of flake graphite are controlled by the Government.

SUMMARY:

	1942			1942 Actual Jan.-Aug.	
	Madagascar	Ceylon		Madagascar	Ceylon
Estimated New Supply	4,641	3,081	New Supply	4,641	1,081
Estimated Requirements	5,536	972	Consumption and Exports	3,463	571

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

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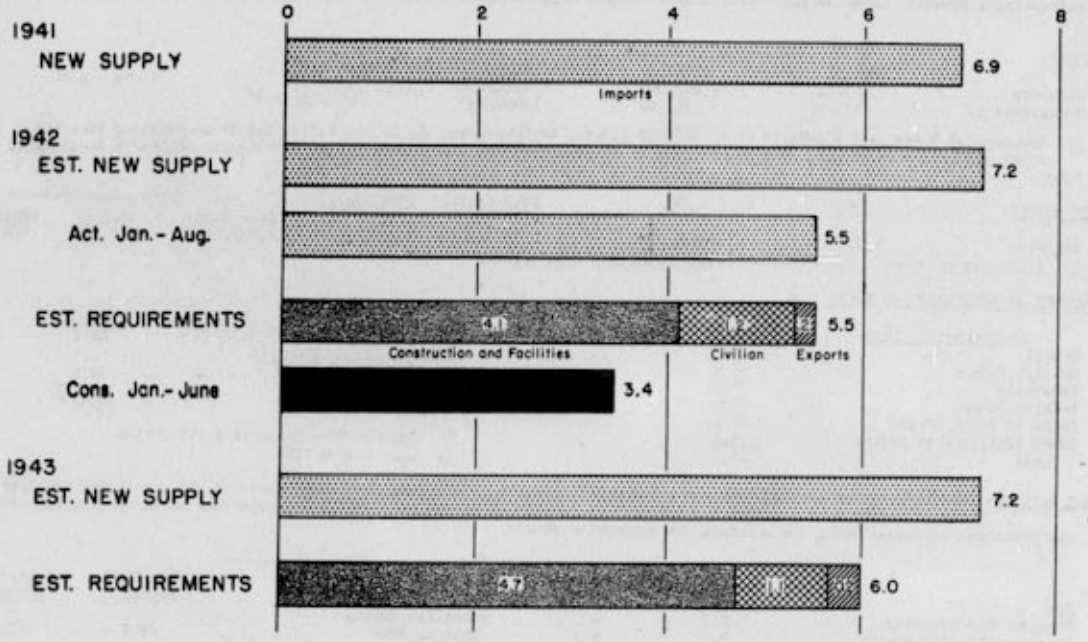
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INDUSTRIAL DIAMONDS

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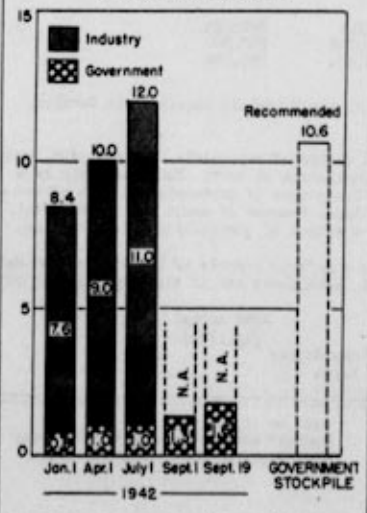
SUPPLY AND DEMAND

MILLIONS OF CARATS



STOCKS

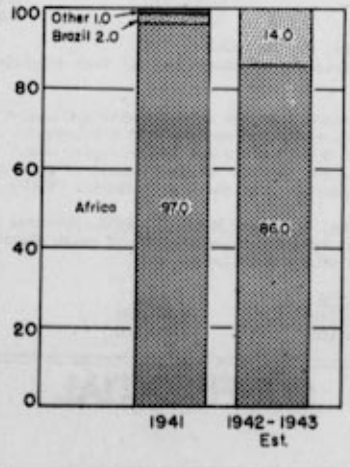
MILLIONS OF CARATS



IMPORTS

BY COUNTRY OF ORIGIN

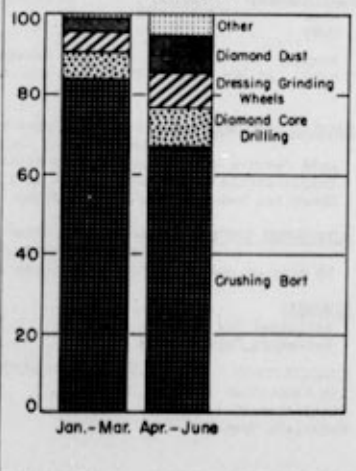
PER CENT



USE PATTERN

SALES - 1942

PER CENT



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INDUSTRIAL DIAMONDS
(All figures in carats)

BACKGROUND: Diamonds are essentially pure carbon, and are the hardest substance known. There are four varieties - diamond proper, bort, carbonado, and ballas. Most industrial diamonds are used in the crude form, but some are used in processed form of diamond dies. The primary sources of United States imports are Africa and South America; the Belgian Congo, Union of South Africa, and Brazil are the most important. From Africa, the United States obtains most of its bort diamonds, imperfectly crystallized, cleavable, but too flawed or colored to be suitable for jewelry purposes. Carbonados are a type of dark or gray opaque diamond having no cleavage and less brittle than bort. Ballas are spherical diamonds possessing a peculiar interlocking crystalline structure which renders them harder and tougher than other industrial stones.

STOCKS:

	1942			
	Jan. 1	April 1	July 1	Sept. 1
Industry	7,580,322	9,001,000	10,971,000	N.A.
Government 1/	815,752	971,920	1,006,297	1,662,436

1/ Recommended Government Stockpile is 10,640,000 carats; of this total, 6,000,000 carats are to be crushing bort and 2,393,000 carats of stones; 300,000 per year to be purchased from South America, in addition to contracts as of April 10, 1942.

NEW SUPPLY:

	1940	1941	1942 (Est.)	1943 (Est.)	1942 Actual		
					Jan.-June	July	August
Imports	3,809,071	6,882,248	7,200,000 1/	7,200,000 1/	2,069,949	2,974,848	405,803

1/ Estimated at about 1,000,000 from Brazil; 6,200,000 from Africa.

IMPORTS BY COUNTRIES AND KINDS:

By Countries, 1941	Percent
Brazil	2.4
British Guiana	0.2
Venezuela	0.5
Belgian Congo	10.6
Union of South Africa	86.1
Other British West Africa	0.2
Total	100.0

By Kinds 1/ - Jan.-Aug.	Percent
Diamond Bort	63.6
Carbonados and Ballas	0.7
Industrial Diamonds	35.7
Diamond Dies	- 2/
Total	100.0

1/ Chiefly from Union of South Africa.
2/ Less than 0.02%.

USE PATTERN: Requirements of the national war program have created no new uses, but have increased the quantities required for customary uses. Industrial diamonds are essential to the heavy metal and precision metal working industries, the principal consumers being the aircraft and automotive plants.

	Sales 1942				
	Jan.-March	April-June		Jan.-March	April-June
Use	Percent	Percent	Use	Percent	Percent
Diamond Core Drilling	6.7	9.5	Brazilian Ballas	-	-
Dressing Grinding Wheels	4.6	9.0	Crushing Bort	83.8	67.0
Shaped Boring and Turning Tools	0.2	0.3	Diamond Dust (Polishing, etc.)	3.3	9.1
Wire Drawing (Diamond Dies)	0.3	0.7	Cuttable Rough Diamonds	0.6	0.8
Carbons	0.2	0.3	Other	0.3	3.3
			Total	100.0	100.0

Total sales January-March, 2,322,000; April-June, 1,122,966; total, January-June, 3,444,966.

Note: Carbonados and ballas are preferred for use in core drilling and in working other resistant material, because of their superior toughness. Otherwise, diamonds are interchangeable for various uses.

REQUIREMENTS:

	Total	Army-Navy	Construction & Facilities	Civilian	Exports
1942	5,540,000	0	4,080,000	1,200,000	260,000
1943	6,000,000	0	4,680,000	1,060,000	260,000

Source: Miscellaneous Minerals Branch, WPB, May 22, 1942.
Note: At the date of this abstract, requirements estimates had not been completed by the Materials Requirements Section.

SPECIAL PROBLEMS: All types of stones are mined from the same deposits and cannot be extracted separately. In the past, mining has been chiefly for jewel-quality diamonds, with a consequent accumulation of bort. There probably is a good reserve of bort material in stocks in South Africa and England which could be drawn upon if production in both Africa and Brazil should prove insufficient to supply the demand. Shipment could be made by plane, because of small bulk of material. There has been evidence of smuggling of diamonds from the United States. M-109 is a method of controlling this situation.

GOVERNMENT CONTROL: Conservation Order M-109, effective March 27, 1942, provides for quarterly reports of inventories and sales; also, reports of sales, transfers, and imports of rough diamonds, both unset and in tools not in use, within 10 days or one month, depending upon size of transaction.

SUMMARY:

	1942	1943	1942 Actual Jan.-June	
Estimated New Supply	7,200,000	7,200,000	New Supply	2,069,949
Estimated Requirements	5,540,000	6,000,000	Sales	3,444,966

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Statistics Division
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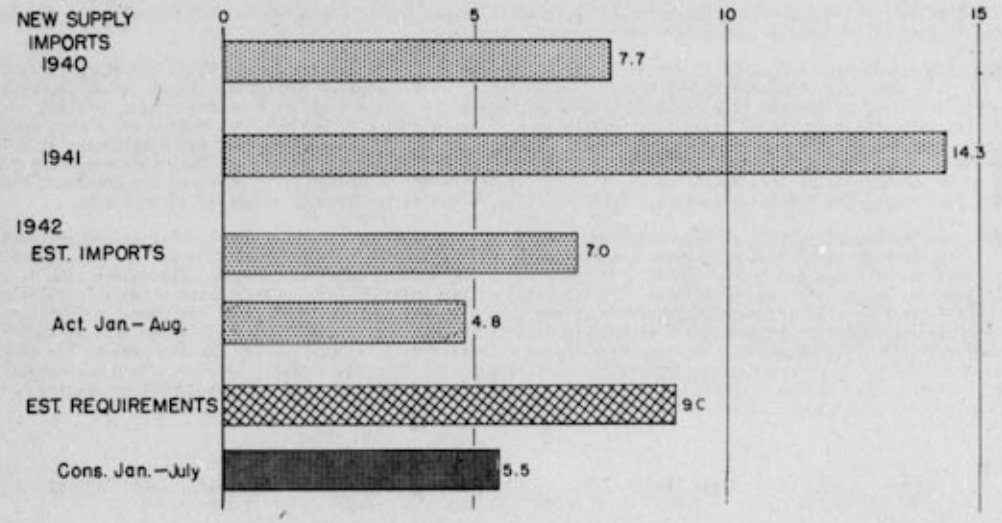
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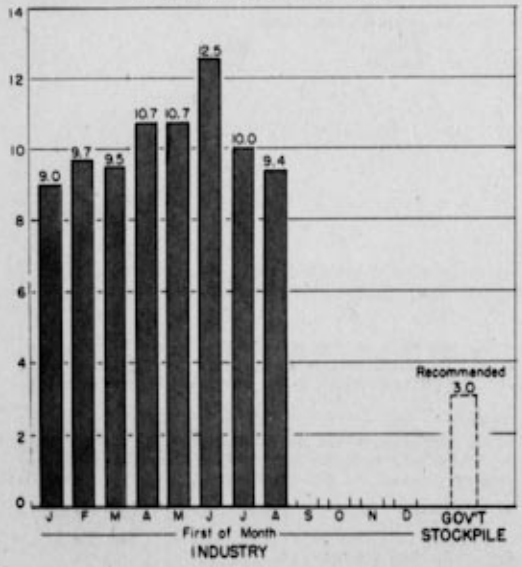
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KYANITE
(INDIAN)

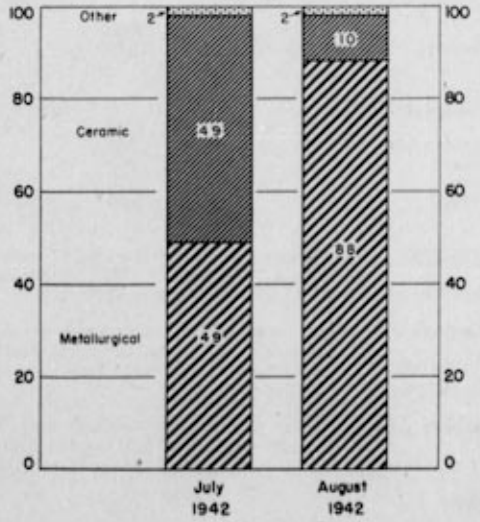
SUPPLY AND DEMAND
THOUSANDS OF SHORT TONS



STOCKS
1942
THOUSANDS OF SHORT TONS



USE PATTERN
PER CENT



War Production Board
Statistics Division
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KYANITE (INDIAN)
(All figures in short tons)

BACKGROUND: Kyanite, an aluminum silicate, owes its commercial importance to its ability to form heat-resisting bricks. These bricks are used to line steel foundry, red brass, copper, and glass-producing furnaces. The Indian Kyanite will produce coarse-grained bricks with high tensile strength. Domestic kyanite will produce only fine grained mullite; this consequently will form bricks of lower tensile strength. Satisfactory results have been obtained by using the fine domestic material with a plastic bond to fill the interstices of the coarse Indian material.

USES: The chief consumption of kyanite is in electrical furnaces such as the Ajax Wyatt for brass melting, in lining of indirect arc electric furnaces, in the roofs of small direct arc steel melting furnaces and forging furnaces, in combustion tunnels, and cement kiln linings.

SPECIAL PROBLEMS: This critical grade of kyanite is found only in Behar and Orissa, India, about 100 miles west of Calcutta. The geographic location of Calcutta, at the head of the Bay of Bengal, makes it doubtful whether shipments of kyanite will continue to get through to the United States. For that reason, a rigid conservation program, reserving 50 percent of imports, was in effect prior to May 6, 1942, when M-143 placed kyanite under control of the Director of Industry Operations. Efforts are being made to find adequate substitutes in domestic material for the Indian Kyanite. If Indian Kyanite were not available, dislocation in that industry would run as high as 50 percent of the full operating capacity of some furnaces, according to a survey by the American Iron and Steel Institute. The entire situation, therefore, rests on the development of effective substitutes.

SUBSTITUTES: As the metallurgical industry requires a coarse-grained mullite, the domestic kyanite is not suitable. Other minerals with a composition similar to kyanite are found in the United States. A topaz deposit in South Carolina is being developed, and will be ready for production in about six months. The sublimation of the fluorine (and the consequent removal of some of the silica) in the topaz conversion will produce qualities similar to the Indian Kyanite. The estimated ore reserve of the topaz deposit amounts to at least two years' normal consumption of Indian Kyanite. An andalusite deposit in California promises to supply material which will be suitable as a substitute for Indian Kyanite. Domestic kyanite can be substituted for many of the plastic uses of the Indian Kyanite, and research is in progress to improve the mullite produced from the domestic kyanite. From poor grade bauxits, however, satisfactory synthetic mullite can be manufactured only with a great expenditure of electric power. At present, such power is not available to the refractory industry.

NEW SUPPLY:

	1940	1941	1942 (Est.)	1942 Actual				
				Jan.-March	April-June	Jan.-June	July	August
Imports	7,658	14,286	7,000	3,376	1,330	4,706	45	-

CONSUMPTION:

	Jan.-March	April-June	Jan.-June	July
1942	2,743	2,182	4,925	584

Note: Earlier data not available.

STOCKS: There is a recommendation of 3,000 tons of Indian Kyanite for government stockpile, but none has been delivered to date.

	1942				
	Jan. 1	May 1	June 1	July 1	Aug. 1
Industry	9,047	10,665	12,525	10,023	9,381

NORMAL USE PATTERN:

	1942	
	July	August
Metallurgical	49%	88%
Ceramic	49	10
Other	2	2
Total	100%	100%

REQUIREMENTS: Requirements for Indian Kyanite, as stated by Miscellaneous Minerals Branch, WPB, July 10, 1942, amount to 9,000 tons for 1942. At the date of this abstract, requirements estimates had not been completed by the Materials Requirements Section.

ALLOCATIONS: Companies using Indian Kyanite were permitted in May and June to use one-fifth of their consumption during the last quarter of 1941. Allocations in July amounted to 620 short tons, and were 562 short tons in August. For September, 781 short tons were allocated, for ratings above A-3. Originally 167 short tons were allocated for September.

GOVERNMENT CONTROL: Under General Imports Order M-63, importation and disposition of Indian Kyanite were controlled, and 50 percent of all kyanite imports were to be held in reserve. General Conservation Order M-143, effective May 6, 1942, placed Indian Kyanite under complete control of the Director of Industry Operations.

SUMMARY:

	1942		1942 Actual Jan.-July
Estimated New Supply	7,000	New Supply	4,751
Estimated Requirements	9,000	Consumption	5,509

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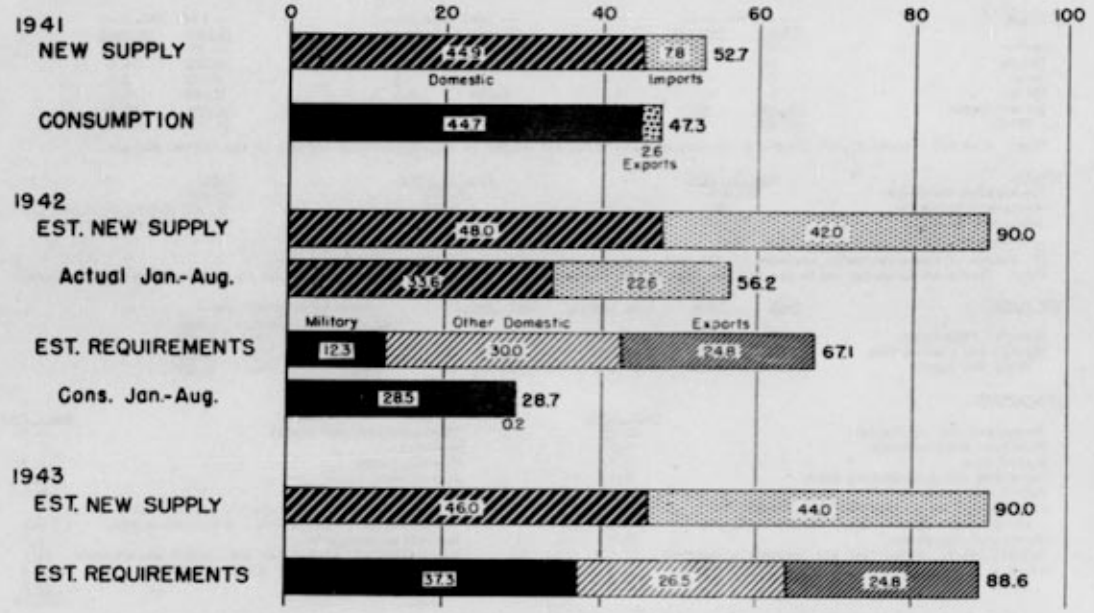
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MERCURY

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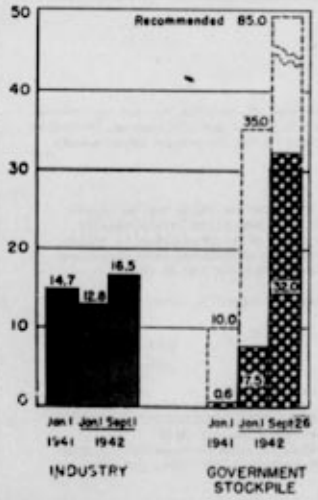
SUPPLY AND DEMAND

THOUSANDS OF FLASKS-76 POUNDS PER FLASK



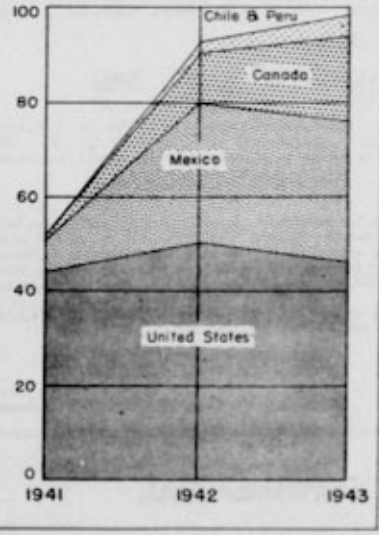
STOCKS

THOUSANDS OF FLASKS



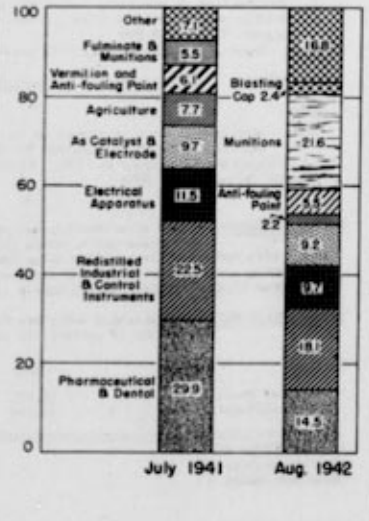
SOURCES

THOUSANDS OF FLASKS



USES

PER CENT



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MERCURY

(All figures in flasks, 76 lbs. per flask)

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BACKGROUND: Mercury is a silver white metal, liquid at ordinary temperatures. It is obtained usually by roasting the ore cinnabar (HgS) in air, and condensing the volatile mercury. Essential uses of mercury and its salts are in munitions, anti-fouling paint, blasting caps, pharmaceuticals, chemicals, instruments, and electrical apparatus.

SUBSTITUTION: Possibilities of substitutes are restricted, since the particular properties which make mercury applicable for its many uses, especially its liquid condition at ordinary temperatures, are not found in other metals. Non-military detonators may use lead azide, but the required aluminum for the lead azide casings is not available. Substitutes for mercury salts are used in felt manufacture. Substitutes for anti-fouling paint are being used to some extent. The use of mercury in cathodes has been limited, and the production of vermilion has been prohibited. Mercury boiler use is purely a matter of economy, and large amounts could be dispensed with if the quantity so freed is equal in importance to the loss of power resulting. Mercury is retained for war purposes because of its extreme efficiency in each of its uses, and in most cases substitutes with the same degree of efficiency do not exist.

SOURCES: 1/

	1941 Flasks	1941 Percent	1942 (Est.) Flasks	1942 (Est.) Percent	1943 (Est.) Flasks	1943 (Est.) Percent
Mexico	6,693	13.0%	30,000	32.3%	30,000	30.6%
Canada	785	1.5	11,500	12.4	18,000	18.4
Peru	-	-	500	.5	3,000	3.1
Chile	-	-	1,000	1.1	1,000	1.0
United States	44,000	85.5	50,000	53.7	46,000	46.9
Total	51,478	100.0%	93,000	100.0%	98,000	100.0%

Note: Does not include 35,000 flasks to be purchased in Spain and stored in England for the account of the United Nations.

STOCKS:

	Jan. 1, 1941	Jan. 1, 1942	1942
Recommended Stockpile	10,000	35,000	85,000
Government Stockpile	550	7,456	31,267 (Sept. 26, 1942) 1/
Industrial Stocks	14,700	12,840	16,492 (Sept. 1, 1942) 2/

1/ 9,865 flasks released since June, 1940.
2/ Bureau of Mines estimate; includes 15,300 with consumers and dealers and 1,192 producers' stocks.
Note: Stocks of mercurial salts are not included in the figures above, and may amount to 6,000 flasks in equivalent metallic mercury.

NEW SUPPLY:

	1942	1943	1942 (Est.)	1941 (Est.)	1942 Actual Jan.-June	1942 Actual July	1942 Actual Aug.
Domestic Production	37,777	44,921	48,000	46,000	24,452	4,700	4,500
Imports for Consumption	171	7,740	42,000	44,000	17,863	2,941	1,791
Total New Supply	37,948	52,661	90,000	90,000	42,315	7,641	6,291

USE PATTERN:

	July, 1941	Aug., 1942
Pharmaceutical and Dental	29.9%	14.5%
Fulminate and Munitions	5.5	21.6
Agriculture	7.7	2.4
Vermilion and Anti-fouling Paint	6.1	2.2
Felt Manufacture	2.9	5.5
As Catalyst, or in electrolytic preparation of Chlorine, Caustic Soda, Acetic Acid, etc.	9.7	9.2
Electrical Apparatus	11.5	9.7
Redistilled 1/, Industrial and Control Instruments	22.5	18.1
Other	4.2	15.6
Total	100.0%	100.0%

1/ Virgin mercury, when redistilled, subsequently is used chiefly in industrial and control instruments.

CONSUMPTION AND EXPORTS:

	1941
Army and Navy	5,890
All "A" and "AA" ratings	28,255
All other demand	10,560
Exports, incl. Lend-Lease	2,590
Total	47,295

	Deliveries, 1942 Jan.-June 2/ Quantity	Jan. Percent	June Percent
A-1 to A-1	5,951	27.8%	48.2%
A-2 to A-10	4,246	28.4	16.8
All other	5,726	43.8	35.0
Total	16,923	100.0%	100.0%

1/ Applies only to chemical, industrial and control instruments, and electrical equipment.
2/ Monthly consumption for 1942: January, 3,800; February, 3,000; March, 3,500; April, 3,430; May, 4,200; June, 3,700; July, 3,200 August, 3,700 = 28,530
Note: Exports, January-August, 1942 totaled 180 flasks.

REQUIREMENTS:

	Military	Indirect Military-Civilian	Export	Total
1942	12,302	29,977	24,789	67,068
1943	37,258	26,516	24,789	88,563

Note: Army requirements as stated by the Materials Requirements Section October 1, 1942, based on June 15 machine run and corrected. Navy requirements as reported May 13, 1942, and Maritime as reported May 15, 1942. Indirect Military and civilian as estimated by Civilian Supply October 1, 1942. Foreign requirements as reported by the Export Requirements Unit of the Materials Requirements Section September 29, 1942.

SPECIAL PROBLEMS: Volume of production and price in mercury are related closely. The extent of the ore reserves which may be tapped at various price levels is an unknown quantity, but production is limited in duration at any price level, however high. With the exception of a few large mines, exhaustion of each mine usually occurs within a few years after production is begun, thus making necessary continual new discoveries to ensure a certain production level. New discoveries and production have surpassed all former highs. Spanish mercury may be available to the United States at a much higher price than the ceiling set by OPA.

GOVERNMENT CONTROL: Conservation Order No. M-78, January 23, 1942, effective January 15, 1942, and amended August 5, 1942, prohibited the use of mercury for some purposes and limited its use for others.

SUMMARY:

	1942	1943		1942 Actual Jan.-Aug.
Estimated New Supply	90,000	90,000	New Supply	56,247
Estimated Requirements	67,068	88,563	Consumption and Exports	28,710

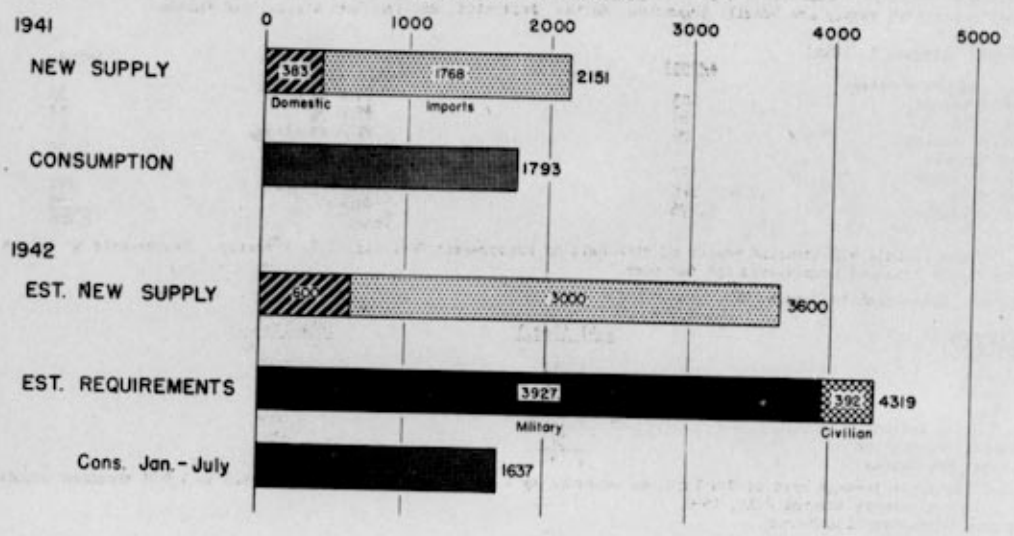
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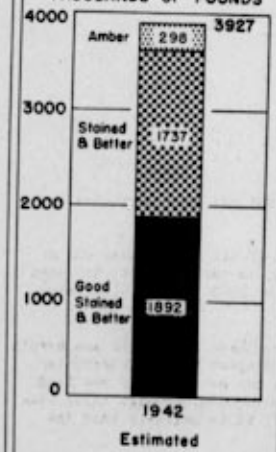
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MICA - BLOCK
(STRATEGIC GRADES)

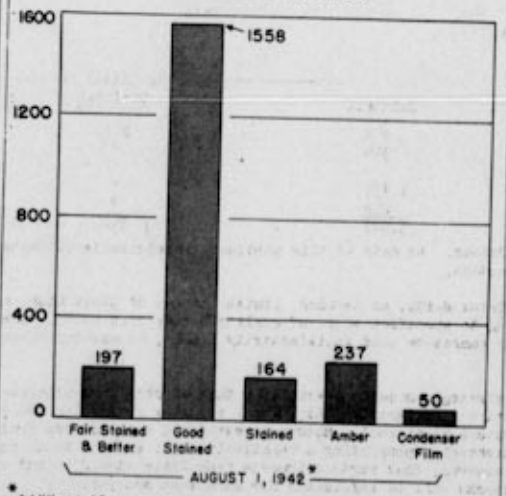
SUPPLY AND DEMAND
THOUSANDS OF POUNDS



MILITARY REQUIREMENTS BY TYPE
THOUSANDS OF POUNDS

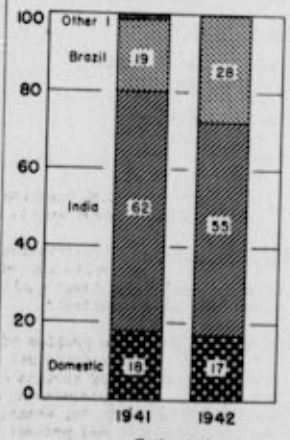


STOCKS
THOUSANDS OF POUNDS



* Additional 45 thousand pounds held by Metals Reserve Co.

SOURCES OF SUPPLY
PER CENT



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MICA - BLOCK (Strategic Grades)
(All figures in thousands of pounds)

BACKGROUND: Mica is a mineral essential to the electrical industry because of its insulating properties and high dielectric strength. Commercially, mica has two principal forms: block mica and splittings (See abstract on mica-splittings). Block or sheet mica is classified according to quality and size. There are seven quality groups; in order of their commercial rank these are: (1)Clear; (2) Clear and slightly stained; (3)Slightly stained; (4)Fair stained; (5)Good stained; (6)Stained; and (7)Heavy stained. Qualities better than heavy stained are considered strategic. The most commonly used sizes are #6 (1-1½ square inches) and larger (i.e., #5 & 5½, #4, #3, etc.). The important special military uses of strategic mica by preferred quality and sizes are the following: magnetos and magneto-condensers in airplanes (Fair stained #4); condensers in radio apparatus (Fair stained #5 and 5½); radio receiver condensers, sound detectors, etc. (Fair stained #6); low tension magnetos in tanks and airplanes (Good stained #4); radio and other communication equipment of Signal Corps (Good stained #5 and 5½). However, the lower categories, especially stained, will be employed with the increasing scarcity of the higher grades.

Only a small proportion (varying from 7 to 20 percent) of block mica produced in the United States is strategic; domestic requirements depend largely on imports, more than 50 percent of which normally come from India. Other sources of supply are Brazil, Argentina, Mexico, Australia, British East Africa, and Canada.

STOCKS: 1/ (August 1, 1942)

	Amount		Amount
Fair Stained & Better		Stained	
#4 & larger	103	#4 & larger	33
#5 & 5½	68	#5 & 5½	84
#6 & smaller	26	#6 & smaller	47
Good Stained		Condenser films	50
#4 & larger	197	Amber	
#5 & 5½	185	Spark plugs	202
#6 & smaller	1,176	Other	35
		Total	2,206

1/ Stocks include 478 thousand pounds of mica held by Procurement Division, U.S. Treasury. Stocks held by Metals Reserve--45 thousand pounds--are not included.

Source: Mica-Graphite Branch, WPB.

NEW SUPPLY:	1941 (Est.)	1942 (Est.)
Imports		
India	1,341	2,000
Brazil	400	1,000
Other	27	-
Total Imports	1,768	3,000
Domestic Production	383	600
Total New Supply	2,151	3,600

Note: Receipts through Port of New York, as reported by U.S. Tariff Commission, amounted to 1,578 thousand pounds from January through July, 1942.
Source: Mica-Graphite Branch.

CONSUMPTION:	1941	Jan.-July, 1942		1941	Jan.-July, 1942
Fair Stained & Better			Amber Block Mica		
#4 & larger	N.A.	41	Spark plugs	N.A.	80
#5 & 5½	"	68	Other	"	10
#6 & smaller	"	80	Condenser Films 1/		
Good Stained & Stained			Fair Stained & Better	"	200
#4 & larger	"	156	Good Stained & Better	"	195
#5 & 5½	"	250			
#6 & smaller	"	557	Total	1,793	1,637

1/ Converted to block equivalent.
Source: Mica-Graphite Branch.

REQUIREMENTS:	1942 (Est.) 1/		
	Military	Civilian	Total
Good Stained & Better			
#4 & larger	948	N.A.	N.A.
#4½ & 5½	944	"	"
Stained & Better			
#6 & smaller	1,737	"	"
Amber	298	"	"
Total	3,927	392	4,319

1/ Estimate from Mica-Graphite Branch. At date of this abstract, requirements estimates had not been completed by the Materials Requirements Section.

GOVERNMENT CONTROL: Conservation Order M-101, as amended, limits the use of block mica, and of all mica either cut or split according to specified size, of quality better than heavy-stained, to war agencies, and then only when mica of a lower quality cannot be used satisfactorily. M-63, as amended March 14, 1942, placed block mica under full import control.

SPECIAL PROBLEMS: The problem of strategic mica is essentially that of obtaining adequate supplies from India and Brazil, the principal sources of imports. Additional supplies from India are contingent upon uninterrupted shipping, a matter of serious concern at present. Moreover, estimated imports from Brazil may not be fully realized. Estimated domestic production, although representing a relatively small part of total requirements, appears to be reasonably certain. In the event, however, that further imports from India should be cut off, it is unlikely that the new supply in 1942 and present stocks will be sufficient for more than one year.

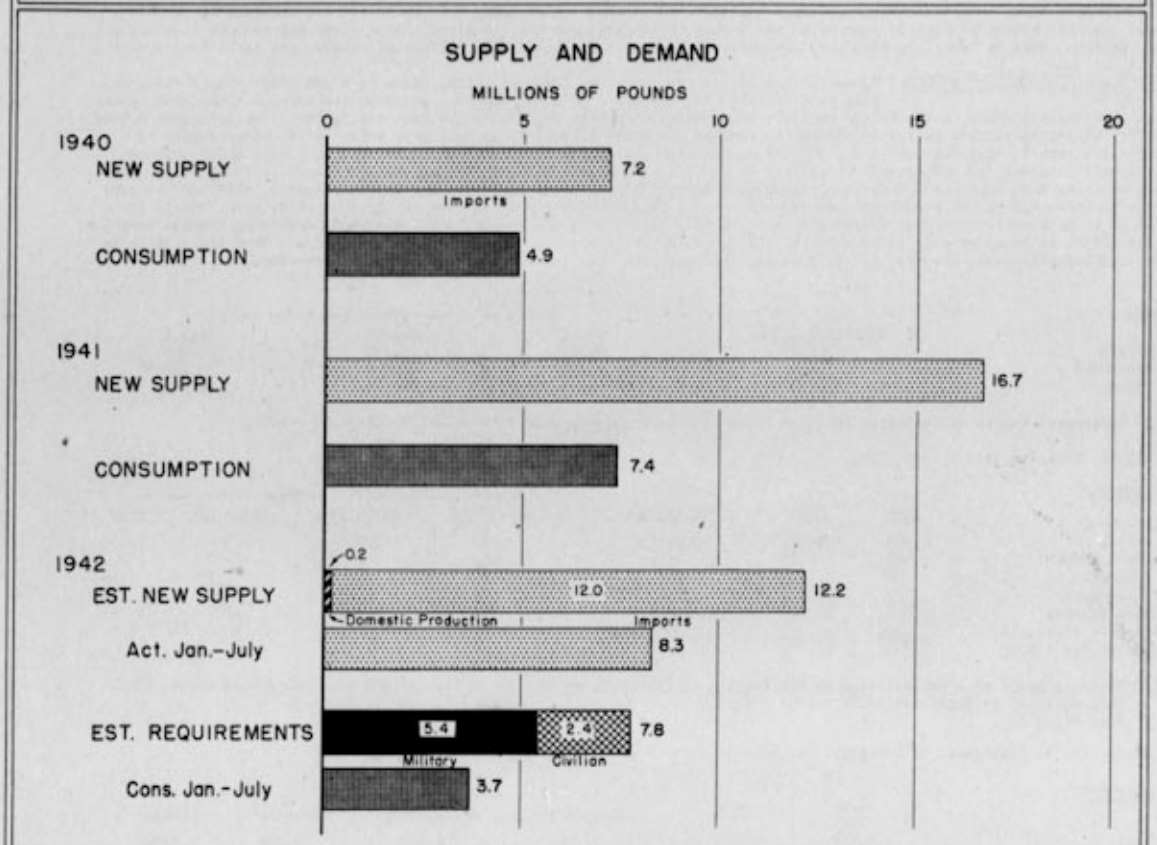
SUMMARY:

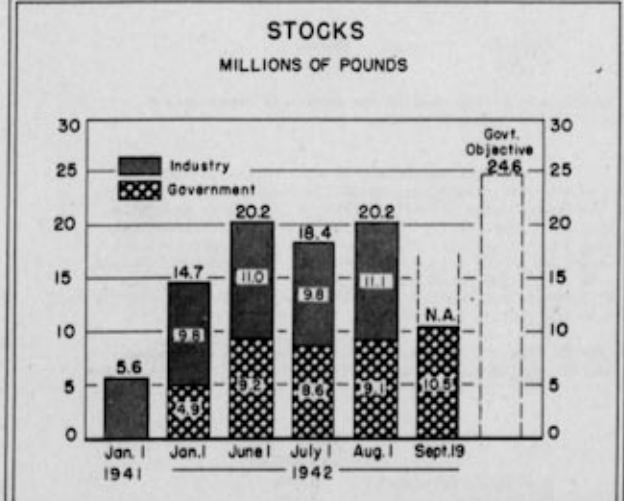
	1942		1942 Actual Jan.-July
Estimated New Supply	3,600	New Supply (through Port of New York only)	1,578
Estimated Requirements	4,319	Consumption	1,637

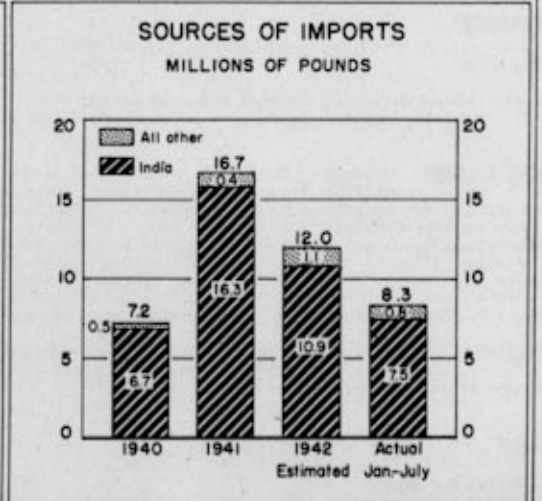
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MICA - SPLITTINGS







War Production Board
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MICA - SPLITTINGS

(In thousands of pounds)

BACKGROUND: Mica is a mineral, the most characteristic property of which is its capacity of being split easily into very thin, tough, flexible, and generally transparent sheets. This, in addition to its being a non-conductor of electricity, renders it valuable for electrical insulation purposes. Consumption of mica is confined largely to two varieties: muscovite (white mica) and phlogopite (amber mica). Commercially, mica has two principal forms: block mica and splittings, which may be either white or amber. Splittings are sheets of mica 0.0012 inches or less in thickness prepared from the lower qualities of block mica, and are semi-finished products rather than raw materials. Splittings are used exclusively in making built-up mica, which consists of multiple layers of splittings pressed together with a bonding material (mainly shellac or alkyd resins). Built-up mica is manufactured in two main forms: built-up board and flexible tape. Built-up board is used for commutator segments and V-rings for generators and starters in airplane, tank, and automobile motors; in industrial motors and generators, and for fractional horse power motors; and in household appliances. Tape is used for armature insulation in high-voltage generators, industrial motors, and small transformers.

PRODUCTION AND SOURCE OF SUPPLY: Since splittings are prepared from low-grade mica, there is a potential supply wherever mica is produced. The splitting of mica, however, requires trained and cheap hand labor, which is not available in the United States. As a result, domestic production has been negligible. The principal source of United States imports is British India (at present the world's large-scale producer, owing to its large supply of necessary labor), which accounted for 94 percent of total new supplies in 1941 and 93 percent in 1940. Small amounts have been obtained from Madagascar (6 percent in 1940) and Canada. The product from India is entirely white mica, while the material from Canada and Madagascar is amber. In splittings, these varieties are interchangeable, although for certain purposes one may be preferred over the other. For example, amber mica is more costly than white mica, but is preferred in uses where high test resistance is important. Because of the growing difficulties in obtaining foreign supplies, some effort is being made to develop mechanical processes for splitting domestic and Canadian mica. Production still is in an experimental stage, however, and no material increase from this source can be expected for some time.

STOCKS:

	January 1, 1941	1942 Jan. 1	1942 July 1	1942 Aug. 1
Industry	5,632	9,746	9,809	11,065
Government	-	4,928	8,554	9,164 1/
Total	5,632	14,674	18,363	20,229

1/ Government stocks on September 19, were 10,545 thousand pounds; objective is 24,600 thousand pounds.

Source: Mica-Graphite Branch, WPB.

NEW SUPPLY:

	1940	1941	1942 (Est.)	1942 Actual Jan.-March	1942 Actual April-June	1942 Actual Jan.-June	1942 Actual July
Imports:							
India	6,695	16,301	10,898 1/	3,233	3,114	6,347	1,134
Madagascar	422	13	652	652	-	652	-
Canada	80	294	200	56	21	77	10
All Other	7	121	250 2/	32	33	65	19
Total Imports	7,204	16,729	12,000	3,973	3,168	7,141	1,163
Domestic Production	negl.	12	200	N.A.	N.A.	N.A.	N.A.
Total New Supply	7,204	16,741	12,200				

1/ Estimate based on arrangements with the British Ministry of Supplies to furnish 14,000 thousand pounds during 1942. Full delivery is problematical.
2/ From Mexico.

Source: U. S. Department of Commerce, and Mica-Graphite Branch, WPB.

CONSUMPTION:

	1940	1941	1942 Jan.-March	1942 April-June	1942 Jan.-June	1942 July
Total	4,919	7,406	1,506	1,612	3,118	573

Source: U. S. Bureau of Mines.

REQUIREMENTS:

	Military	Civilian	Total
1942 (Est.)	5,400	2,400	7,800

Source: Estimates by Mica-Graphite Branch in August, 1942. The estimate as reported by the Materials Requirements Section includes, in addition, an estimated export figure of 129 thousand pounds.

SPECIAL PROBLEMS: It appears likely that the new supply in 1942 will be more than sufficient to meet estimated requirements for the year. Stocks on hand at the end of the year, therefore, should be adequate for about two years at the estimated 1942 rate of domestic consumption. The longer range situation, however, is not so favorable. Future supplies from India are contingent upon uninterrupted shipping. Supplies from Madagascar also are problematical. Imports from Canada are not likely to increase over the 1941 level of approximately 300 thousand pounds a year, because of labor shortage. A project in Mexico is expected to augment supplies in the future, but problems of labor and transportation will limit production in this area. Another possibility is a proposed development in Brazil. That country has suitable labor, and is favorably situated from the standpoint of shipping and domestic transportation facilities. In the long run, Brazil could constitute an important source of supply in the Western Hemisphere.

GOVERNMENT CONTROL: There is no conservation order limiting the use of mica splittings. In effect, however, splittings are used almost entirely in "high priority number" products, such as electric motors or in the ignition systems of other motors.

SUMMARY:

	1942		1942 Actual Jan.-July
Estimated New Supply	12,200	New Supply (imports)	8,304
Estimated Requirements	7,800	Consumption	3,691

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

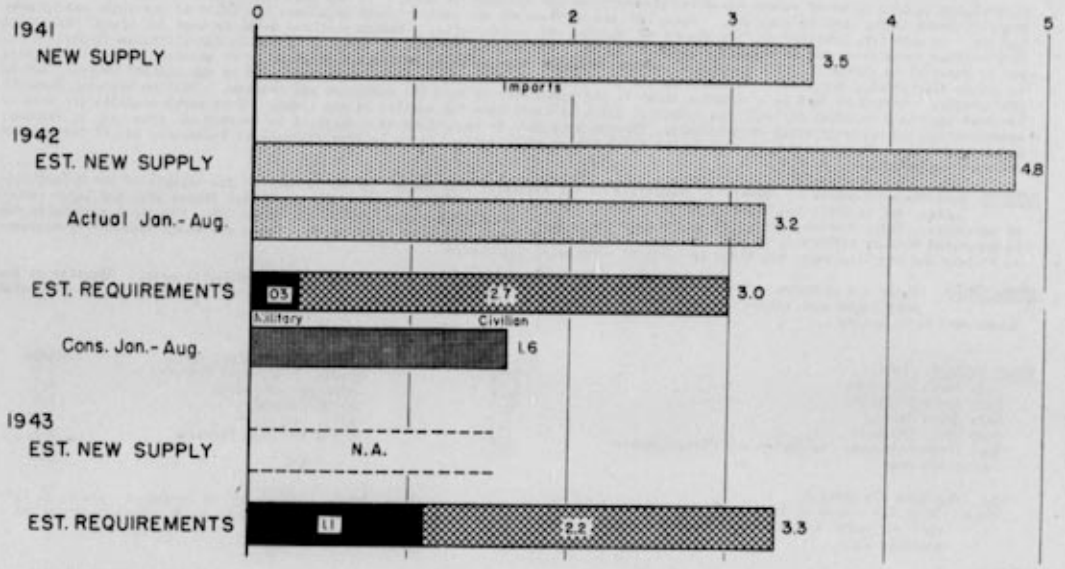
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MONAZITE SAND

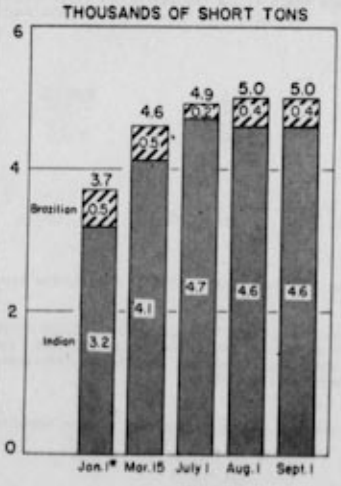
SUPPLY AND DEMAND

THOUSANDS OF SHORT TONS



STOCKS
1942

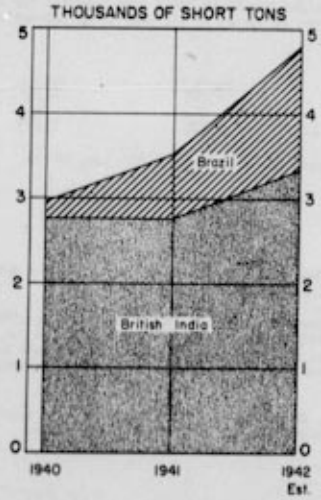
THOUSANDS OF SHORT TONS



*Does not include stocks of refined material equivalent to 500 tons of ore.

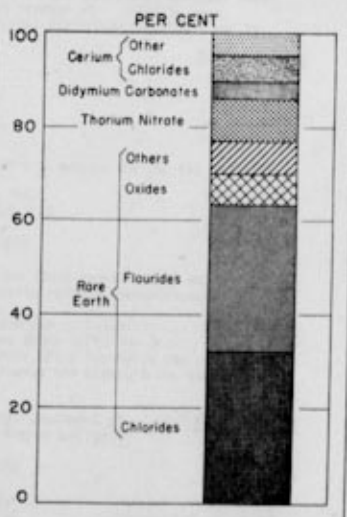
IMPORTS
BY COUNTRY OF ORIGIN

THOUSANDS OF SHORT TONS



USE PATTERN
SALES-1941

PER CENT



War Production Board
Statistics Division
Materials Branch

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Data as of Oct. 1, 1942
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MONAZITE SAND
(All figures in short tons)

BACKGROUND: Monazite sand is a yellowish brown mineral found in commercial quantities in certain black sand deposits in conjunction with zircon and ilmenite, from which it is separated by electro-magnetic machines. Monazite is largely cerium phosphate, but usually contains about 9% thorium, 15% lanthanum, and 20% of the other rare earths, praseodymium, neodymium, samarium, etc., and some silica. Three to four grains of the radio-active mesothorium are present in 1,000 tons of monazite, theoretically, with recovery at about 2½ grams.

USES: Monazite sand is the source of rare earth fluorides and rare earth oxides. These rare earth fluorides and oxides are essential to the manufacture of the cores for positive carbons such as are used in military searchlights, moving picture projectors, floodlights, and to a minor extent for other photographic and therapeutic uses. It has been found that the rare earths make the most brilliant light, next to sunlight. Also, by use of fluoride or oxide or both together, the color of the light can be controlled. In addition, monazite is the source of thorium and cerium salts. Cerium sparking metal is used in tracer bullets, in Navy welding operations, and in cigarette lighter flints. Mesothorium is used in luminous compounds for instrument dials, etc., and is superior to radium for this purpose. Cerium, thorium, rare earth hydrates, and didymium oxide are used in special glasses to absorb ultra-violet rays, etc. Cerium sulphate is employed in the manufacture of sulphuric acid by the contact process, and in photography. Cerium is used as a reducing agent in the production of metallic zirconium and thorium. Thorium nitrate, formerly the most important material derived from monazite, still is being used for mantles of gas lamps. Rare earth acetates are used in waterproofing and mildewproofing of materials. Thorium hydroxide is being used as a catalyst to recover oil from coal in Germany, Japan, and China. Thorium metal is used in the filaments of radio tubes. There is some evidence of increasing use of ferrocerium for sparking metals.

SOURCES: Monazite sand occurs in commercial quantities on the coasts of Travancore, India, in many of the islands of the Netherlands Indies, and in Bahia and Esperito Santo, Brazil. Netherlands Indies never supplied the United States with any large amount of materials. India produces about 80% of the material used in the United States, and Brazil about 20%. Brazilian production can be increased without difficulty to the 1900-1910 average annual level of about 4,000 tons. There are small deposits of monazite in Florida and the Carolinas, but these are without commercial importance.

SUBSTITUTES: There are no known substitutes for the rare earth fluorides and oxides obtained from monazite sand. Monazite is the only commercial source for rare earths available to the United States. A cerite deposit in Sweden is the only other known rare earth source.

SALES PATTERN: (1941)

	Percent	Sales Pattern (Continued)	Percent
Rare Earth Chlorides	32.2	Thorium Nitrate or Hydrides	9.6
Rare Earth Fluorides	31.4	Didymium Carbonates	3.1
Rare Earth Oxides	6.3	Cerium Chlorides	5.9
Rare Earth Hydrates	3.2	Cerium Oxalates	.3
Rare Earth Acetates, Carbonates and Miscellaneous	3.8	Cerium Ammonium Nitrate	- 1/
Cerium Hydrates	4.2	Total	100.0

1/ Less than .05 percent.

Note: About 1.6 ounces of rare earth fluoride or oxide is needed per positive carbon. About 45% of cerium or rare earth fluoride or oxide by weight is recovered from a ton of monazite sand, producing approximately 10,000 cores from one ton of monazite sand.

IMPORTS:

				1942 Actual			
From	1940 1/	1941 1/	1942 (Est.)	Jan.-March 2/	Jan.-June 1/	July	Aug.
British India	2,766	2,763	3,342	987	2,010	--	--
Brazil	201	747	1,438	192	772	420	--
Total	2,967	3,510	4,780	1,179	2,780	420	--

1/ Imports for consumption. 2/ General imports. 3/ Receipts reported by importers.

Note: Imports from India are subject to seasonal variations, and are expected to be very small during the second and third quarters of 1942. No imports from either Brazil or India were reported for April. Contracts have been made for 1,200 tons of the Brazilian production in 1942, with an option on all additional production.

STOCKS: (1942)

	Jan. 1	March 15	July 1	Aug. 1	Sept. 1
Indian	3,245	4,142	4,650	4,650	4,600
Brazilian	458	448	240	300	400
Total	3,703 1/	4,590	4,890	4,950	5,000

1/ Does not include stocks of refined material equivalent to 500 tons of ore.

CONSUMPTION:

1941	1942				
Oct.-Dec.	Jan.-March	April-June	Jan.-June	July (Est.)	Aug. (Est.)
533	643	588	1,231	210	194

EXPORTS: The United States still exports large quantities of thorium salts for use in gas mantles, and exports of ferrocerium have approximately doubled since the last quarter of 1941.

REQUIREMENTS: As estimated by the Miscellaneous Minerals Branch, WPB, July 30, 1942, requirements for 1942 and 1943 are 3,000 short tons and 3,300 short tons, respectively. Of these amounts, 308 and 1,120 short tons are estimated as military requirements, and 2,692 and 2,180 short tons as civilian requirements. As of this date, the bills of material translation indicating the military requirements for monazite sand have not been completed by the Materials Requirements Section.

GOVERNMENT CONTROL: In November, 1941, a stockpile recommendation for 2,016 tons of monazite sand was withdrawn because domestic supplies seemed adequate to meet all visible requirements.

SUMMARY:

	1942		1942 Actual Jan.-Aug.
Estimated New Supply	4,780	New Supply	3,200
Estimated Requirements	3,000	Consumption	1,625

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

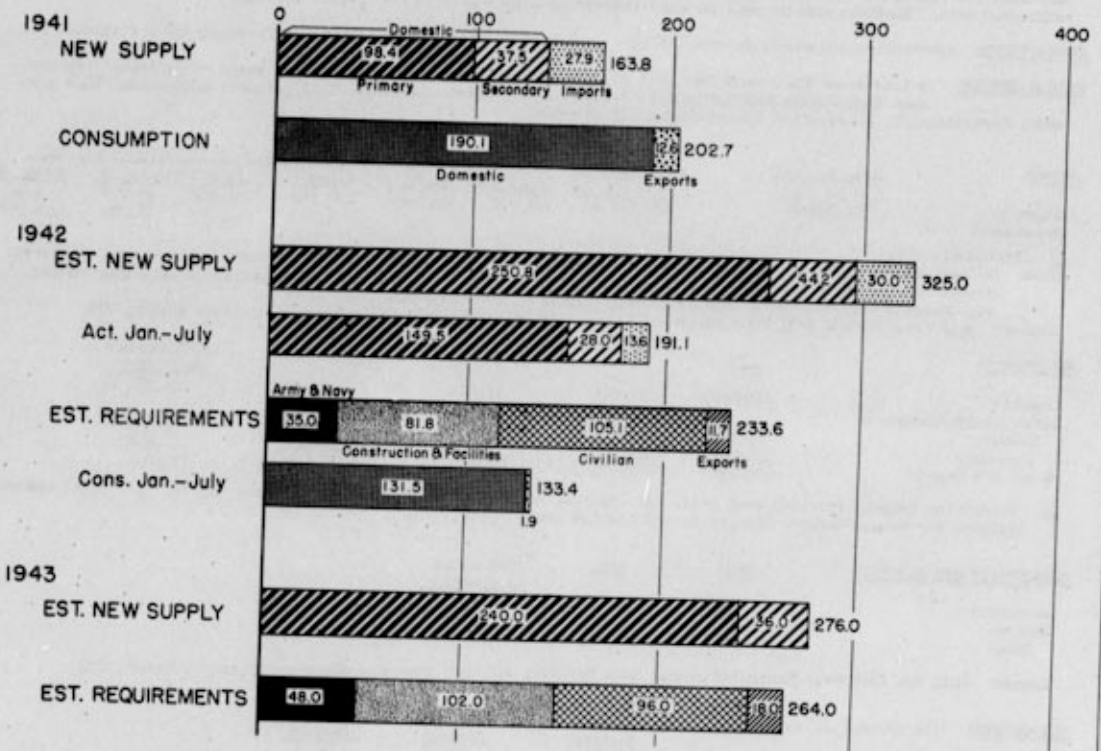
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PLATINUM

(REFINED METAL)

SUPPLY AND DEMAND

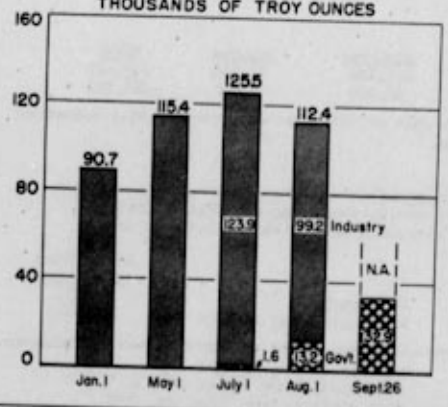
THOUSANDS OF TROY OUNCES



STOCKS

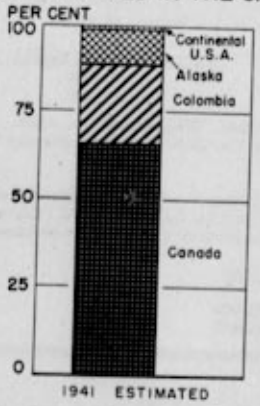
1942

THOUSANDS OF TROY OUNCES



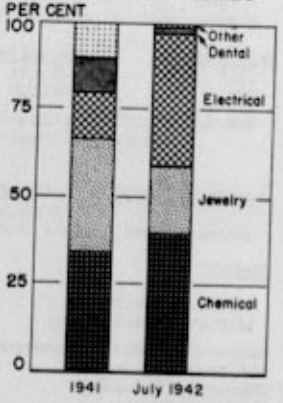
SOURCE OF PLATINUM ORE REFINED IN THE U.S.

PER CENT



USE PATTERN ON BASIS OF SALES

PER CENT



War Production Board
Statistics Division
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PLATINUM
(Troy ounces of refined metal)

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BACKGROUND: Platinum is the most common of a group of closely allied metals. It is characterized by high melting point and resistance to corrosion. It occurs with the other metals as native metal in Canada, South Africa, Colombia, Russia, and Alaska, and is recovered from the residue of nickel, copper, and gold refining operations, the largest amount coming from the Canadian nickel refineries.

USES: The principal direct military use is in platinum-iridium alloys for contact magneto points and voltage regulators in tanks and airplanes. These uses account for only a small part of total consumption. Essential industrial uses for platinum are in alloys with iridium, rhodium, and ruthenium in chemical and electrical processes. Platinum-rhodium alloys are used as catalysts in the production from ammonia of nitric acid for munitions. These alloys also are used for spinnerets for rayon and fibre glass production. Platinum is used as a catalyst for production of sulphuric acid. Platinum also is used in many industrial plants as a non-corrosive coating.

SUBSTITUTES: Substitutes for platinum have not been used because of the comparatively safe supply of the metal.

SOURCE PATTERN: Estimates of the source for 1941 of platinum metal refined in the U. S., based on refiners' reports, show that Alaska supplied the U. S. with 11.2 percent; Colombia, 22.1 percent; and Canada, 66.4 percent; Continental U. S. supplied the remaining 0.3 percent.

STOCKS:

	Jan. 1, 1940	Jan. 1, 1941	1942					
			Jan. 1	May 1	June 1	July 1	Aug. 1	Sept. 26.
Industry	71,393 1/	144,302 1/	90,670	115,365	121,752	123,958	99,246	N.A.
Government	-	-	-	-	1,566	1,566	13,182	32,941

1/ Platinum content.

Note: On September 5, 1942, there were 19,725 troy ounces, estimated metal content of crude ores, in the government stockpile reported by the Materials Branch, Statistics Division, WPB. Of this quantity 11,203 troy ounces were Russian platinum "pure" and 8,522 troy ounces Colombian 50-90%.

Source: Data for 1940 and 1941 from Bureau of Mines; data for 1942 from Miscellaneous Minerals Branch, WPB.

NEW SUPPLY:

	1940	1941	1942 (Est.)	1943 (Est.)	1942 Actual Jan.-July
Imports	68,082	27,881	30,000	0	13,592 2/
Domestic Production: 1/					
Primary	38,951	98,376	250,750	240,000	149,535 3/
Secondary	47,657	37,522	44,250	36,000	27,964
Total New Supply	154,690	163,779	325,000	276,000	191,091

1/ Production largely from imported ores. 2/ General imports of sponge, scrap, bars and ingots. 3/ 5,187 ounces refined for Metals Reserve Company from Colombian ore.

CONSUMPTION AND EXPORTS:

	1940	1941	1942 Actual Jan.-July
Consumption	122,979	190,075	131,481
Exports	55,027	12,630	1,968
Total	178,006	202,705	133,449

Source: Data for 1940 from Bureau of Mines; data for 1941 and 1942 from Miscellaneous Minerals Branch, WPB.

USE PATTERN: (In percent of sales)

	1941 Percent	June 1942 Percent	July 1942 Percent
Chemical	33.7	31.1	39.5
Electrical	14.0	38.5	38.0
Dental	9.6	2.8	2.2
Jewelry	32.6	24.6	19.6
Miscellaneous	3.9	.5	.6
Exported	6.2	2.5	.1
Total	100.0	100.0	100.0

Source: Based on consumption data of the Bureau of Mines.

REQUIREMENTS:

	Army and Navy	Construction and Facilities	Civilian	Exports	Total
1942	35,000	81,800	105,100	11,700	233,600
1943	48,000	102,000	96,000	18,000	264,000

Source: Miscellaneous Minerals Branch, WPB, August 19, 1942. At the date of this abstract, requirements estimates had not been completed by the Materials Requirements Section.

GOVERNMENT CONTROL: M-162, effective May 30, 1942, restricted platinum transfers to known dealers, refiners, distributors, processors, and consumers, and requires monthly reporting of sales, transfers, purchases, and receipts with the exception of platinum destined for certain essential end products or uses.

SUMMARY:

	1942	1943		1942 Actual Jan.-July
Estimated New Supply	325,000	276,000	New Supply	191,091
Estimated Requirements	233,600	264,000	Consumption and Exports	133,449

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

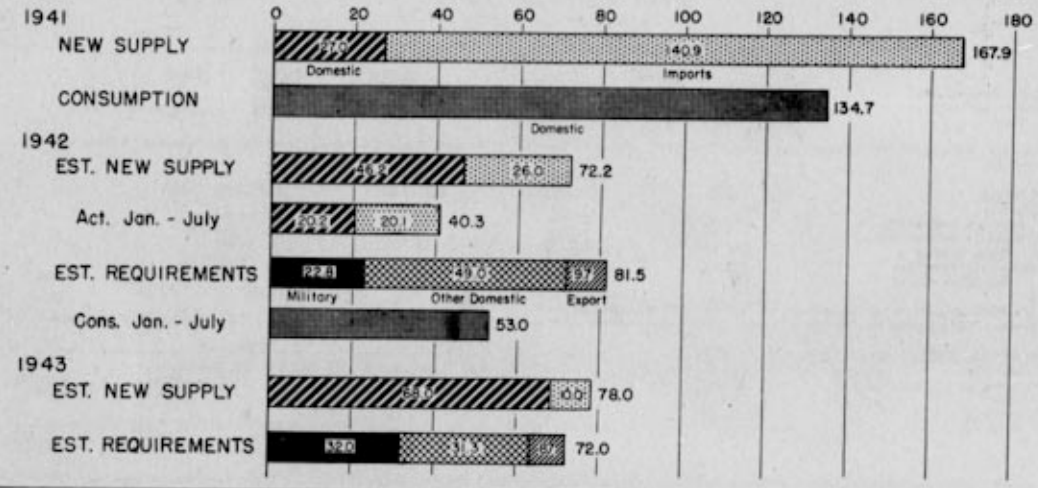
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TIN

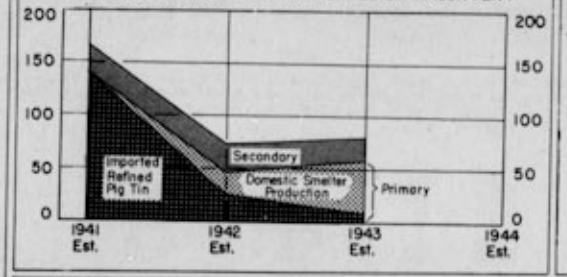
SUPPLY AND DEMAND

THOUSANDS OF LONG TONS OF METALLIC TIN CONTENT



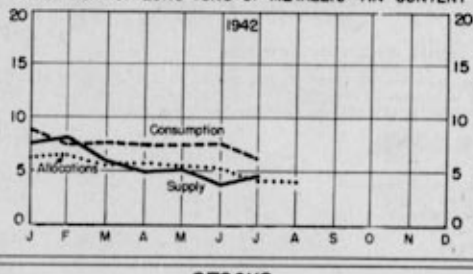
NEW SUPPLY - BY TYPE

THOUSANDS OF LONG TONS OF METALLIC TIN CONTENT



SUPPLY, CONSUMPTION AND ALLOCATIONS

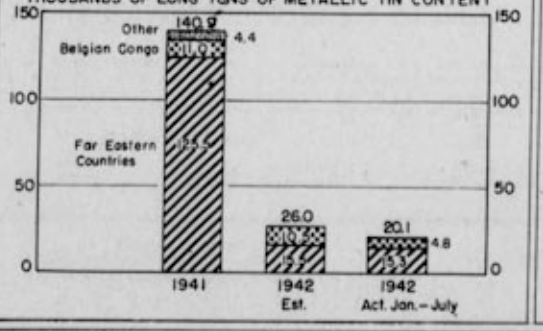
THOUSANDS OF LONG TONS OF METALLIC TIN CONTENT



SOURCE OF IMPORTS

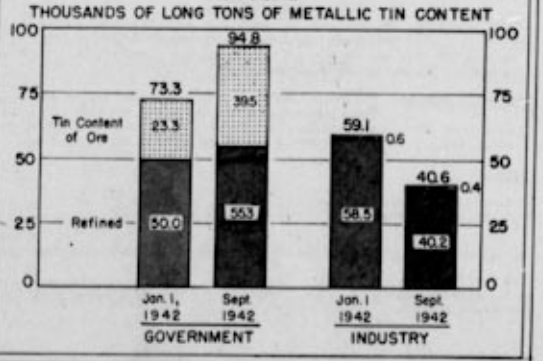
PIGS, BARS AND BLOCKS

THOUSANDS OF LONG TONS OF METALLIC TIN CONTENT



STOCKS

THOUSANDS OF LONG TONS OF METALLIC TIN CONTENT



War Production Board
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TIN

(All figures in metallic tin content in long tons)

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BACKGROUND: Tin comes from an oxide ore, cassiterite. Its principal use is to provide thin, smooth, non-corrosive coatings for sheet steel and other metals, and to form an alloy in bronze for bearings and strong castings. It is mixed with lead to make babbitt, solder, foil, and tubes. United States imports of ore, concentrates, and refined tin from countries not under enemy control so far this year amounts to 22% of total 1941 imports. We shall therefore not be able to continue consumption of tin at present levels when present stocks are exhausted. There are large smelters in England. To replace so far as possible those in the Malay States, Holland, and Belgium, the United States, which heretofore has consumed over half of the world production, has financed the building of a smelter at Texas City. This smelter will have a capacity to produce 94,000 long tons of fine tin a year from Latin-American and other ores, but current receipts of ore would not support this capacity, and 48,000 tons in 1943 is the extent of expected production. Production was started in April, and 7,013 long tons had been produced through August.

STOCKS: Stocks of refined tin, industrial and government, necessarily must carry the United States through 1942, and until capacity production can be attained at Texas City. Stocks of tin ore are created so to keep the smelters there running close to capacity through 1943, since monthly imports are insufficient.

	Stocks as of January 1, 1942			Current Stocks		
	Tin Content of Ore	Refined	Total	Tin Content of Ore	Refined	Total
Government Stocks	23,240	50,039	73,284	39,473	55,274	94,747
Industry Stocks	615	48,470	49,085	404	40,175	40,579
Total	23,855	108,509	132,369	39,877	95,449	135,326

Source: Government, Ore content reported by Texas City smelter, August 31; Refined, Stockpile report, September 19; Industry, Bureau of Mines, end of July.

NEW SUPPLY:	1941	1942 (Est.)	1943 (Est.)	1942 Jan. - July
Primary				
Imported Refined Pig Tin	140,873	26,000	10,000	20,108
Domestic Smelter Production 1/	548	21,800	46,000	5,597
Total Primary	141,421	47,220	56,000	25,705
Secondary Production	25,434	25,000	20,000	14,561 (Est.)
Total New Supply	167,855	72,220	76,000	40,266

1/ Includes government and private production from and domestic ores.
Source: 1941 production, Bureau of Mines; 1942-1943 estimates, Tin-Lead Branch, WPB; 1941 and 1942 imports, U.S. Department of Commerce.

CONSUMPTION, ALLOCATIONS & EXPORTS:	1941
Consumption of Primary Pig Tin	105,066
Consumption of Secondary Tin	31,609
Total	136,675
Exports	1,094
Total	135,769

	1942 Actual				
	Consumption (Primary and Secondary)				Exports
	1st Quarter	2nd Quarter	July	Total	Jan.-June
	24,046	22,652	6,274	52,972	52

	1942 Allocations (incl. tin plate)				
	1st Quarter	2nd Quarter	July	August	Total
	18,500	16,483	4,152	3,896	42,831

Source: 1941 Consumption, Bureau of Mines; 1942 consumption and allocations, Tin-Lead Branch, WPB. Tin plate allocations have been limited to 2,840 long tons per month for 3 months, July - Sept., and will be cut still further for the last 3 months of 1942.

REQUIREMENTS:

	As estimated by the Materials Requirements Section, August, 1942					As Estimated by the Tin-Lead Branch
	Military					
	Direct Military	Construction	Export 1/	Non-Military	Total Requirements	Total (incl. exports)
1942	20,657	2,100	3,750	49,000	81,507	62,300
1943	30,371	1,580	8,747	31,350	72,048	63,300

1/ Includes tin in plate and alloys.
Source: Materials Requirements Section, WPB (Sept. 30, 1942). Navy, based on Report of Aug. 8; Aircraft, based on S-J Ultimate Aircraft Program. Army, based on Army Supply Program revised to June 17; Maritime, based on program of Aug. 15, with objectives of 8,340,700 deadweight tons in 1942 and 16,821,000 in 1943; Export, based on Lend-Lease and other, August 3; Non-Military, based on first 6 months of 1942 - actual consumption, remainder of 1942 and 1943, minimum requirements. Office of Civilian Supply, August 1.

SOURCES OF IMPORTS:

	1941		Pigs, Bars and Blocks 1942 (Est.)		1942 Actual Jan.-July		Ore (metal content) 1942 Actual Jan.-July
	Amount	Percent	Amount	Percent	Amount	Percent	
Far Eastern Countries	125,956	89.1	15,500	59.6	15,270	74.8	N.E.I. 7,977
Belgian Congo	11,030	7.8	10,500	40.4	4,775	23.4	Bolivia 10,244
United Kingdom	3,641	2.6	-	-	-	-	Cameroons 67
Other	746	.5	-	-	63	0.3	Mexico 25
Total	140,873	100.0	26,000	100.0	20,108	100.0	Total 18,313

SPECIAL PROBLEMS: Substitution of bonderized plate (chemically-treated steel plate) for tin plate where possible, and other materials for collapsible tubes and other containers; change method of treating tin plate from the hot dip to electrolytic plating with a saving of approximately 335 long tons of tin per million of base boxes of plate manufactured; substitution of other metals in solders and in bearing metals; detinning of containers and salvaging of tin-bearing alloys.

GOVERNMENT CONTROL: WPB Order M-43-a (Dec. 31, 1941) has been tightened gradually. The latest amendment (June 5, 1942) prohibits the use of tin in items appearing on List A; limits the uses of tin by a general restriction after July 1 to 30% of its use in the corresponding quarter of 1940; places special restrictions by percentage of weight or by preference rating on such items as alloy, solder, collapsible tubes, terne metal, and tin oxide; forbids the use of any primary tin in type metal or any tin in certain articles such as jewelry, insignia, and ornaments.

SUMMARY:	1942	1943	1942 Actual, Jan.-July	
Estimated New Supply	72,220	76,000	New Supply	40,266
Estimated Requirements	81,507 - 82,300	63,300 - 72,048	Consumption & Exports	53,024

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

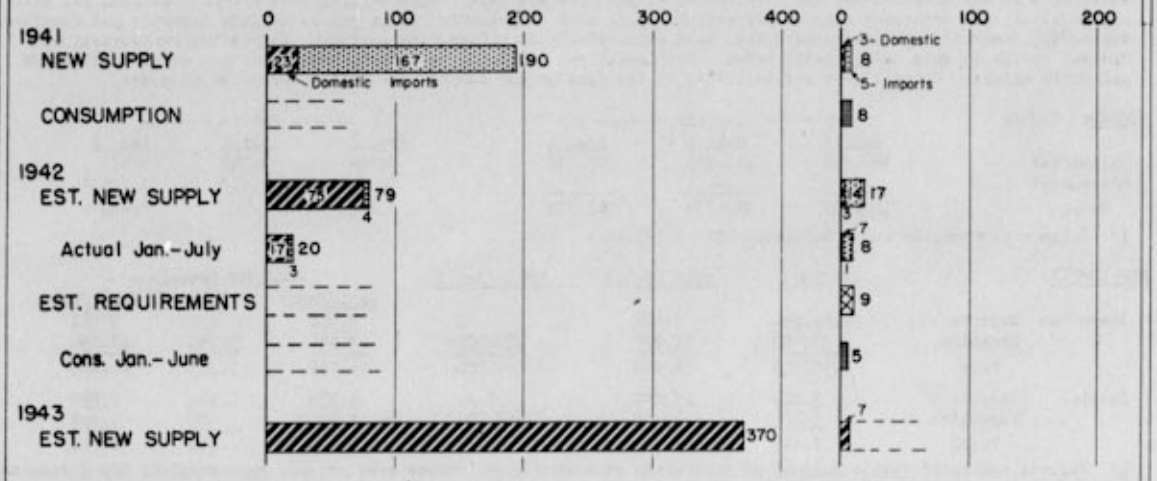
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Data as of September 30, 1942
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TITANIUM ORES
(ILMENITE AND RUTILE)

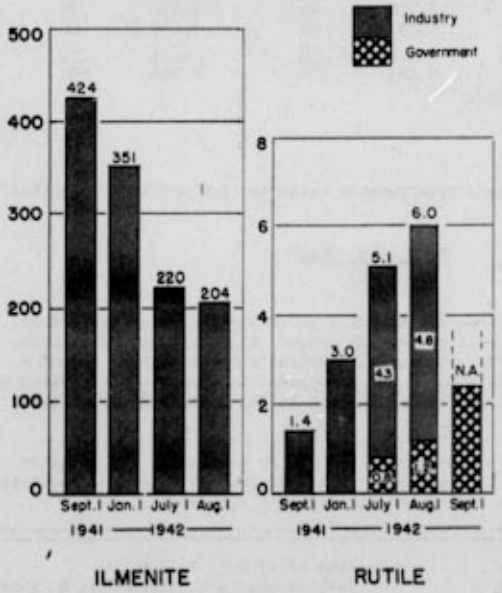
SUPPLY AND DEMAND

THOUSANDS OF SHORT TONS



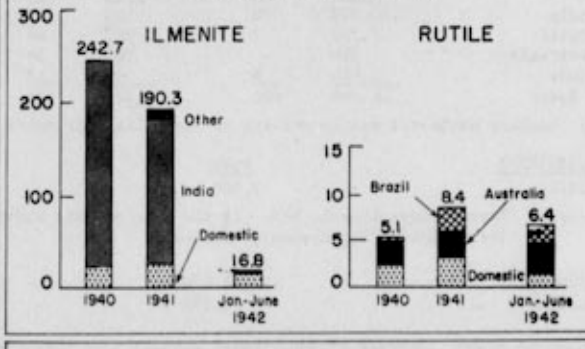
STOCKS

THOUSANDS OF SHORT TONS



SOURCES

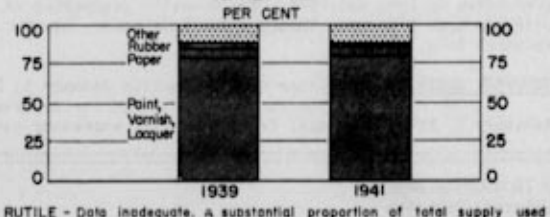
THOUSANDS OF SHORT TONS



USE PATTERN

ILMENITE

PER CENT



RUTILE - Data inadequate. A substantial proportion of total supply used for welding rod coating

War Production Board
Statistics Division
Materials Branch

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E.O. 11652, Sec. 3(E) and 5(D) or (E)
Commerce Dept. Letter, 11-15-72
By RHP, Date

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Commerce Dept. Letter, 11-15-72
By RHP, Date

TITANIUM ORES

Ilmenite and Rutile

(All figures in short tons of ore)

BACKGROUND: Ilmenite, the chief source of titanium dioxide, generally contains from 40% to 60% TiO_2. Titanium dioxide has a wide and increasing variety of uses, chiefly in titanium pigments. More than three-fourths of consumption normally is in paints, varnishes, and lacquer. It is also used as an alloy in steel production, as an opacifier in paints and decorative coatings, partially supplementing lead and zinc; as filler in paper making, giving color, opacity, and brightening; as an ingredient in rayon, imparting luster; as a non-toxic whitener in cosmetics, especially face powder, lotions, and soap; and in rubber as a color compound. As ferro-titanium and ferro-carbon titanium, it is used for imparting strength, ductility, and hardness to steel, and as a partial substitute for manganese, vanadium, tungsten, and molybdenum. Titanium compounds also are used as mordants in dyeing, as chemical catalysts, and for smoke screens in warfare.

Rutile contains 88% to 96% TiO_2. Its chief use is in the coating of welding rods for improving the steadiness of the electric arc and eliminating oxygen from the weld. Such welding rods are used in tank and ship construction, and more generally in industrial repair work. Synthetic rutile processed from ilmenite and manufactured TiO_2, made from ilmenite, have been used successfully as welding rod coating. Increasing replacement of natural rutile in this use is anticipated. Rutile-derived TiO_2 also is used in the production of ferro-titanium and other alloys. Ceramic uses are declining in the face of war demands for rutile for other purposes.

STOCKS: (1942)

	Ilmenite			Rutile		
	Jan. 1	July 1	Aug. 1	Jan. 1	July 1	Aug. 1
Industrial	350,808	219,774	203,938	2,984	4,240	4,853 1/
Government	-	-	-	31	848	1,178
Total	350,808	219,774	203,938	3,015	5,088	6,031

1/ Balance in stockpile as of September 19: 2,355 tons.

NEW SUPPLY:

		1941	1942 (Est.)	1943 (Est.)	1942 Actual		
					Jan.-June	July	Jan.-July
Ilmenite:	Imports	166,846	3,500	0	2,911	-	2,911
	Domestic	23,489	75,000	370,000	13,941	3,253	17,194
	Total	190,335	78,500	370,000	16,852	3,253	20,105
Rutile:	Imports 1/	5,285	13,820	N.A.	4,996	1,594	6,590
	Domestic	3,130	3,600	7,000	1,410	218	1,628
	Total	8,415	17,420	N.A.	6,406	1,812	8,218

1/ Includs estimated rutile content of Australian zirconium ores. These ores contain approximately 60% zirconium, 20% rutile, 10% ilmenite, and 10% gangue.

SOURCE OF IMPORTS:

	Ilmenite				Rutile			
	1941		1942, Jan.-June		1941		1942, Jan.-June	
	Tons	%	Tons	%	Tons	%	Tons	%
India	156,079	94	829	29	0	0	0	0
Brazil	3,709	2	1,287	44	2,448	46	1,931	39
Australia	364	-	403	14	2,837 1/	54	3,058 1/	61
Other	6,694	4	392	13	0	0	7	-
Total	166,846	100	2,911	100	5,285	100	4,996	100

1/ Include estimated rutile content of Australian zirconium ores.

REQUIREMENTS:

	1942
Rutile	8,500

Source: Ferro-Alloys Branch, WPB. At the date of this abstract, requirements estimates had not been completed by the Materials Requirements Section.

CONSUMPTION:

	1941 (Est.)	1942, Jan.-June
Rutile	7,632	4,787

SPECIAL PROBLEMS: Because of the virtual cessation of ilmenite imports, domestic production is being stepped up greatly. It is expected that this expansion will remove any danger of a shortage. One plant, a government-financed mine in New York which now is increasing its output, will account for the bulk of domestic production in 1942 and 1943. The domestic production of rutile also is being expanded to decrease the present dependence upon imports. Should a shortage occur, however, it might be met in part by the increased use of manufactured TiO_2.

GOVERNMENT CONTROL: WPB Order M-44 (effective January 1, 1942) established a pool of 20 percent of all titanium dioxide currently produced for manufacture into pigment. This was increased to 25%, beginning February 1, 1942. The pool is used to fill mandatory purchase orders and for specific allocation.

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

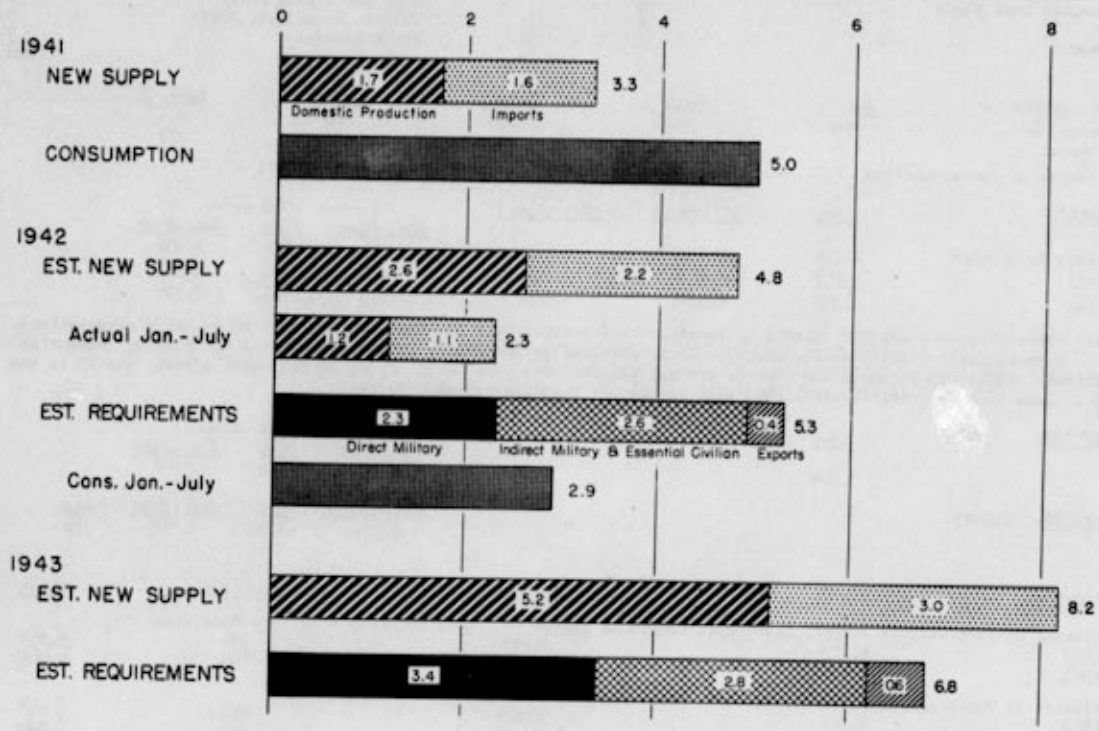
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VANADIUM

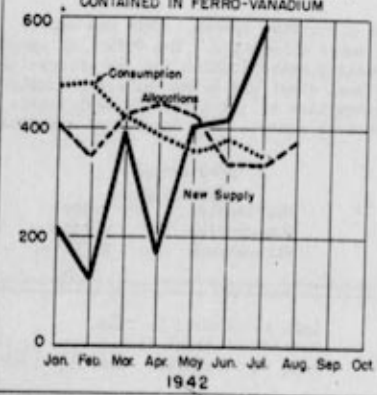
SUPPLY AND DEMAND

MILLIONS OF POUNDS OF CONTAINED VANADIUM ON A FERRO-VANADIUM BASIS



NEW SUPPLY, CONSUMPTION & ALLOCATIONS

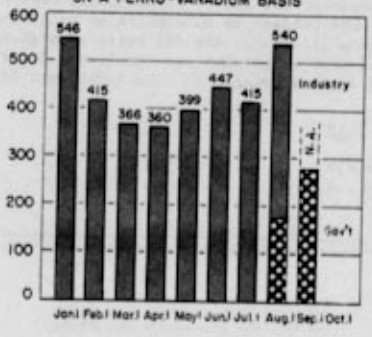
THOUSANDS OF POUNDS OF METAL (V) CONTAINED IN FERRO-VANADIUM



STOCKS

1942

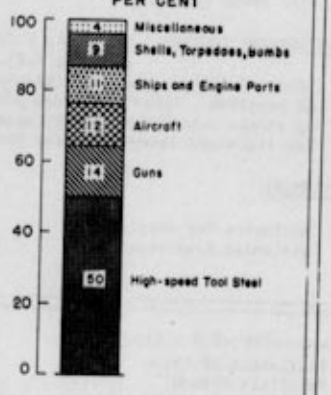
THOUSANDS OF POUNDS OF CONTAINED METAL ON A FERRO-VANADIUM BASIS



USE PATTERN

EST. JULY 1942

PER CENT



WAR PRODUCTION BOARD
Statistics Division
Materials Branch

Data as of Oct. 1, 1942
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VANADIUM

(All figures in thousands of pounds of contained metal on a ferro-vanadium basis)

BACKGROUND: Vanadium is a metal (symbol V) of vital importance to the war program. It usually is shipped from the mines in ores or concentrates containing vanadium pentoxide (V_2O_5- 56 percent V content). About 25 percent of the vanadium content of the ore is lost in producing ferro-vanadium. All the figures in this abstract have been converted to the basis of contained V in ferro-vanadium.

USES: Vanadium is used almost entirely in steel alloys to improve the high-tensile strength, hardenability, and shock-resisting qualities of the steel. It is essential for high-speed tool steel. More than 90 percent of the vanadium is consumed in the form of ferro-vanadium and most of the remainder in the form of V_2O_5.

Approximate Use Pattern - July, 1942	Percent	Approximate Use Pattern (Cont'd.)	Percent
High-speed Tool Steel	50	Ship and Engine Parts	11
Guns	14	Shells, Torpedoes, Bombs	9
Aircraft	12	Miscellaneous	4
		All Uses	100

STOCKS: (1942)	Jan. 1	April 1	July 1	Aug. 1	Sept. 1
Industry 1/	546	360	415	368	N.A.
Government	-	-	-	172	277

1/ Stocks of ferro-vanadium, V_2O_5, etc. at consumers' plants. Do not include mine stocks.

NEW SUPPLY:	1941	1942 (Est.)	1943 (Est.)	1942		
				Jan.-June	July	Jan.-July
Domestic Production	1,725	2,631	5,200	941	291	1,232
Imports	1,604	2,243	3,000	774	300	1,074
Total	3,329	4,874	8,200	1,715	591	2,306

Note: Domestic production and imports of vanadium in the first half of 1942 were somewhat below early expectations. A small part of the domestic supply will be obtained by processing boiler soot from ships burning Venezuelan petroleum. About one-fifth of the imports are expected to come from South Africa or Southwest Africa, partly in the form of lead vanadate concentrates; Peru will supply the remainder of the imports.

CONSUMPTION:	1941	1942		
		Jan.-June	July	Jan.-July
	5,040	2,506	352	2,858

ALLOCATIONS: (1942)	Jan.-June	July	Jan.-July	Aug.
	2,377	333	2,710	378

REQUIREMENTS:	Direct Military	Other Essential Domestic	Foreign	Total
Estimates by Ferro-Alloys Branch, based upon report of August 24, 1942, by Alloy Steel Sub-Committee:				
1942	2,279	2,604	376	5,259
1943	3,429	2,797	583	6,809
Estimates by Materials Requirements Section, WPB, August 14, 1942:				
1942	2,211	3,000	252	5,463
1943	3,005	3,566	309	6,880

SPECIAL PROBLEMS: The development of new types of alloy steels which can replace vanadium steel satisfactorily in many uses has made it possible to reduce somewhat the requirements of vanadium. For 1942, however, requirements still are greater than estimated new supply by at least 385 thousand pounds. Stocks may be sufficient to make up this deficiency. Increased production in the United States and Peru should make it possible to meet all essential needs next year.

GOVERNMENT CONTROL: WPB Order M-23 (August 14, 1941) put vanadium under a general priorities system. This was superseded by M-23-a (December 20, 1941), which placed deliveries under allocation. The Order, as amended (June 23, 1942), made all industry stocks subject to allocation by requiring specific authorization for the processing of vanadium. Under WPB Order M-14 (June 11, 1941), the old types of high-speed tool steel are being replaced largely by steels containing less tungsten and more molybdenum and vanadium. Hence, consumption of the latter in tool steels has increased sharply. Under General Imports Order M-63, the Government has complete control over imports of vanadium.

SUMMARY:	1942	1943	1942 Actual Jan.-July	
Estimated New Supply	4,874	8,200	New Supply	2,306
Estimated Requirements	5,259 - 5,463	6,809 - 6,880	Consumption	2,858
			Allocations	2,710

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

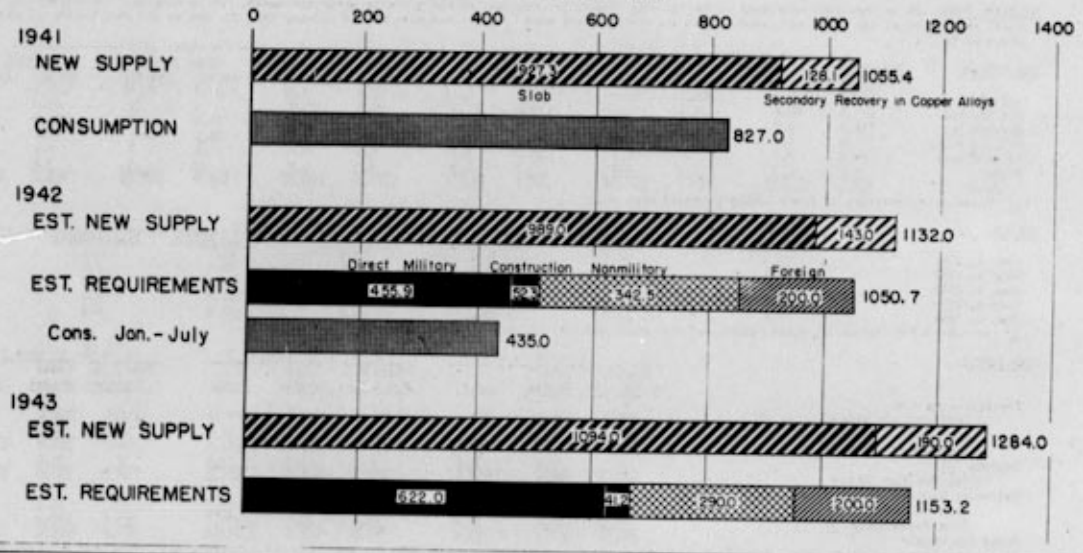
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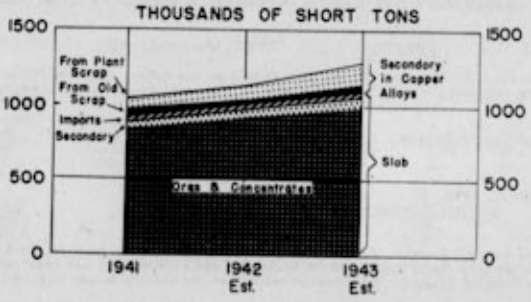
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ZINC
(METALLIC)

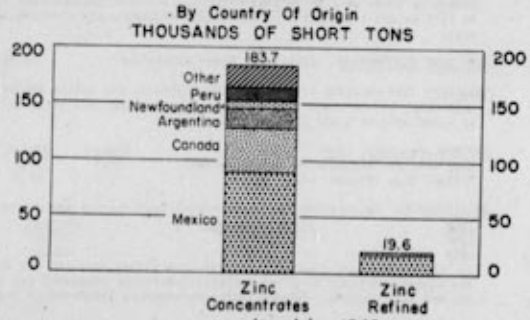
SUPPLY AND DEMAND
THOUSANDS OF SHORT TONS



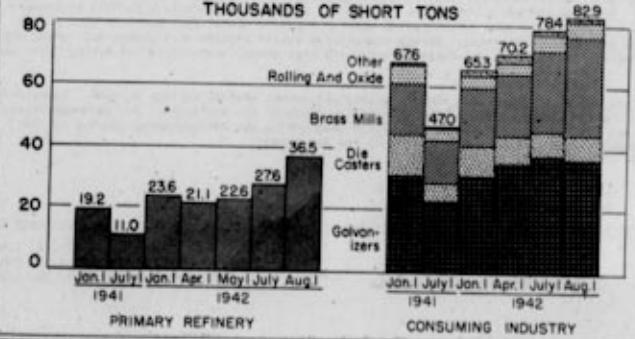
NEW SUPPLY - BY TYPE
THOUSANDS OF SHORT TONS



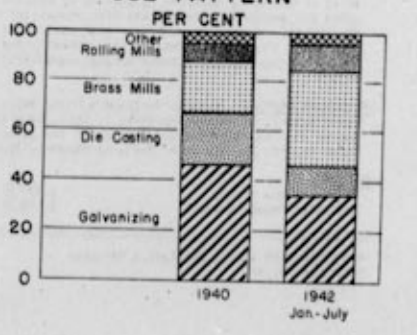
IMPORTS
By Country Of Origin
THOUSANDS OF SHORT TONS



STOCKS
THOUSANDS OF SHORT TONS



USE PATTERN
PER CENT



WAR PRODUCTION BOARD
Statistics Division
Materials Branch

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ZINC (Metallic)
(All figures in thousand short tons)

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BACKGROUND: Zinc is a bluish white, non-corrosive metal, usually associated with lead. The U.S. is the world's largest producer and consumer of zinc. Slab zinc is marketed in six grades - special high grade, high grade, intermediate, brass special, selected, and prime western (in descending order of purity). The galvanizing of iron and steel, the most important peace-time application, uses mostly prime western grade. The manufacture of cartridge brass, the most important wartime consumer of zinc, requires the higher grades. Zinc constitutes 30% of cartridge brass and an important proportion in many other alloys of which copper is the main constituent. Die castings, another important use, also require high grade zinc.

MILITARY USES: As an important component of brass, zinc finds its principal military use in cartridge cases. It is also used in galvanizing of steel sheets, wire, and naval equipment. Zinc die castings are used in motor vehicles and in forming dies for use in the manufacture of airplane parts.

USE PATTERN: 1/	1940						Jan.-July, 1942					
	Spec.H.G.,H.G.&Inter.		Other Grades		Total		Spec.H.G.,H.G.&Inter.		Other Grades		Total	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Galvanizing	30.7	8.7%	296.5	81.8%	327.2	45.7%	17.4	7.2%	127.8	75.4%	145.2	35.4%
Die Casting	143.5	40.6	1.6	.4	145.1	20.3	48.9	20.3	.1	.1	49.0	11.9
Brass Mills	118.9	33.7	32.4	8.9	151.3	21.1	140.0	58.1	19.4	11.4	159.4	38.8
Rolling Mills	29.9	8.5	30.4	8.4	60.3	8.4	22.7	9.4	21.1	12.5	43.8	10.7
Oxide Plants	24.9	7.0	.4	0.1	25.3	3.6	5.1	2.1	.1	.1	5.2	1.3
Other	5.2	1.5	1.4	0.4	6.6	0.9	6.9	2.9	.2	.2	7.1	1.9
Total	353.1	100.0%	362.7	100.0%	715.8	100.0%	241.0	100.0%	169.4	100.0%	410.4	100.0%

1/ Based on consumption of domestically produced zinc only.

STOCKS: 1/

	Primary Refinery	Consuming Industry				
		Total	Galvanizers	Die Casters	Brass Mills	Roll. Mills	Other
Jan. 1, 1941	19.2	57.6	31.6	12.9	16.4	6.1	.6
July 1, 1941	11.0	47.0	22.5	5.0	14.5	3.6	.8
Jan. 1, 1942	23.6	65.3	31.5	9.3	19.1	3.7	1.7
July 1, 1942	27.6	78.4	37.1	8.8	25.8	5.0	1.7
Aug. 1, 1942	36.5	82.9	36.2	8.6	31.4	5.2	1.5

1/ As reported by Bureau of Mines: stocks of consuming industry exclude stocks in transit.

NEW SUPPLY:

	1941 1/			1942 (Est.)			1941 (Est.)		
	Spec.H.G. H.G.&Inter.	Other Grades	Total	Spec.H.G. H.G.&Inter.	Other Grades	Total	Spec.H.G. H.G.&Inter.	Other Grades	Total
Production in Slab									
From ores and concentrates 2/	455.3	366.7	822.0	545.0	345.0	890.0	732.0	264.0	996.0
Secondary Slab 3/	11.4	59.1	70.7	12.0	50.0	62.0	12.0	50.0	62.0
Total Slab Production	466.7	426.0	892.7	557.0	395.0	952.0	744.0	314.0	1,058.0
Imports 5/	0	34.6	34.6	0	17.0	17.0	0	36.0	36.0
Total New Slab Supply	466.7	460.6	927.3	557.0	432.0	989.0	744.0	350.0	1,094.0
Secondary Recovery in Cu Alloys - Zn Content									
From Old Scrap	0	47.9	47.9	0	35.0	35.0	0	30.0	30.0
From Plant Scrap 4/	35.0	45.2	80.2	36.0	72.0	108.0	25.0	135.0	160.0
Total New Supply	501.7	553.7	1,055.4	593.0	539.0	1,132.0	769.0	515.0	1,284.0

1/ Latest Bureau of Mines data. Breakdown of plant scrap by grades estimated by WPB. 2/ Reflects metallurgical losses due to conversion of prime western to the higher grades of 3.0 thousand tons in 1942 and 7.0 thousand tons in 1943. 3/ Includes production at both primary and secondary plants from secondary materials; also includes secondary remelt of 11.4 in 1941, 4.2 in 1942, and 6.0 thousand tons in 1943. 4/ Included in these data to reflect difference between finished and rough stock weights used in estimates of requirements shown below. 5/ Imports in 1942 do not include 600 to 1,000 tons of high grade zinc per month beginning July 1 from Canada in exchange for an equal amount of low grade ores.

SLAB ZINC CONSUMPTION: (Bureau of Mines estimates) 1940: 733 1941: 827 1942: (Jan-July): 435

CAPACITY: The capacity of Primary Zinc Plants in the United States as of June 30, 1942, was 910 thousand short tons per annum. Capacity for an additional 147 thousand tons is under construction permitting additional production during the latter part of 1942, and increasing the capacity by March, 1943, to 1,057 thousand tons.

IMPORTS--Jan.-July, 1942:	Canada	Mexico	Argentina	Newfoundland	Peru	Australia	Other	Jan.-July Total	Jan.-Aug. Total
Zinc Ores or Concentrates (gross weight)	34.3	30.5	16.9	6.9	11.1	12.3	7.7	119.7	200.9
Refined Zinc (blocks, pigs, slabs)	0.3	19.3	----	----	----	----	----	19.6	23.5

REQUIREMENTS: As reported by the Materials Requirements Section on August 11, 1942. 1/

Year	Direct Military	Foreign	Military Construction	Non-Military	Total
1942	495.9	200.0	52.3	342.5	1,050.7
1943	622.0	200.0	41.2	290.0	1,153.2

1/ Direct Military requirements estimates (based upon the 8-J Ultimate Aircraft Program, the latest Army Supply Program, Sections I, II, and III, the latest available Navy and Maritime Commission programs) are on a rough stock basis except for cartridge and shell cases which are based upon cup and disc weights. Non-Military requirements estimated on basis of finished weights. Data include allowances for melting losses in alloying.

SPECIAL PROBLEMS: Military requirements are largely for the higher grades of zinc. Efforts are being extended towards increasing facilities for conversion of prime western to the higher grades and towards the use of lower grades where possible. Intermediate can be substituted for high grade in a number of instances. Large quantities of new brass scrap containing high grade zinc are returned to the brass industry. A high proportion of this material is down-graded and used for purposes where low grade zinc would be satisfactory, and some of the higher lead-content scrap is not being absorbed as fast as it appears on the market. It is necessary that brass scrap should be segregated carefully by the fabricator and channelled towards its most economical consumer. Tendency towards substitution of zinc for other metals threatens further to impair the supply. It is necessary that both mining and smelting capacity be expanded jointly with greater emphasis placed upon domestic zinc production in an attempt to eliminate the necessity for importing ores and concentrates. Strong competition exists between zinc plants and nearby war plants for the available labor supply, especially for mechanical labor in the Tri-State District; in some areas, competition for mining labor also exists.

GOVERNMENT CONTROL: General Preference Order M-11, as amended, placed metallic zinc under complete allocation control on June 1, 1942. Conservation Order M-11-b, effective September 1, 1942, bars the use of zinc in a comprehensive list of articles (largely die castings). For other articles, use of zinc is limited quarterly to 75% for prime western and 50% for other grades of the amount used during the corresponding quarter of 1941. Under General Imports Order M-63, as amended, imports of refined zinc are controlled solely by the Government.

SUMMARY:

	1942	1943
Estimated New Supply	1,132.0	1,284.0
Estimated Requirements	1,050.7	1,153.2

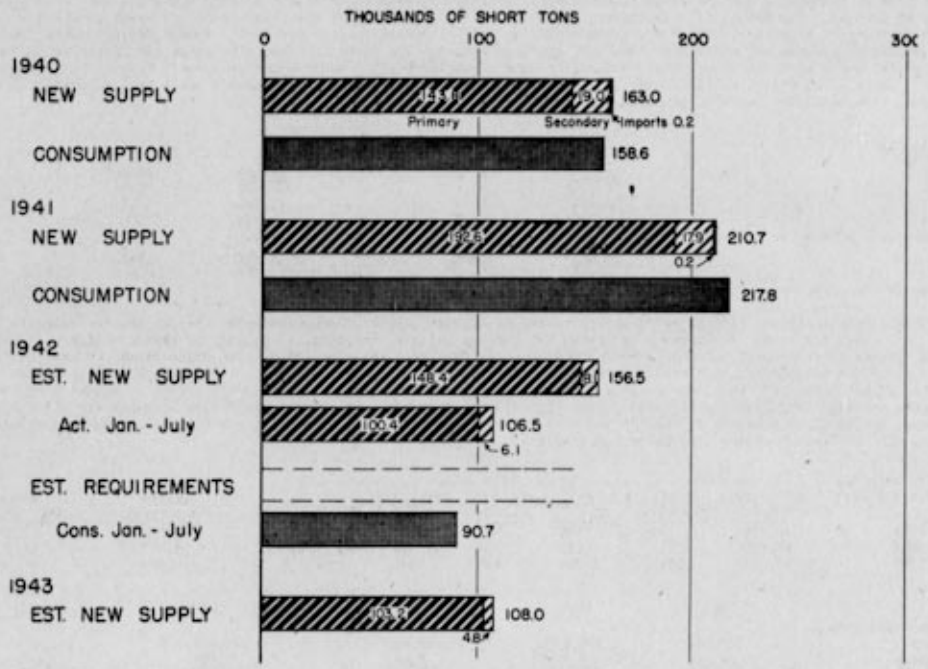
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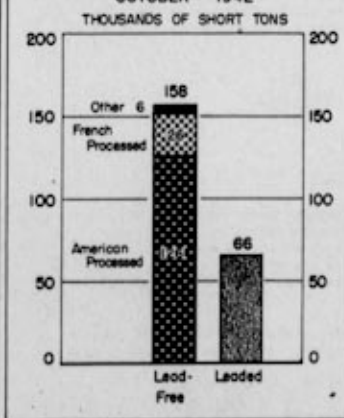
ZINC OXIDE
LEAD-FREE AND LEADED

SUPPLY AND DEMAND



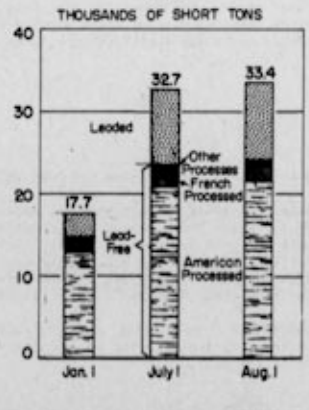
ANNUAL CAPACITY

OCTOBER 1942

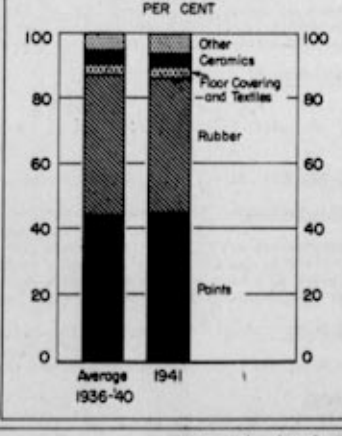


STOCKS

1942



USE PATTERN



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ZINC OXIDE (Lead-Free and Leaded)
(In Short tons)

BACKGROUND: Zinc oxide is a white powder, insoluble in water. In rubber, it aids in compounding by activating organic accelerators, acts as a reinforcing filler to increase strength and heat dissipation, and gives age-resisting properties. As a pigment, it is unaffected by the action of sulfides, is resistant to the action of ultraviolet rays, and retains its whiteness. Together with metallic zinc powder, it makes a rust-preventative paint. It has high electrical resistance, and is used in insulating cable compounds. In the ceramics industry, zinc oxide is used to impart good color, gloss, and opacity, and greater resistance to shock caused by sudden changes in temperature.

Zinc oxide may be made by the American process, directly from the ores, by which method oxidized ores mixed with coal are burned on a grate under forced draft. The resulting fumes pass through flues and finally are collected as condensed zinc oxide particles. Zinc oxide may be made also by the French process from slab zinc, in which the metal is vaporized, the zinc vapor collected, burned in air, and cooled to produce zinc oxide. In recent years, scrap zinc has been used in increasing quantities in this process. In 1938, 32 percent of French process oxide was made from scrap; in 1940, 45 percent. The amount of zinc oxide produced by the American process has risen recently, owing to the increasing scarcity of slab zinc. Other processes employing chemical residues also are used. Grades of zinc oxide are differentiated by process of manufacture, quality, and composition. The French process zinc oxide has better color, finer texture, and greater covering power; zinc oxide made by the American process contains up to 5 percent basic lead sulphate. Leaded zinc oxide, which is made by the American process, contains 5 to 35 percent basic lead sulphate. Low-grade ores, unsuitable for smelting to metal, are used in this process.

USE PATTERN: 1/

	—1936-1940 Average—		—— 1 9 4 1 ——	
	Amount	Percent	Amount	Percent
Rubber	65,501	43.4%	90,490	41.5%
Paints	66,714	44.2	97,776	44.9
Ceramics	5,830	3.8	8,596	4.0
Floor coverings & textiles	5,924	3.9	6,991	3.2
Other	7,123	4.7	13,960	6.4
Total	151,042	100.0%	217,751	100.0%

1/ Sales of lead-free and leaded zinc oxide, from Bureau of Mines.

MILITARY USES: Principal uses of zinc oxide are in rubber goods, paints, and pharmaceuticals. French process oxide is used for rubber requiring a low water soluble, especially wire insulation, and for pharmaceuticals. American process oxide is used chiefly in rubber and paints. In tires, the presence of zinc oxide gives low heat generation, good heat dissipation, and reinforcement; it aids in the reinforcement of rubber hose, tubing, insulated wire and cable, rubber boots and shoes, and surgical rubber. Zinc oxide finds many military applications in paints for cantonments and other buildings, as a metal primer for military equipment, airplanes, for marine coatings for all kinds of vessels, and in smoke mixtures for shells and grenades. Leaded zinc oxide is used in the manufacture of protective coatings, and, to a minor extent, in rubber and some other products.

STOCKS: (by material from which derived)

	Lead - Free						Leaded	Total
	Amer. Process		French Process		Other Proc.			
	Ore	Secondary	Slab Zn	Secondary	Secondary	Total	All Types	All Oxide
Jan. 1, 1942	12,876	3	785	432	581	14,677	3,032	17,709
July 1, 1942	20,578	190	1,113	636	978	23,495	9,217	32,712
Aug. 1, 1942	21,308	181	1,004	643	976	24,112	9,278	33,390

NEW SUPPLY:

	1940	1941	1942 (Est.) 1/	1943 (Est.)	1942 Actual Jan.-July
Domestic Production					
Primary	143,784	192,667	148,400	103,200	100,423
Secondary	18,996	17,878	8,100	4,800	6,055
Total	162,780	210,545	156,500	108,000	106,478
Imports	258	164	12	0	12
Total New Supply	163,038	210,709	156,512	108,000	106,490

1/ Estimates for 1942 include actual figures for first 7 months and estimates for the remainder of the year.

CAPACITY: The capacity of present facilities for the manufacture of zinc oxide amounts to 126,000 tons per annum for American process lead-free zinc oxide, 26,000 for French process lead-free, 6,000 for oxide made from chemical residues, and approximately 66,000 for leaded zinc oxide. Equipment for producing leaded zinc oxides may be used for the production of lead-free American process oxide, when necessary, after about a three-month transition period to allow the lead-saturated furnaces to issue a product that meets the lead-free specifications.

CONSUMPTION: 1/

1940	1941	1942 Jan.-July
158,575	217,753	90,698

1/ Shipments by zinc oxide plants as reported by Bureau of Mines.

REQUIREMENTS: At the date of this abstract, requirements estimates have not been formulated.

SPECIAL PROBLEMS: Chief problem is to find a means of estimating requirements, since different rubber companies use different rubber compounds and it is not known how much zinc oxide synthetic rubber will require. Negotiations are under way to arrange with Canada to cease producing the oxide from slab zinc, and to ship the metal to the U.S. instead. In turn, Canada would receive oxide from the U.S., since our stocks are well above needs, mainly because of a drop in civilian demands for paint. Except for about 1/3 of the concentrates used in the American process, the manufacture of lead-free zinc oxide competes with metal zinc for its raw materials.

GOVERNMENT CONTROL: Conservation Order M-11-a, effective June 1, 1942, requires zinc oxide producers to set aside quantities monthly for a pool as ordered by the Director of Industry Operations. At present, however, none is being set aside because of an excess already in the pool.

SUMMARY:

	1942	1943		1942 Actual Jan.-July
Estimated New Supply	156,512	108,000	New Supply	106,490
Estimated Requirements	N.A.	N.A.	Consumption	90,698

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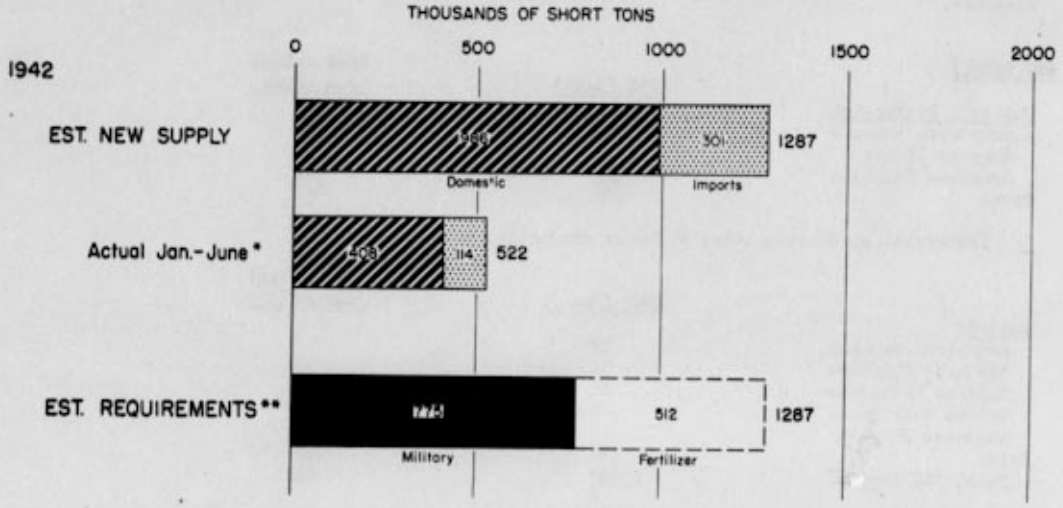
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AMMONIA, ANHYDROUS

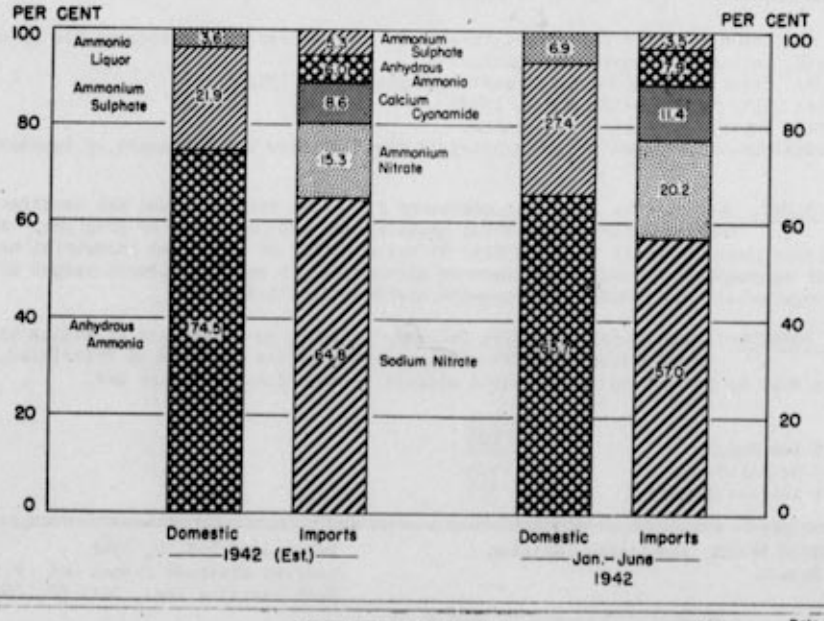
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SUPPLY AND DEMAND



* Domestic - commercial production only. Ordnance production not available.
** Based on estimated requirements for Direct Military, Essential Industrial and Foreign. Remainder of estimated supply available for fertilizer.

ESTIMATED NEW SUPPLY BY TYPES



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AMMONIA, ANHYDROUS

(All figures in thousand short tons)
(Ammonia Equivalent)

BACKGROUND: Anhydrous ammonia is a colorless gas recognized by its irritating, pungent odor. The larger part of anhydrous ammonia is made by uniting nitrogen from the air with hydrogen, derived from water or coke-oven gas. Additional quantities are obtained by treating ammonia liquors derived as a by-product in the coking of coal.

USES: Ammonia is used principally in military explosives; also, in making fertilizers, in industrial explosives, in the manufacture of nitric and sulfuric acids, in ice manufacture, and in bleaches.

NEW SUPPLY:

	1942 (Est.)	1942 Actual Jan.-June
Domestic Production		
Anhydrous Ammonia	734	268 1/
Ammonia Liquor	36	28
Ammonium Sulphate	216	112
Total	986	408

1/ Commercial production only; ordnance production not available.

	1942 (Est.)	1942 Actual Jan.-June
Imports		
Anhydrous Ammonia	18	9
Ammonium Sulphate	16	4
Calcium Cyanamide	26	13
Sodium Nitrate	195	65
Ammonium Nitrate	46	23
Total	301	114
Total New Supply	1,287	522

REQUIREMENTS: 1/

	1942 (Est.)
Direct Military 2/	499
Essential Industry 3/	243
Foreign 4/	
Anhydrous Ammonia	2
Ammonium Sulphate	19
Sodium Nitrate 5/	12
Total Requirements	775

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1/ Does not include agricultural requirements for fertilizer, which totaled 500 thousand tons in 1941, including organic compounds.
2/ Source: Materials Requirements Section, September 7, 1942.
3/ Source: ANMB to Dr. Reid, May 5, 1942.
4/ Source: Exports Requirements Section.
5/ An additional 2 thousand tons committed to Great Britain for the month of September.

SPECIAL PROBLEMS: Much of the equipment necessary for plant expansion and new construction also is required for the aviation gasoline and synthetic rubber programs. Almost all of the available ammonia supply is going into direct military or essential industrial uses. To cut fertilizer consumption further would have an adverse effect on agricultural output of grains, cotton, vegetables, and fruits which require nitrogen fertilizer.

GOVERNMENT CONTROL: Under M-62, effective February 1, 1942, no deliveries of sodium nitrate may be made without specific authorization of the Director of Priorities. The WPB has requested that no further sales of liquid ammonia be made for fertilizer use.

SUMMARY:

	1942
Estimated New Supply	1,287
Estimated Requirements	775
Available for Fertilizer	512

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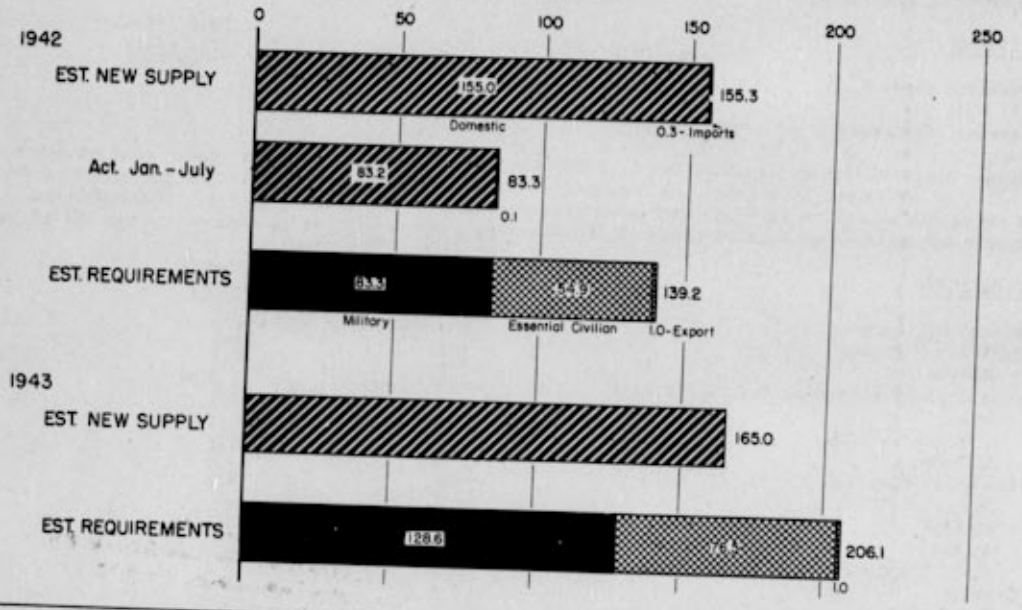
BENZENE (Benzol)

(100%)

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SUPPLY AND DEMAND

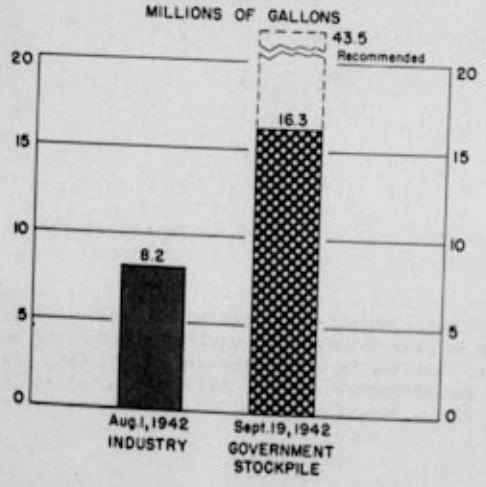
MILLIONS OF GALLONS



STOCKS

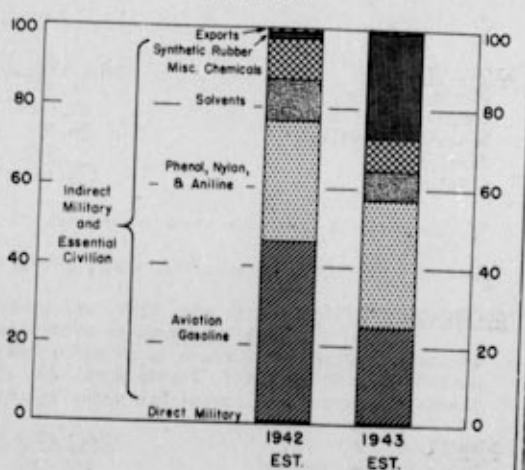
PURE BENZENE

MILLIONS OF GALLONS



USE PATTERN

PER CENT



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BENZENE (Benzol)
100%

(All figures in thousands of gallons)

BACKGROUND: Benzene is a clear, colorless, volatile, and inflammable liquid. It is obtained from the gases of coal retorts which are scrubbed by a spray of heavy oil; this dissolves benzene and toluene. From this solution, they are removed and separated by distillation.

USES: Benzene is used to make nitrobenzene from which aniline is prepared, chlorobenzene from which phenol is manufactured, and picric acid. It is necessary in the manufacture of styrene to make synthetic rubber, cumene for aviation gasoline, and is the basis of a large number of other industrial chemicals.

NEW SUPPLY:

	1942 (Est.)	1943 (Est.)	1942 Actual Jan.-July
Domestic Production	155,000	165,000	83,194

Source: Chemicals Branch, WPB.

STOCKS: Industry stocks as of August 1, 1942, were 8,190 thousand gallons. Government stocks as of September 19 were 16,346 thousand gallons (18,788 thousand gallons motor grade benzene). A stockpile objective of 43,500 thousand gallons has been recommended by WPB. The Chemicals Branch estimates that approximately 22,000 thousand gallons will be stockpiled by the end of 1942.

USE PATTERN:

	1942 (Est.) Percent	1943 (Est.) Percent
Direct Military	1.0	0.9
Indirect Military	58.9	61.5
Styrene	1.2	26.4
Dinitrochlorobenzene for Picric Acid	0.0	1.3
Nylon	4.1	3.6
Aviation Gasoline	45.8	24.1
Aniline	7.8	6.1
Essential Civilian	39.4	37.1
Phenol	13.4	17.8
Aniline	5.4	5.3
Solvents	10.3	7.0
Misc. Chemicals	10.3	7.0
Foreign	0.7	0.5
Total	100.0	100.0

FOREIGN TRADE:

	1942 Actual Jan-May 1/		1942 Actual Jan.-Aug.
Exports	153	Imports	151

1/ June-August exports not yet reported by the Department of Commerce.

REQUIREMENTS:

	1942 (Est.)	1943 (Est.)
Direct Military	1,440	1,944
Indirect Military	81,896	126,697 1/
Essential Civilian	54,892	76,513
Foreign	960	960
Total	139,188	206,114

1/ Increase in 1943 due to increased demand for styrene used in the manufacture of synthetic rubber.

Source: Chemicals Branch, WPB, June, 1942.

GOVERNMENT CONTROL: Since May, 1942, the government has prohibited the use of benzene in motor fuel and has begun to stockpile the surplus to meet the requirements for styrene for synthetic rubber and for use in aviation gasoline. Benzene is under complete allocation. General Conservation Order M-137, issued April 20, 1942, and amendment thereto, effective immediately, places deliveries and acceptance under direction of the Director General of Operations.

SUMMARY:

	1942 (Est.)	1943 (Est.)
Estimated New Supply	155,300	165,000
Estimated Requirements	139,188	206,114

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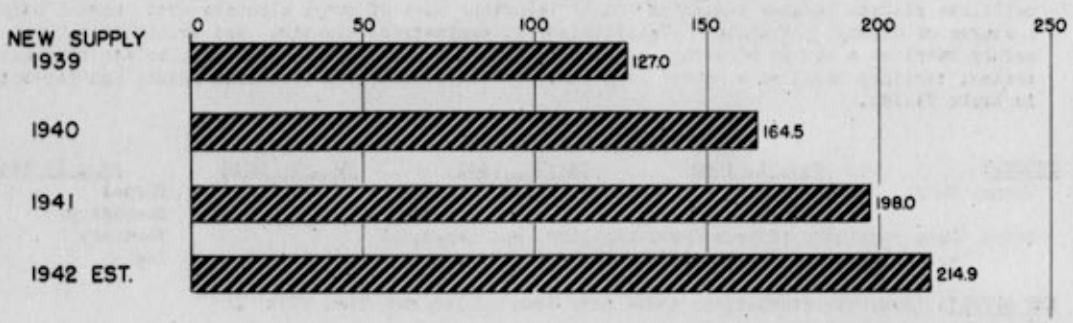
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BUTYL ALCOHOL

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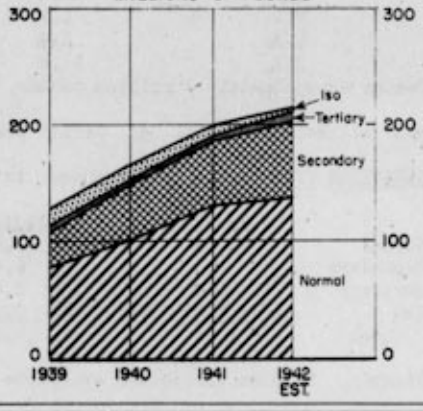
SUPPLY AND DEMAND

MILLIONS OF POUNDS



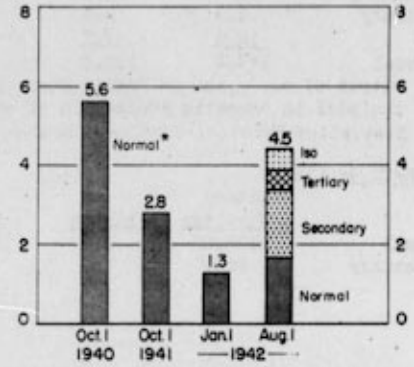
NEW SUPPLY BY TYPES

MILLIONS OF POUNDS



STOCKS

MILLIONS OF POUNDS

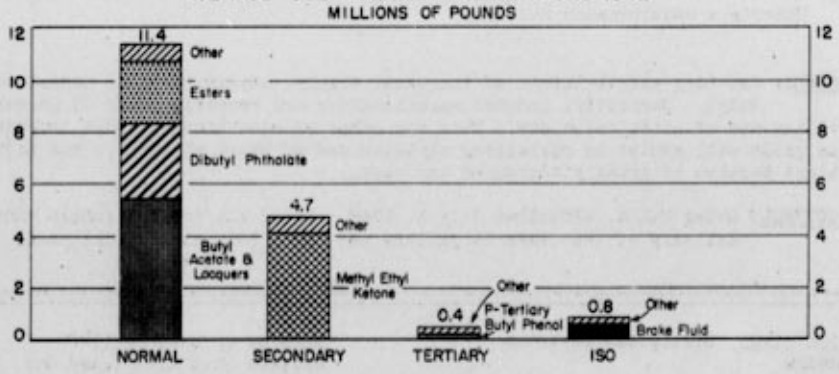


*Other stocks not available prior to June 1942.

USE PATTERN

AVERAGE JULY - AUGUST ALLOCATIONS-1942

MILLIONS OF POUNDS



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BUTYL ALCOHOL

(All figures in millions of pounds)

BACKGROUND: Butyl alcohol occurs in four isomeric forms (normal, secondary, tertiary, and iso), each differing in physical properties. The greater part of butyl alcohols, including all secondary, tertiary, and iso-butyl, is produced synthetically from refinery gases and natural gas, but more than 50 percent of normal butyl is obtained through fermentation and distillation. For several years, the principal raw material for the fermentation process has been molasses; in 1942, however, molasses will be supplanted largely by corn. The fermentation process yields normal butyl alcohol, acetone, and ethyl alcohol in approximately the ratio 6:3:1.

Butyl alcohols and their acetates are used primarily as high boiling solvents in the cellulose nitrate lacquer industry. Other important uses of butyl alcohols are: normal butyl as a source of dibutyl phthalate - a plasticizer in explosives, plastics, and synthetic rubber; secondary butyl as a source of methyl ethyl ketone - used as a solvent and in colorless synthetic resins; tertiary butyl as a source of p-tertiary butyl phenol, a flotation agent; and iso-butyl, in brake fluids.

STOCKS:

	Oct. 1, 1940	Oct. 1, 1941	Jan. 1, 1942	Aug. 1, 1942	
Normal Butyl	5.6	2.8	1.3	Normal	1.7
				Secondary	1.7
				Tertiary	0.5
				Iso	0.6

Note: Data on stocks of secondary, tertiary, and iso-butyl available after June 1, 1942. There is no government stockpile.

NEW SUPPLY: (Domestic production; there have been no imports since 1936) 1/

Type	1940	1941	1942 (Est.)	1942 Actual Jan. - July 4/	1942 Actual May - July 4/
Normal	100.4	129.0	135.9 2/	74.0	33.2
Secondary	48.8	55.9	66.0 3/	N.A.	18.4
Tertiary	3.3	3.9	8.0 3/	N.A.	0.7
Iso	12.0	8.7	5.0 3/	N.A.	1.4
Total	164.5	198.0	214.9	N.A.	53.7

1/ Output of one plant in Puerto Rico, currently producing approximately 2 million pounds, is included in domestic production of normal butyl.
2/ Statistics Section, Chemicals Branch, WPB. 3/ Alcohol and Solvents Unit. 4/ Tariff Commission.

CONSUMPTION: (1941)

	Military & Civilian	Export	Total
Normal	126.0	3.0	129.0
Secondary	60.8	1.0	61.8

ALLOCATIONS (Permission for Producers to Ship)

	July, 1942	August, 1942
Normal	10.9	11.9
Secondary	3.0	6.4
Tertiary	0.4	0.4
Iso	0.7	0.8
Total	15.0	19.5

Note: Data on consumption of tertiary and iso not available. Data on allocation available only for period after July 1, 1942.
Source: Alcohol and Solvents Unit, Chemicals Branch.

REQUIREMENTS: At the date of this abstract, requirements estimates had not been completed by the Materials Requirements Section.

SPECIAL PROBLEMS: Consider possibilities of increased supply, particularly of normal and secondary butyl. Currently, lacquer manufacturers are receiving only 25 percent of their normal civilian use of nitro cellulose. This and other changes brought about through curtailment in civilian goods will assist in curtailing civilian use of butyl alcohols. The situation, however, is tight because of greatly increased war uses.

GOVERNMENT CONTROL: Order M-159, effective July 1, 1942, placed all butyl alcohols under allocation, delivery of less than 54 gallons per month (360 pounds) excepted.

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CHLORINE GAS (includes liquified)
(All figures in short tons)

BACKGROUND: Chlorine is a very active element, never occurring free in nature but found abundantly as chlorides. Sodium chloride, the commercial source of chlorine, is widely distributed as salt brines underground, in sea water, and in rock salt deposits. Chlorine is produced commercially by electrolysis of sodium chloride and potassium chloride.

USES: Chlorine normally is used principally as a bleaching agent and disinfectant. Its wartime uses, however, are much more varied. These include many compounds manufactured from chlorine, for example, degreasing solvents, anti-freeze agents, many plastics, and tetraethyl lead. Smokeless powder made from cotton linters requires chlorine. United States bases and Army camps use chlorine in water and sewage treatment.

STOCKS: (Producers)

	Jan. 1	Feb. 1	March 1	April 1	May 1	June 1	July 1	Aug. 1
1942	5,600	5,666	5,537	5,069	7,908	7,462	7,656	7,149

NEW SUPPLY:

	1941	1942 (Est.)	1942 Actual Jan.-July
Production	762,947	1,015,000	539,953
Imports	1,320	7,000	4,170
Total New Supply	764,267	1,022,000	544,123

USE PATTERN: (1941)

Use	Percent	Use Pattern (Cont'd.)	Percent
Bleaching	4.8	Paper and Pulp Industry	24.3
Food Processing	.3	Water and Sewage Treatment	4.3
Textile Treatment	.7	Chemical Warfare Service	.4
Industrial Bleaching	.5	Metals Refining	.6
Cotton Linters Treating	1.1	Industrial Chemicals	63.0
		Total	100.0

ALLOCATIONS:

	Jan. (Est.)	Feb.	March	April	May	June	July	Total
1942	75,000	71,500	76,800	78,600	82,800	80,600	84,268	549,568

Note: Complete allocation of chlorine was effective February 1, 1942. Estimated January consumption was 75,000 tons.

REQUIREMENTS:

	Direct Military	Non-Military	Foreign	Total
1942 (Est.)	32,943	909,200	4,375	946,518
1943 (Est.)	127,110	1,250,880	4,375	1,382,365

Source: Chemicals Branch, WPB, October 1, 1942.

SPECIAL PROBLEMS: The great demand for chlorine by the Army, Navy, and essential industries has necessitated curtailment of supplies available for civilian consumption. This will affect particularly textile manufacturers and laundries.

GOVERNMENT CONTROL: General Preference Order M-19, effective July 26, 1941, and amendments thereto, restricts deliveries to those purchasers for which direct authorization has been made by the Director of Industry Operations. General Limitation Order L-11, effective November 11, 1941, restricts the use of chlorine in the manufacture of pulp paper and paperboard.

SUMMARY:

	1942		1942 Actual Jan.-July
Estimated New Supply	1,022,000	New Supply	544,123
Estimated Requirements	946,518	Allocations	549,568

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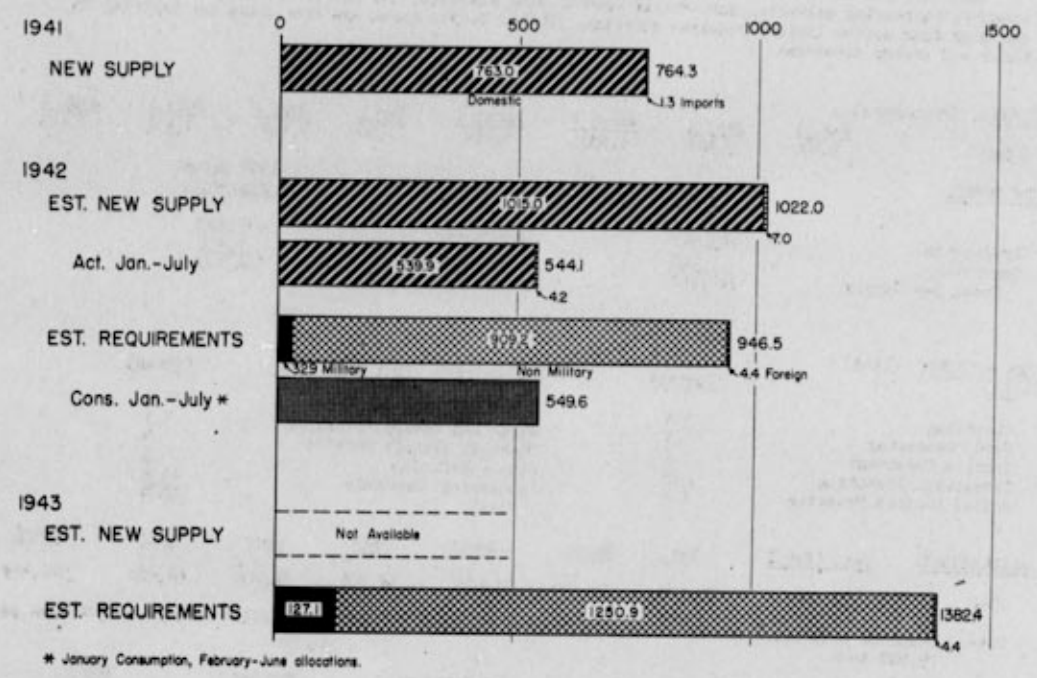
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CHLORINE GAS

INCLUDING LIQUIFIED

SUPPLY AND DEMAND

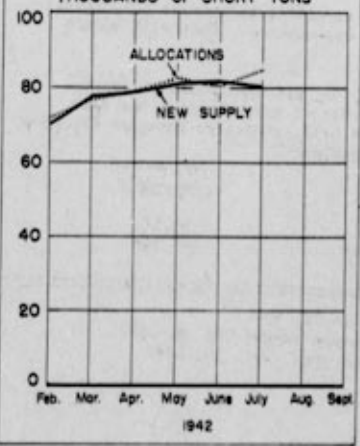
THOUSANDS OF SHORT TONS



* January Consumption, February-June allocations.

NEW SUPPLY AND ALLOCATIONS

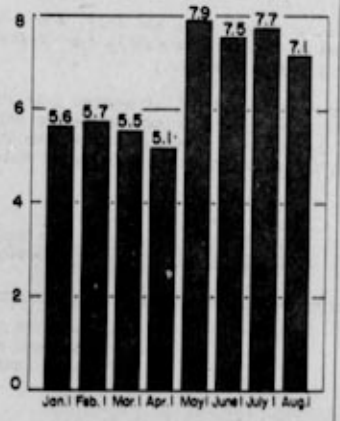
THOUSANDS OF SHORT TONS



STOCKS

1942

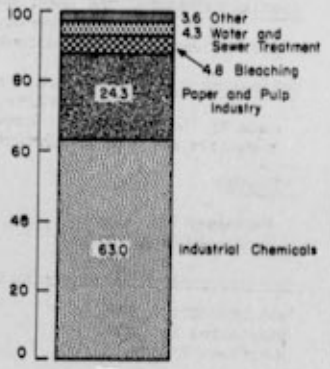
THOUSANDS OF SHORT TONS



USE PATTERN

1941

PER CENT



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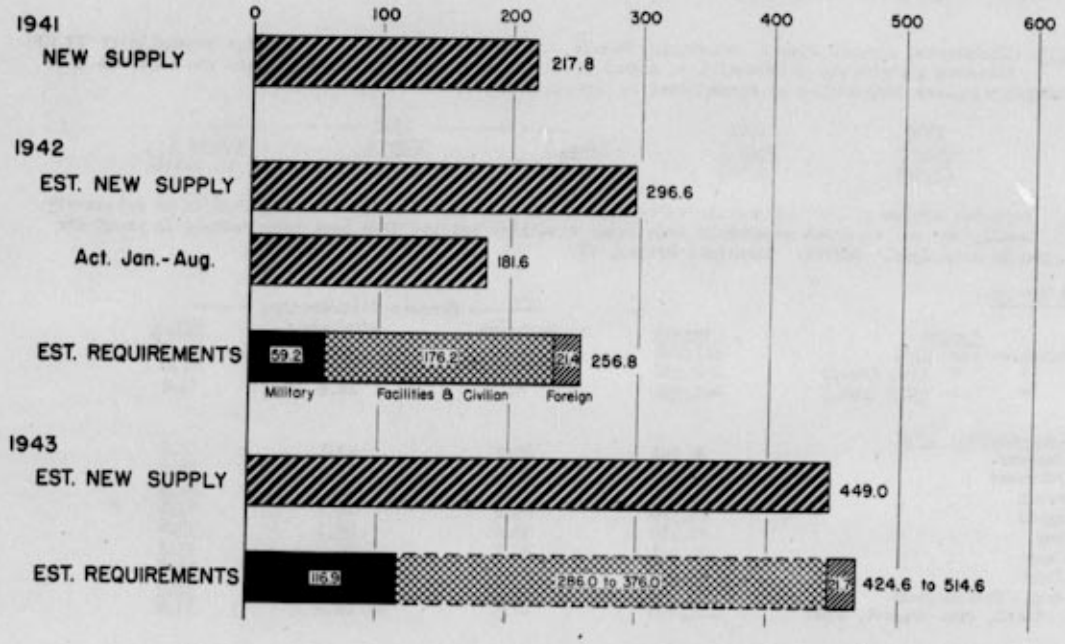
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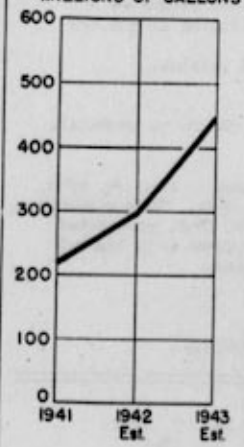
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ETHYL ALCOHOL
(FOR INDUSTRIAL PURPOSES)

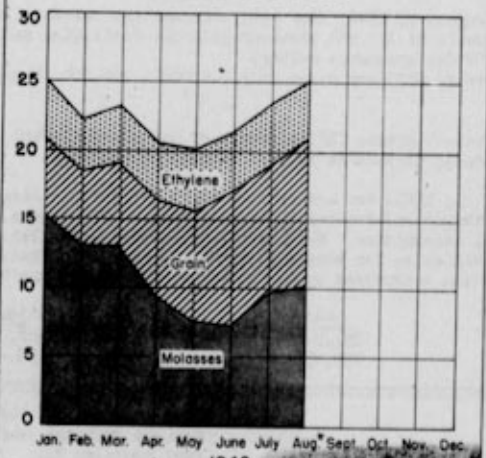
SUPPLY AND DEMAND
MILLIONS OF GALLONS (190°)



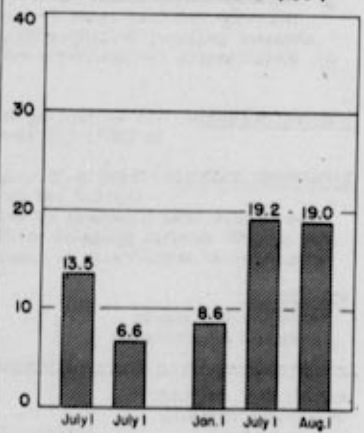
ANNUAL PRODUCTION OF 190°- ESTIMATED
MILLIONS OF GALLONS



MONTHLY PRODUCTION OF 190°
MILLIONS OF GALLONS



STOCKS 190° IN BONDED WAREHOUSES
MILLIONS OF GALLONS (190°)



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Statistics Division
Materials Branch

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ETHYL ALCOHOL (for industrial purposes)
Unit: Thousand gallons (231 cu. in.) 190°

BACKGROUND: Since prohibition, the production of ethyl alcohol for industrial purposes has been separated, by law, from the production of alcohol for beverages. Two-thirds of industrial alcohol usually comes from plants equipped to use molasses, which is particularly scarce now, owing to shipping difficulties. More than 80 percent of distiller production comes from plants equipped to use grain, which is readily available. Production of most distilleries, however, is less than 190°, the purity generally needed for industrial purposes. To facilitate the use of distillery production for industrial purposes, the following legal steps have been taken: (1) Act of January 24, 1942 - Plants classified as distilleries, permitted to produce high proof alcohol as required for industrial use; (2) Act of March 27 - Distilleries permitted to transfer alcohol of less than 190° (known to distilleries as high wine) to other plants where it can be redistilled to required proof.

STOCKS: (Industrial Alcohol Plants, Denaturing Plants, and Bonded Dealers) A government stockpile of 75,000 thousand gallons was recommended on August 22, 1942, and 19,628 thousand gallons was reported by Defense Supplies Corporation as accumulated on September 26.

1940	1941	1942		
July 1	July 1	Jan. 1	July 1	August 1
13,517	6,564	8,639	19,215 1/	19,040 1/

1/ Excludes stocks of 190° alcohol in warehouses of distillers. Such stocks, believed to be relatively small, are not reported separately from other distilled spirits that have been reduced in proof for use in beverages. Source: Chemicals Branch, WPB.

NEW SUPPLY:

Period	Amount	Percent Distribution		
		Molasses	Ethylene	Grain
Calendar year 1941	217,758	62.2%	19.8%	14.0%
" " 1942 (Est.)	296,566	39.6	19.3	41.0
" " 1943 (Est.)	448,951	4.0	16.8	79.2
Jan.-August, 1942				
January	24,998	60.7	17.1	22.2
February	22,291	59.0	17.1	23.9
March	23,370	55.6	18.1	26.3
April	20,586	45.8	20.6	33.6
May	20,165	38.6	22.1	39.4
June	21,481	36.1	20.2	43.7
July	23,563	41.6	18.5	39.9
Aug. (Preliminary)	25,116	40.7	16.3	43.0
Total, Jan.-August, 1942	181,610	47.5	18.6	33.9

Source: Chemicals Branch, October 1, 1942.

CONSUMPTION - REQUIREMENTS:	Military	Foreign	Facilities & Civilian	Total
1940 Consumption	N. A.	N. A.	N. A.	148,000
1942 Requirements 1/	59,187	21,400	176,245	256,832
1943 Requirements 1/	116,899	21,700	286,000 - 376,000 2/	424,599 - 514,599

1/ Material Requirements Section, August 5, 1942. For 1943, Alcohol and Solvents Section estimates military and lend-lease requirements at 151,200 thousand gallons; facilities and civilian at 312,000 thousand gallons, including 156,000 for synthetic rubber.
2/ Requirements for synthetic rubber in 1943 may range from 110,000 - 200,000 thousand gallons.

SPECIAL PROBLEMS: (1) Converting to use of grain; (2) shipments of low proof alcohol to plants to redistill to 190°; (3) developing production in area nearest to consumer.

GOVERNMENT CONTROL: Under M-30 (Aug. 21, 1941) war orders must be filled first. Amendment 3, Jan. 24, 1942, limited use in vinegar and various toilet articles to 70 percent of 1941. This probably affects less than 5 percent of total consumption. M-69, supplementary order a, Feb. 24, 1942, prohibited use of 190° alcohol produced by distilleries for beverage purposes. General Limitation Order L-51 limited production of anti-freeze to quantities authorized by the Director of Industry Operations.

SUMMARY:	1942	1943
Estimated New Supply	296,566	448,951
Estimated Requirements	256,832	424,599 - 514,599

WAR PRODUCTION BOARD
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Materials Branch

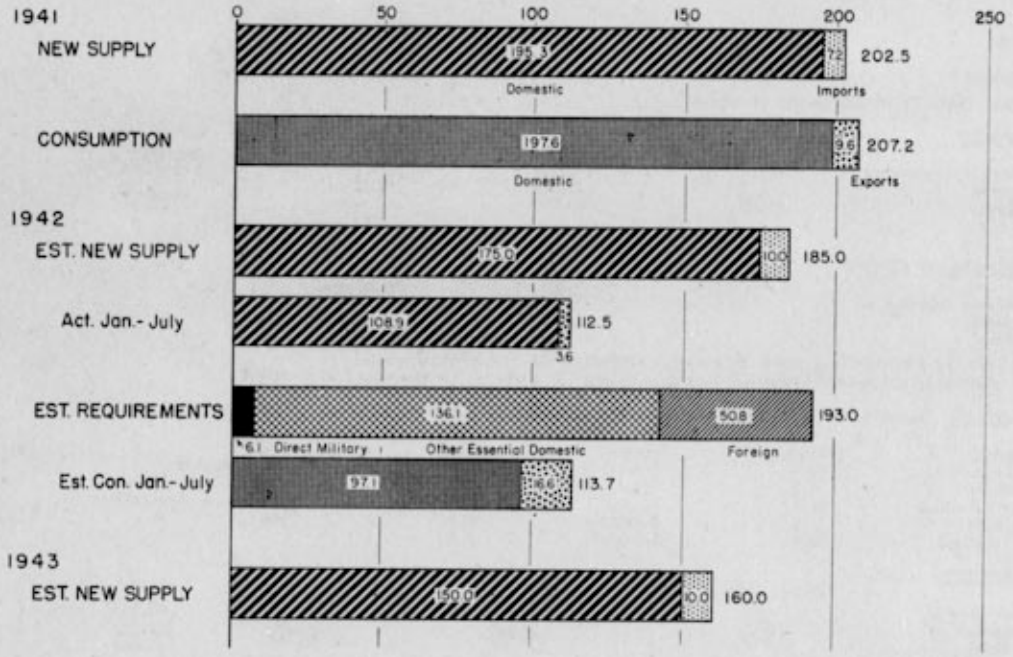
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GLYCERIN

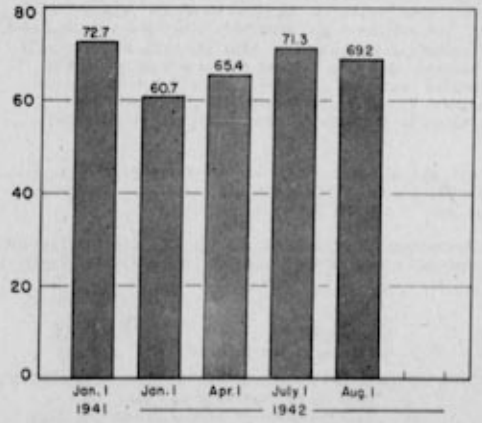
SUPPLY AND DEMAND

MILLIONS OF POUNDS



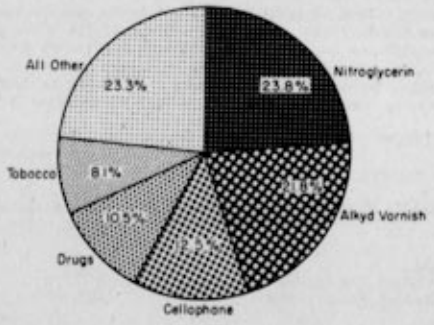
INDUSTRY STOCKS

MILLIONS OF POUNDS



USE PATTERN

JULY–DEC. EST. 1942



War Production Board
Statistics Division
Materials Branch

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Commerce Dept. Letter, 11-15-72
By RHP, Date

GLYCERIN (100%)
(All figures in thousands of pounds)

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BACKGROUND: Glycerin is a by-product of the soap and fatty acid industries. When an alkali is added to a fat, soap is formed; the glycerin and certain impurities are left in the water solution. The soap undergoes further treatment and washes, each wash solution containing less glycerin. The glycerin solutions are treated with chemicals, filtered, and concentrated in vacuum stills to crude 80 percent glycerin.

USES: The principal uses are in the manufacture of nitroglycerin for dynamite in mining and road building, in tobacco, and in the production of alkyd resins, cellophane, and ester gums. It also is consumed in pharmaceuticals, medicines, soft drinks, soaps, and printing inks. There is an increased demand for alkyd resin surface coatings. Glycerin is not used in military explosives in this country, but is used in Canada and Russia in the manufacture of "Cordite".

STOCKS:

		1942		
	Jan. 1, 1941	Jan. 1	April 1	August 1
Industry	72,668	60,715	65,448	69,215

Note: There is no government stockpile.

NEW SUPPLY:

	1941	1942	1943	Actual 1942 Jan.-July
Domestic Production	195,288	175,000	150,000	108,904
Imports	7,211	10,000	10,000	3,576
Total	202,499	185,000	160,000	112,480

CONSUMPTION AND EXPORTS:

	1941	Actual 1942 Jan.-July
Domestic Consumption	197,566	97,068 1/
Exports	9,584	16,600 2/
Total	207,150	113,668

1/ Factory consumption. Total consumption approximately 5 percent greater.
2/ Partially estimated. June and July exports not yet reported by Department of Commerce.

USE PATTERN: Based on estimated consumption, July-Dec., 1942; includes direct military and foreign requirements.

Product	Percent	Product	Percent	Product	Percent
Nitroglycerin	23.8	Cosmetics	2.3	Printing Supplies	2.6
Tobacco	8.1	Drugs	10.5	Leather, Rubber, Products	0.8
Alkyd Varnish	21.8	Paper	3.8	Miscellaneous Chemicals	6.4
Edibles	2.5	Adhesives	2.1	Total	100.0
Cellophane	12.5	Textiles	2.8		

Use Pattern (Cont'd.)

REQUIREMENTS: (1942)

	Direct Military	Indirect Military & Essential Civilian	Foreign	Total
Jan.-June 1/	3,002	64,626	20,135	87,763
July-Dec. 2/	3,076	71,483	30,726	105,285
Total	6,078	136,109	50,861	193,048

1/ Breakdown estimated.
2/ Source: Fats and Oils Section Chemicals Branch, WPB, September 11, 1942.

SPECIAL PROBLEMS: The total amount of potential glycerin solution available for treatment is limited, because of its by-product character. In 1941, the soap industry consumed 2,144 million pounds and the splitting industry 230 million pounds of fats and oils. On the basis of reported yields for each fat and oil, it is calculated that, theoretically at least, 240,000 thousand pounds of glycerin could have been recovered, as against actual production of 195,288 thousand pounds. Soap production in 1941 was very large, and producers and consumers undoubtedly accumulated stocks; 1942 production is likely to be smaller because of the reduction in imports of high glycerin-yielding oils from the Far East, South America, and Africa (such as coconut, babassu, and palm kernel) and also because of the restrictions imposed through General Preference Order M-71 as amended September 22, 1942. To offset this decline of high glycerin-yielding oils, glycerin production can be stimulated by additional recoveries from spent lyes, further "washing" of boiled soap, withdrawal of cold soap, from which no glycerin is recovered, and use of fatty acids by soap manufacturers who have no recovery facilities.

SUBSTITUTES: No one substitute for glycerin in all its uses has been found, but numerous substitutes have been developed for specific uses. Invert sugar, corn syrup, and glucose are substitutes for plasticizers. Substitutes for glycerin in drugs and cosmetics are: sodium and potassium lactate, magnesium butyrate, and others.

GOVERNMENT CONTROL: Glycerin was placed under control by General Preference Order M-58 (March 30, 1942), which limited its use and inventory; the Order also placed general restrictions on deliveries, effective May 1, 1942.

SUMMARY:

	1942
Estimated New Supply	185,000
Estimated Requirements	193,048

	Actual 1942 Jan.-July
New Supply	112,480
Consumption and Exports	113,668

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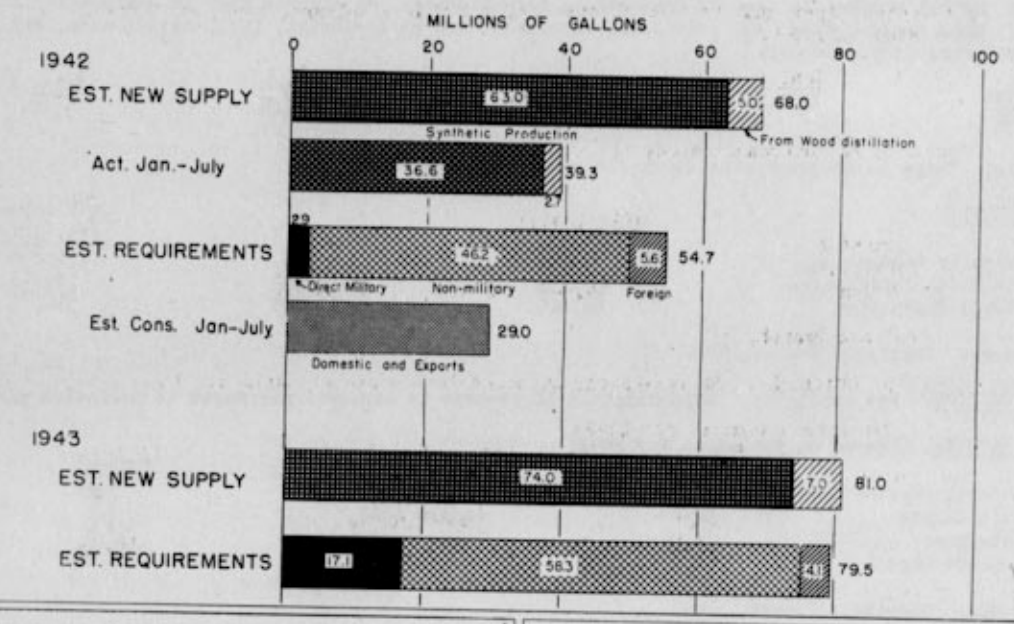
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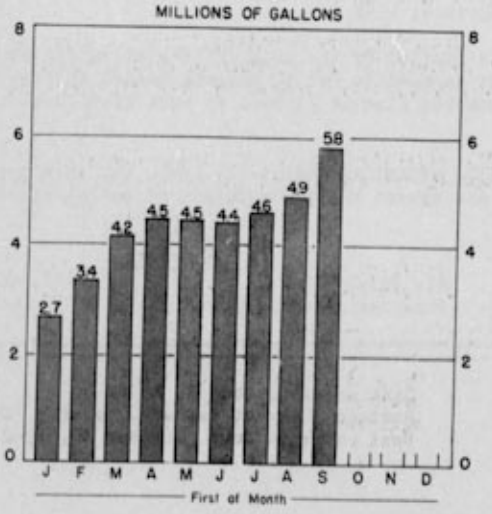
METHYL ALCOHOL

(100 Per Cent)

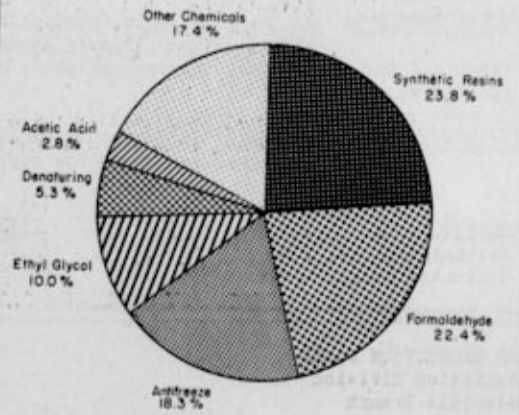
SUPPLY AND DEMAND



INDUSTRY STOCKS 1942



USE PATTERN 1942 ESTIMATED



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METHYL ALCOHOL (100%)

(All figures in thousands of gallons)

BACKGROUND: Methyl alcohol, or methanol, is a colorless, volatile, inflammable liquid. Natural methyl alcohol is produced from the destructive distillation of wood in by-product retorts, and is produced synthetically from carbon monoxide and hydrogen under high pressure and temperature.

USES: Methyl alcohol is used to manufacture formaldehyde. It also is used in methylation to make resins, dyes, and industrial chemicals, and as a solvent, fuel, anti-freeze, and for denaturing ethyl alcohol.

STOCKS: 1942	Jan. 1	April 1	July 1	Sept. 1
	2,732	4,549	4,606	5,807

Note: There is no government stockpile at the present time.

NEW SUPPLY:

	1942 (Est.)	1943 (Est.)	1942 Actual Jan.-July
Synthetic Production	63,000	74,000	36,564
From Wood Distillation	5,000	7,000	2,741
Total Production	68,000	81,000	39,305

Source: Chemicals Branch, WPB.

CONSUMPTION: Not available. Approximately 10 percent is consumed per month in producing plants.

USE PATTERN: (Based on estimates for 1942)

	Percent	Use Pattern (Cont'd.)	Percent
Synthetic Resins	23.6%	Denaturing	5.3
Formaldehyde	22.4	Acetic Acid	2.8
Anti-freeze	16.3	Other Chemicals	17.4
Ethylene Glycol	10.8	Total	100.0%

Source: Chemicals Branch, WPB.

REQUIREMENTS:	Direct Military	Non-Military	Foreign	Total
1942 (Est.)	2,879	46,208	5,631	54,718
1943 (Est.)	17,078	58,332	4,043	79,453

Source: Materials Requirements Section, WPB, August 4, 1942.

SPECIAL PROBLEMS: Synthetic methanol production is limited by the availability of equipment, since the same type of apparatus is used in making ammonia needed for fertilizer and for ammunition. Natural methanol production also is limited by wood distillation facilities.

GOVERNMENT CONTROL: General Conservation Order M-31, effective August 22, 1941, and amendments thereto, conserve the supply and direct the distribution of methyl alcohol.

SUMMARY:	1942	1943		1942 Actual Jan.-July
Estimated New Supply	68,000	81,000	New Supply	39,305
Estimated Requirements	54,718	79,453	Consumption and Exports (Est.)	29,000

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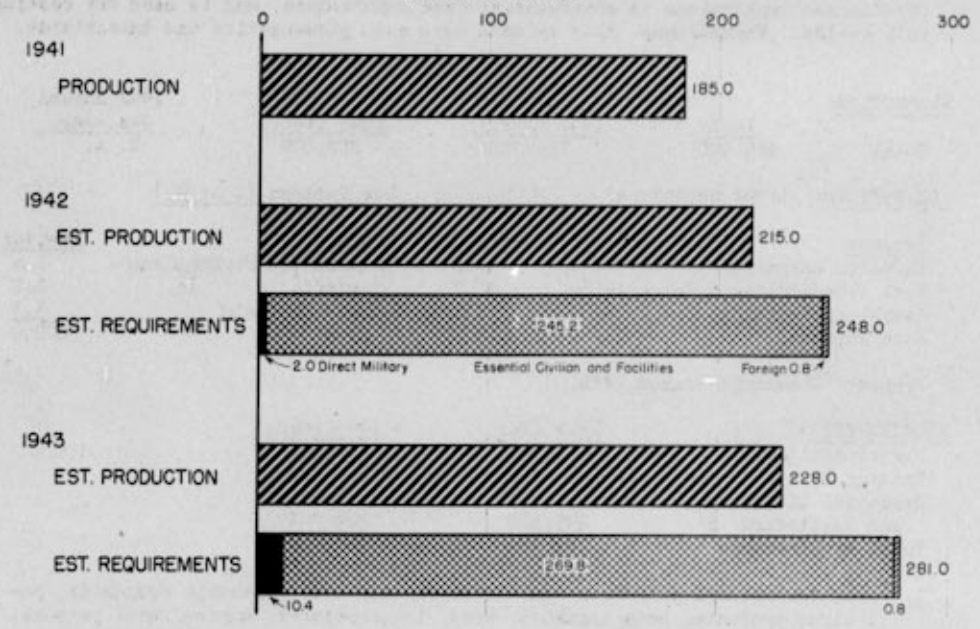
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NAPHTHALENE

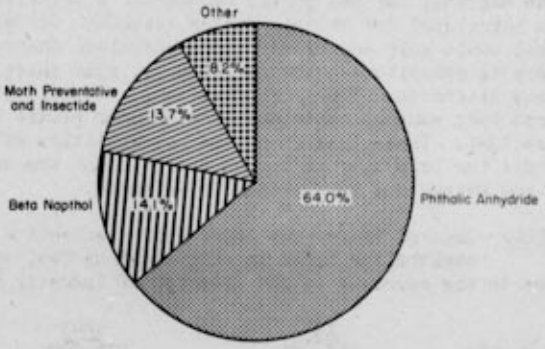
(CRUDE)

SUPPLY AND DEMAND



USE PATTERN

1941 ESTIMATED



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NAPHTHALENE (CRUDE)

(All figures in thousand pounds)

BACKGROUND: Naphthalene is a colorless solid obtained as a by-product from the coke ovens in the production of coke, and by distillation of coal tar.

USES: Naphthalene is used chiefly in the production of phthalic anhydride for smokeless powder, in alkyd resins, and dyestuffs. It also is used in the production of beta naphthol for the manufacture of medicinal chemicals, dyes, and perfumes. Chlorinated naphthalene is manufactured from naphthalene, and is used for coating ship cables. Naphthalene also is used as a moth preventative and insecticide.

PRODUCTION:

	1941	1942 (Est.)	1943 (Est.)	1942 Actual Jan.-Aug.
Total	185,000	215,000	228,000	N. A.

USE PATTERN: (1941 Estimates)

Product	Percent
Phthalic Anhydride	64.0
Moth Preventative & Insecticide	13.7
Petroleum Refining	1.1
Beta Naphthol	14.1
Chlorinated Naphthalene	1.6
Dyestuffs	2.2
Other Chemicals	3.3
Total	100.0

Source: Chemicals Branch, WPB.

REQUIREMENTS:	1942 (Est.)	1943 (Est.)
Direct Military	1,993	10,423
Foreign	812	812
Essential Civilian and Facilities 1/	245,168	269,793
Total Requirements	247,973	281,028

1/ Includes dibutyl phthalate and alkyds for the Army; phthalic anhydride, petroleum products, beta naphthol, dyes, intermediates, agricultural poisons, and other industrial chemicals.

Source: Materials Requirements Section, WPB, September 14, 1942.

SPECIAL PROBLEMS: Expansion of naphthalene production requires coal tar. The latter now is being burned as a fuel, partly because the plants are equipped to use coal tar and partly because of a restriction on the use of fuel oil (from petroleum) for transportation reasons. Curtailment of the use of coal tar as fuel would help to relieve the naphthalene shortage, but would force coal tar burners to substitute fuel oil which, in some cases, might have to be transported long distances. There are, however, some idle plants for refining naphthalene from tar; some of these are located near plants where coal tar is being burned as fuel. Investigation of the possibilities of recovering naphthalene from this tar before it is burned as fuel, and the use of coal as fuel in the plants now using coal tar, should be extended.

GOVERNMENT CONTROL: General Preference Order M-105, effective May 6, 1942, places naphthalene under an allocation system, and restricts deliveries and acceptances to the approval of the Director of Industry Operations.

SUMMARY:

	1942	1943
Estimated New Supply	215,000	228,000
Estimated Requirements	247,973	281,028

Note: Estimates of both supply and requirements currently are being revised. It is expected that requirements estimates will be reduced materially.

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NYLON

(All figures in thousand pounds)

BACKGROUND: Nylon is the generic name given to a class of materials developed by duPont chemical research laboratories. Nylon flake can be spun into yarn or formed into bristles, sheets, and other plastics. To date, nylon is the only material that has proved adequate as a substitute for silk in the manufacture of cloth for man-carrying parachutes. As such, it is a most important strategic material. On June 1, 1942, the WPB Requirements Committee determined that materials should be allocated for plant expansion to increase the production of nylon to 22,000 thousand pounds per year. It is estimated that approximately six months will be required for the completion of this expansion.

USES: The U. S. Army has contracted with the duPont Company for the entire nylon yarn output for 1942, the bulk of which is expected to be used for parachutes. At present, other military uses of nylon are quantitatively small; these include electrical insulation, medical sutures, and brush bristles. Prospective military uses which may require sizable quantities of this material are cordage for glider tows and seaplane moorings; cord fabric for bomber tires; machine gun cartridge clips; and linings for gas tanks. Hosiery and other manufactures formerly utilizing nylon now are using filament yarn and other substitutes.

STOCKS: Nylon stocks on hand as of January 1, 1942, are reported to have been negligible.

NEW SUPPLY:

	1942 (Est.)	1943 (Est.)
Yarn output	11,800	20,000
Monofils & plastics	1,300	2,000
Total Flake Capacity	13,100	22,000

CONSUMPTION:

	1940	1941
Bristles and plastics	N.A.	100
Yarn:		
Hosiery	N.A.	6,000
Other (woven fabrics, braids, threads, etc.)	N.A.	1,000
Total Consumption	2,000	7,100

REQUIREMENTS: At the date of this abstract, estimates of nylon requirements for 1942 and 1943 were in process of revision.

WAR PRODUCTION BOARD
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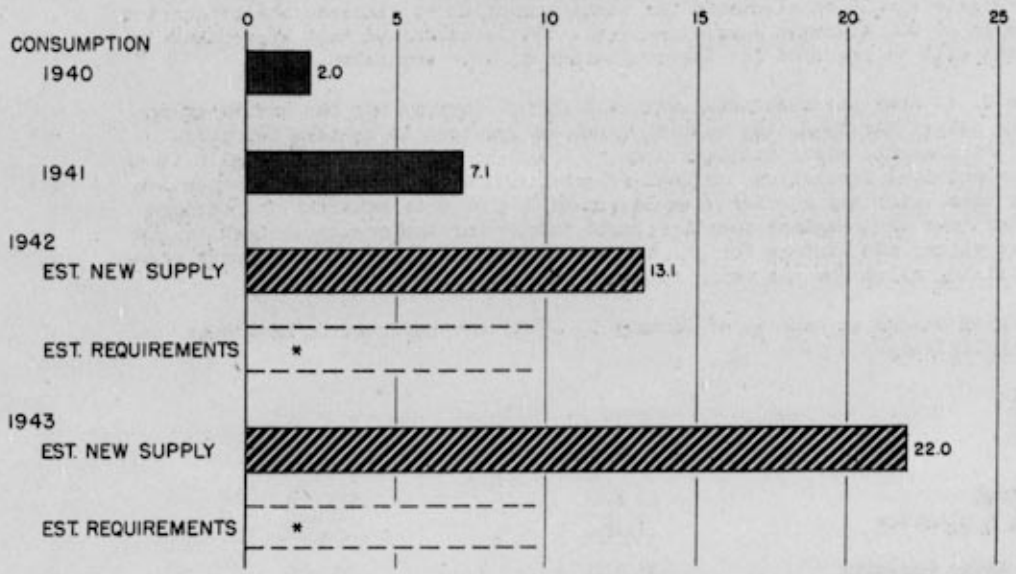
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NYLON

SUPPLY AND DEMAND

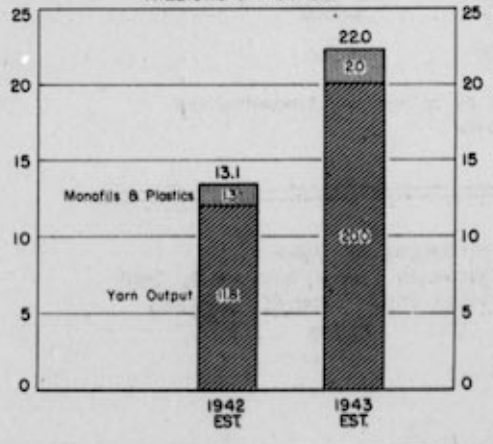
MILLIONS OF POUNDS



*Estimates being revised

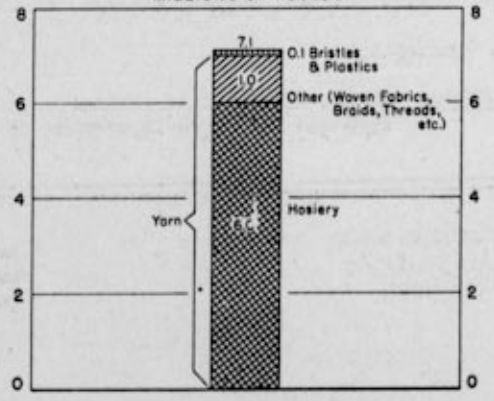
NEW SUPPLY BY TYPE

MILLIONS OF POUNDS



USE PATTERN 1941

MILLIONS OF POUNDS



WAR PRODUCTION BOARD,
Statistics Division
Materials Branch

CONFIDENTIAL

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PHENOL (100%)
(All figures in thousands of pounds)

BACKGROUND: Natural phenol is obtained chiefly in the distillation of coal tar, and to a smaller extent in the purification of ammonia liquors in coke and gas plants. Synthetic phenol is made from benzene, requiring either chlorine, hydrochloric, or sulphuric acid as an operating agent.

USES: The principal military use of phenol is for the explosive, ammonium picrate. Other military and essential civilian uses are for phenol-formaldehyde plastics, nylon, medicinals, insecticides, dyestuffs, and petroleum refining. There also is some demand for lend-lease.

USE PATTERN: (Based on allocations for January to June, 1942)

Use	Pounds	Percent
Army & Navy Munitions	2,790	4.8
Nylon	8,018	13.7
Plastics	35,865	61.5
Medicinals & Insecticides	5,725	9.8
Chemicals	423	.7

Use Pattern Cont'd.

Use	Pounds	Percent
Dyes	1,375	2.4
Petroleum Refining	3,453	5.9
Miscellaneous	680	1.2
Total (Excluding Exports)	58,329	100.0

Source: Chemicals Branch, WPB.

NEW SUPPLY:

	1941 (Est.)	1942 (Est.)	1943 (Est.)	1942 Actual Jan.-July
Domestic Production	125,000	161,000	252,000	80,883

Source: Chemicals Branch

CONSUMPTION: Data for past years not available. Domestic and export allocations from January through July, 1942, totaled 83,656 thousand pounds.

EXPORTS: Actual exports, January through June, 1942, were 9.184 thousand pounds.

REQUIREMENTS:

	Ordnance	Chemical Warfare	Navy	Total Direct Military	Foreign	Essential Ind. & Civilian	Total All
1942 (Est.)	11,100	1,646	3,608	16,354	26,244	138,600	181,198
1943 (Est.)	38,000	2,820	3,978	44,798	31,927	191,575	268,300

Source: Materials Requirements Section, WPB.

SPECIAL PROBLEMS: Phenol is in increasing demand in the manufacture of picric acid for the explosive, ammonium picrate. Large amounts of phenol also are being used in plastics for essential military and civilian purposes. Adequate priority assistance should be given to facilitate the prompt completion of plant construction already authorized, so that the anticipated shortage of phenol may be reduced materially. A plan for the production of dinitrochlorobenzene now is being developed in order to produce picric acid without using phenol. Since full utilization of this process would aid materially in reducing the phenol shortage, arrangements for its expanded use should be expedited.

GOVERNMENT CONTROL: General Preference Order M-27, issued August 30, 1941, and amendments thereto, places deliveries and acceptance under the Director General of Industry Operations.

SUMMARY:

	1942	1943		1942 Actual Jan.-July
Estimated New Supply	161,000	252,000	Production	80,883
Estimated Requirements	181,198	268,300	Allocations, incl. exports	83,656

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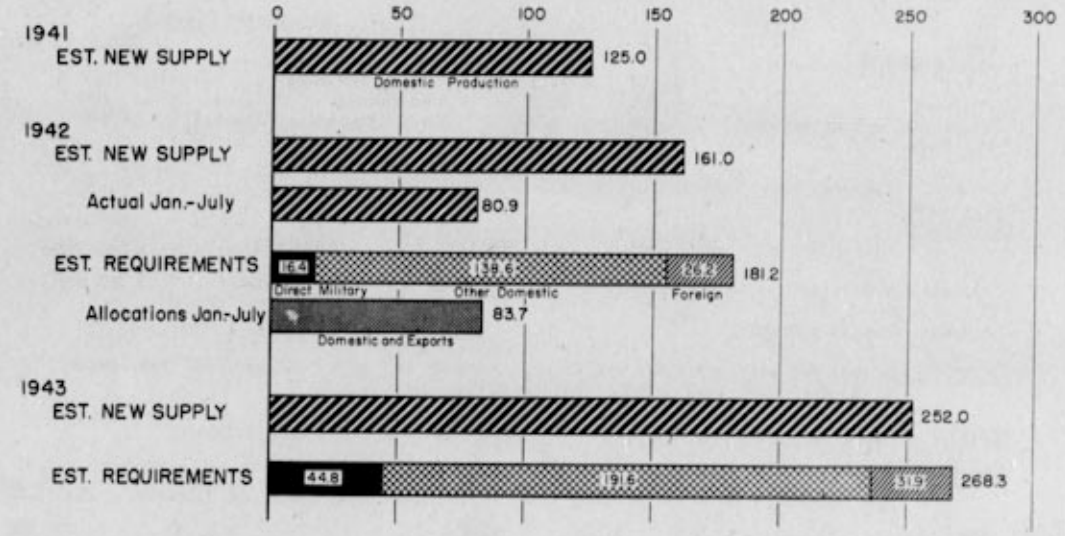
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PHENOL

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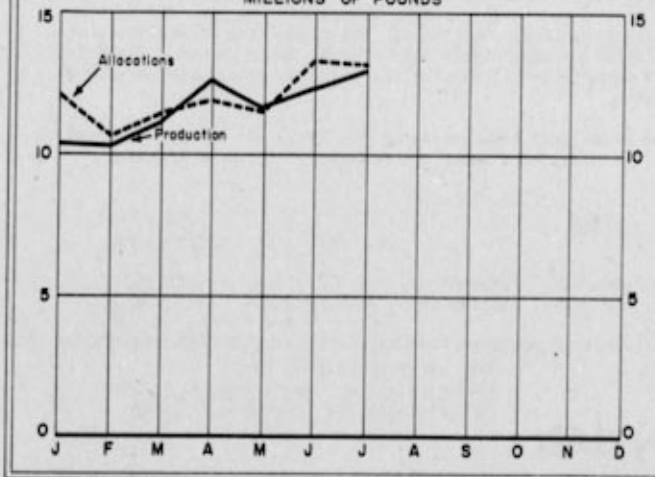
SUPPLY AND DEMAND

MILLIONS OF POUNDS



PRODUCTION AND ALLOCATIONS
1942

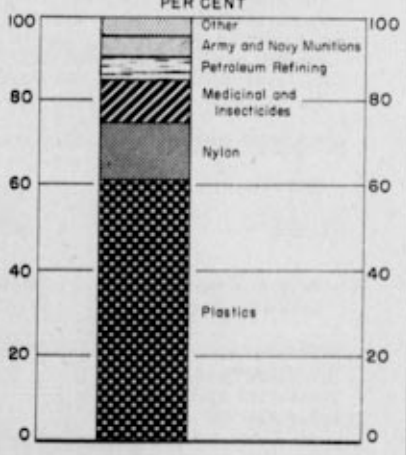
MILLIONS OF POUNDS



USE PATTERN

Allocations Jan.-June, 1942

PER CENT



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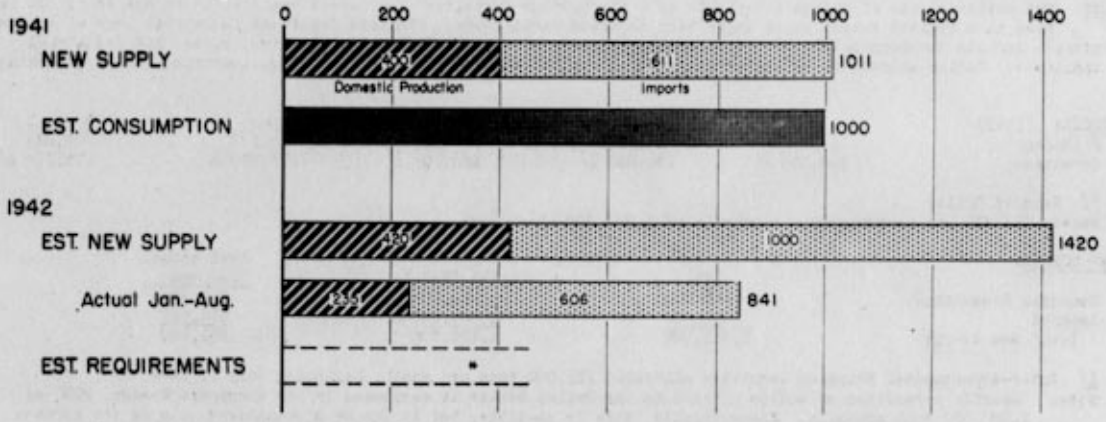
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SODIUM NITRATE

SUPPLY – DEMAND

THOUSANDS OF SHORT TONS

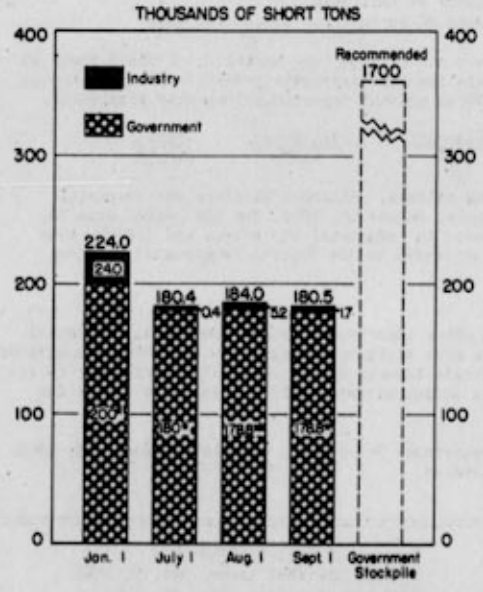


*See abstract

STOCKS

1942

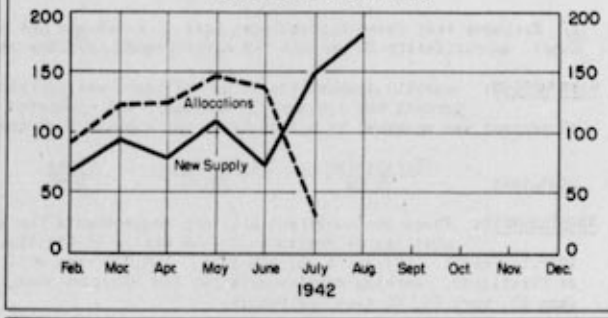
THOUSANDS OF SHORT TONS



* Held in Chile

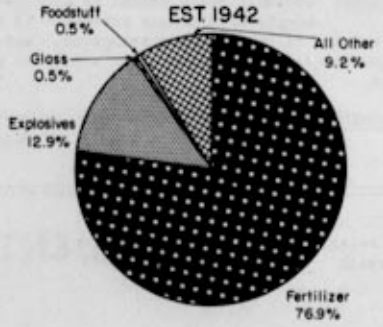
NEW SUPPLY AND ALLOCATIONS

THOUSANDS OF SHORT TONS



USE PATTERN

EST 1942



WAR PRODUCTION BOARD
Statistics Division
Materials Branch

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SODIUM NITRATE
(All figures in short tons)

BACKGROUND: Sodium nitrate is a white crystalline salt occurring naturally in vast quantities in Chile in an ore known as caliche, and made synthetically in the United States from nitric acid and soda ash. Commercial grades average about 96 percent sodium nitrate. Sodium nitrate is mined by the open-cut method and the caliche transported to the treatment plant, where the nitrate is recovered by leaching with water, decantation, and crystallization, with side processes for recovery of potassium nitrate and other salts.

USES: The principal use of sodium nitrate is as a nitrogenous fertilizer for direct application to the soil. It is used to a limited extent as an ingredient in mixed fertilizers. The more important industrial uses of sodium nitrate include the manufacture of nitric acid, potassium nitrate, industrial explosives, glass, and industrial chemicals. Sodium nitrate is an ingredient of high explosives used normally in mining, quarrying, and road making.

STOCKS: (1942)	January 1	June 1	July 1	August 1	Sept. 1
Producers'	24,030	12,561	395	5,177	1,689
Government	200,000 1/	180,000 1/	180,000 1/	178,870 1/	178,770 1/

1/ Held in Chile.
Note: The WPB has recommended a stockpile of 1,700,000 short tons.

NEW SUPPLY:	1941	1942 (Est.)	1942 Actual Jan.-Aug.
Domestic Production	400,000	420,000	234,801
Imports	611,000	1,000,000 1/	606,681
Total New Supply	1,011,000	1,420,000	841,482

1/ Inter-departmental Shipping Committee allocated 112,000 tons per month, beginning July 1, 1942.
Note: Capacity production of sodium nitrate in the United States is estimated by the Chemicals Branch, WPB, at 1,000,000 tons annually. Theoretically, this is possible, but it can be accomplished only at the expense of reducing supplies of ammonia, which is a product of the fixation of nitrogen process. Nitrogen from the air is manufactured into ammonia; this, in turn, is combined with soda ash to form sodium nitrate. Demand for ammonia for other purposes is large, and at present the commodity is in a "tight" position. In view of these facts, expansion of sodium nitrate production probably would not be feasible at this time.

ALLOCATIONS: 1/ (1942)	Feb.	March	April	May	June	July	Total
	93,000	123,000	124,000	147,000	137,000	32,000	656,000

1/ Excludes West Coast allocations, data on which are not available at this time.
Note: Approximately 80 percent for agricultural use; the remaining 20 percent for industrial use.

CONSUMPTION: Domestic consumption in normal years was approximately one million tons annually, of which about 15 percent was consumed by industry, and consisted of the domestic synthetic production; the remaining 85 percent was consumed by agriculture, and consisted of the natural product imported principally from Chile.

	Fertilizer	Explosives	Glass	Foodstuff	All Other	Total
1942-1943	76.9%	12.9%	0.5%	0.5%	9.2%	100.0%

REQUIREMENTS: There are no direct military requirements for sodium nitrate. Indirect military and essential civilian as estimated by the Office of Civilian Supply, August 10, 1942, for the period June 30, 1942, to July 1, 1943, are 1,197,120 tons. 155,000 tons will be used in industrial explosives and 920,000 tons as fertilizer. Foreign requirements for the calendar year, as estimated by the Exports Requirement Section, June 19, were 50,000 tons for Canada.

SPECIAL PROBLEMS: Sodium nitrate should be considered along with other important nitrogen compounds. Estimated supply of nitrogen materials is insufficient to meet military and essential requirements without a substantial cut in fertilizer consumption. Natural sodium nitrate imports should be used primarily for fertilizers, thus releasing synthetic ammonia for war uses. Imported sodium nitrate could be used as a source for nitric acid.

GOVERNMENT CONTROL: Sodium nitrate is under control by General Preference Order M-62, effective January 15, 1942, to conserve the supply and direct the distribution.

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Materials Branch

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IMPORTED TANNING MATERIALS

(All figures in thousands of pounds of tannin equivalent. Bark and extract have been converted in all instances to their equivalent tannin content.)

BACKGROUND: Quebracho, wattle, mangrove, myrobalan, divi-divi, gambier, and tara, all imported into the United States, are common names for the bark and extract, from trees of the same name, used in the tanning industry. Although each has its own value in producing a desired quality of leather, considerable substitution, one for the other, can be made by the tanning industry. Two basic materials have accounted for more than 75 percent of the United States supply of vegetable and synthetic tanning materials in the past; one of these was quebracho, the other chestnut, a domestic material.

SOURCE: (Percent distribution of 1941 supply:)

Country	Quebracho	Wattle	Mangrove	Myrobalan	Sumac	Divi-Divi	Gambier	Tara	Total
Argentina	61.1	-	-	-	-	-	-	-	61.1%
British East Africa	-	5.9	3.2	-	-	-	-	-	9.1
British Malaya	-	-	4.9	-	-	-	.4	-	5.3
British India	-	-	-	2.8	-	-	-	-	2.8
Colombia	-	-	.1	-	-	1.4	-	-	1.5
Mozambique	-	-	.3	-	-	-	-	-	.3
Paraguay	13.1	-	-	-	-	-	-	-	13.1
United Kingdom	-	-	-	.9	-	-	-	-	.9
Union of South Africa	-	3.5	-	-	-	-	-	-	3.5
Netherland Indies	-	-	-	-	-	-	1.1	-	1.1
Dominican Republic	-	-	-	-	-	.5	-	-	.5
North West Indies	-	-	-	-	-	.1	-	-	.1
Venezuela	-	-	-	-	-	.7	-	-	.7
Total	74.2	9.4	8.5	3.7	-	2.7	1.5	-	100.0%

STOCKS: The WPB has recommended a stockpile of 66,780 thousand pounds of quebracho, and 8,250 thousand pounds of mangrove (tannin equivalent). On June 1, 1942, tanners' inventory of quebracho, as reported by Bureau of Census, was 50,948 thousand pounds (tannin equivalent).

NEW SUPPLY: (Imports)

	1941	1942 (Est.) 1/	1942 Actual Jan.-Aug.
Quebracho, extract and wood	140,145	179,542	99,493
Wattle, extract and bark	19,659	8,044	25,335 2/
Mangrove, extract and bark	19,421	9,852	6,187
Myrobalan	2,039	784	775
Divi-divi	6,367	7,840	3,711
Gambier	4,233	0	413 2/
Tara	2,877	2,264	1,295
Total	194,741	208,326	137,209

1/ Represents shipping quota allotted.
2/ Imports have exceeded the shipping quota allotted.

CONSUMPTION: Figures for consumption are not available, but probably approximate imports very closely. Consumption of quebracho now is approximating 12,000 thousand pounds (tannin equivalent) per month.

REQUIREMENTS: At date of this abstract, requirements estimates had not been completed by the Materials Requirements Section, WPB.

GOVERNMENT CONTROL: None.

SPECIAL PROBLEMS: The difficulty in obtaining cargo space already is causing some curtailment in arrivals of tanning materials. Florida has many mangrove trees, and careful study should be made to determine the feasibility of commercial production of domestic mangrove. Facilities for extraction are believed to be ample. Any domestic production of mangrove would free needed shipping space for other important materials. Consideration also should be given to prospects for expanding production of chestnut and any other domestic tanning materials.

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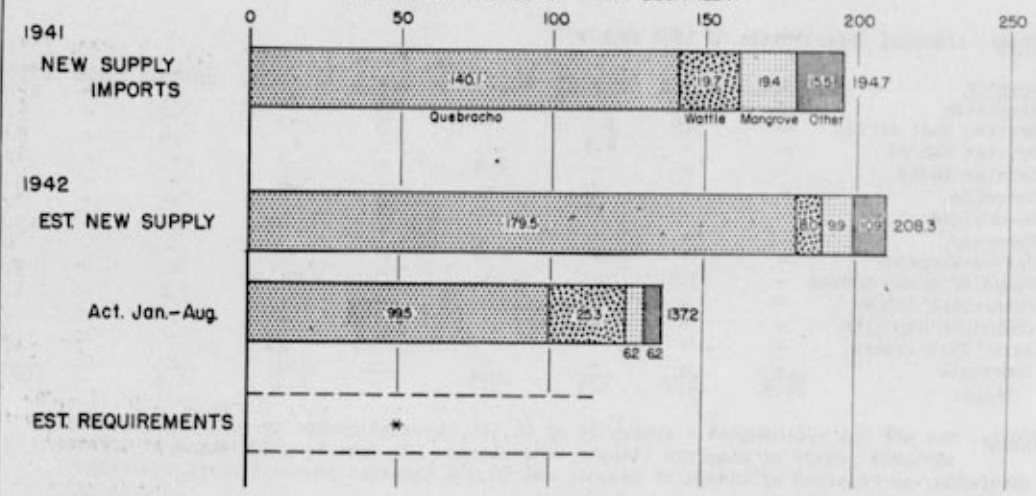
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IMPORTED TANNING MATERIALS

QUEBRACHO, WATTLE, MANGROVE, MYROBALAN SUMAC, DIVI-DIVI, GAMBIER, AND TARA

SUPPLY AND DEMAND

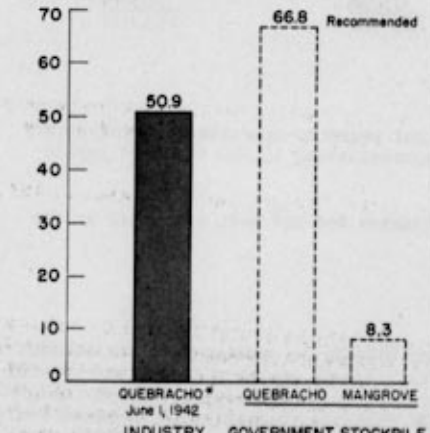
MILLIONS OF POUNDS OF TANIN EQUIVALENT



* Estimates being revised

STOCKS

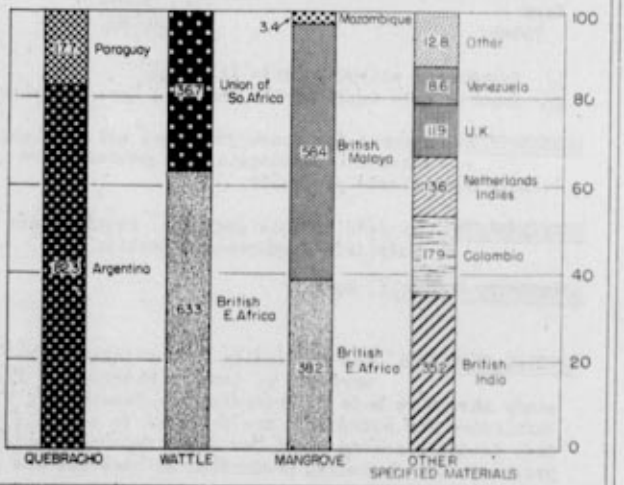
MILLIONS OF POUNDS OF TANIN EQUIVALENT



*Stocks of other imported tanning materials negligible.

SOURCES

PER CENT DISTRIBUTION OF 1941 SUPPLY



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ASPIRIN

(All figures in thousands of pounds)

BACKGROUND: Aspirin (acetylsalicylic acid) is prepared by the action of acetic anhydride or acetyl chloride on salicylic acid. Salicylic acid, the principal ingredient of aspirin, is prepared synthetically from phenol. Because of the increased war demands, the phenol allocations for medicinal use were reduced in June, 1942, to 60 percent, July-September, 1942, to 50 percent and in October, 1942, to 60 percent of the quantities used in the same periods of 1941. Periodic reductions in allocations will be continued until the present phenol stringency is alleviated. There are no satisfactory substitutes for aspirin, which is used chiefly for the treatment of headaches, influenza, fevers, and tonsillitis.

STOCKS:

	1942		
	Jan. 1	July 1	Sept. 1
Industrial stocks	711	1,449	1,052

NEW SUPPLY:

	1941	1942 (Est.) 2/	Actual 1942 Jan.-August
Production 1/	8,084	8,400	5,526

1/ Present annual productive capacity is 9,276 thousand pounds.
2/ Estimate based on phenol allocations.
Note: There were no imports of aspirin in 1941, and there were none through Sept., 1942.

CONSUMPTION AND EXPORTS: Average annual consumption in the U.S. is estimated at 6,500 thousand pounds.

	1942 Jan.-May
Exports	423

Source: U.S. Department of Commerce. Export figures not available until Jan. 1, 1942. June-August exports not yet reported.

REQUIREMENTS: (Drugs & Cosmetics Section, Chemicals Branch)

	1942	1943
Military	65	392
Export, Incl. Lend-Lease	1,740	1,740
Civilian	6,500	6,500
Total	8,305	8,632

Note: The relatively small military requirements reflect large stocks in the hands of the Army on Jan. 1, 1942. Export and lend-lease requirements are estimated on an unrestricted basis; however, with the curtailed supply situation resulting from recent phenol allocations, these figures may be reduced.

SPECIAL PROBLEMS: There are no satisfactory substitutes for aspirin. Phenol, the principal ingredient of aspirin, is under strict monthly allocation. Other possible shortages are the supplies of acetic anhydride and necessary solvents.

GOVERNMENT CONTROL: Indirect through phenol allocations.

SUMMARY:

	1942
Estimated New Supply	8,400
Estimated Requirements	8,305

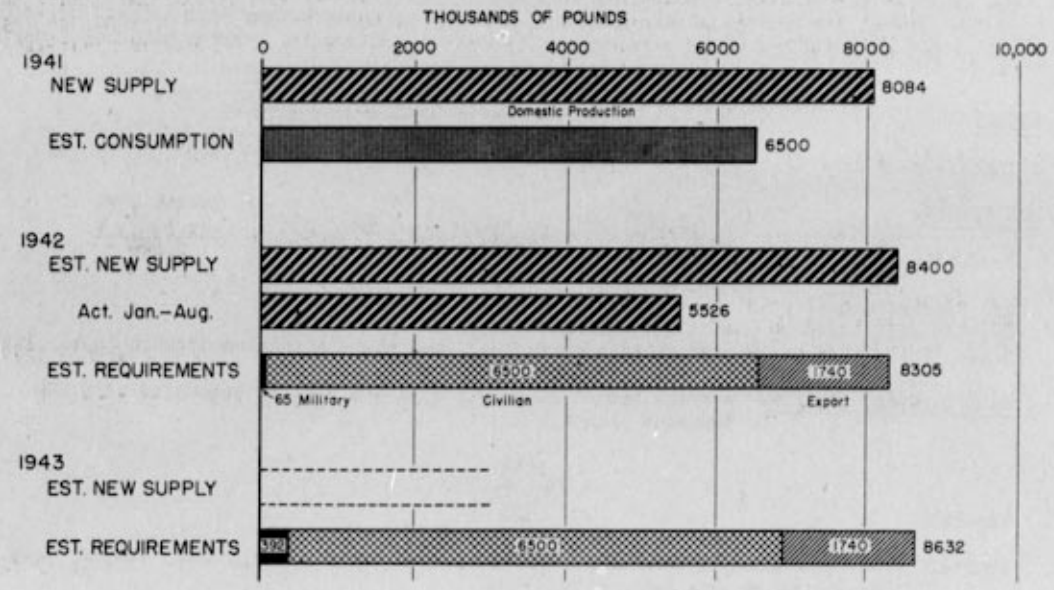
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ASPIRIN

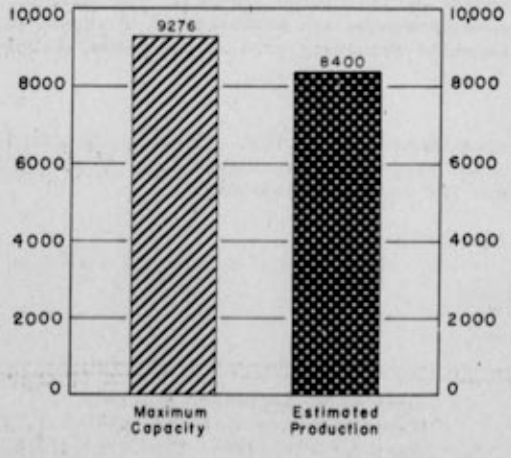
SUPPLY AND DEMAND



CAPACITY — PRODUCTION

1942

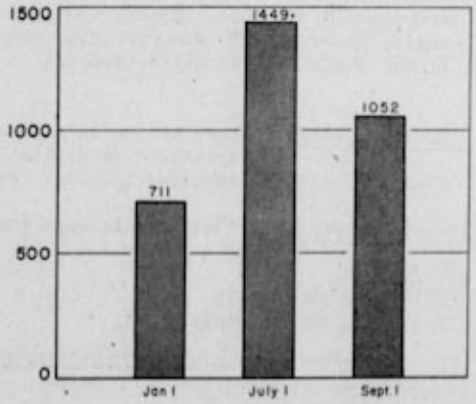
THOUSANDS OF POUNDS



INDUSTRY STOCKS

1942

THOUSANDS OF POUNDS



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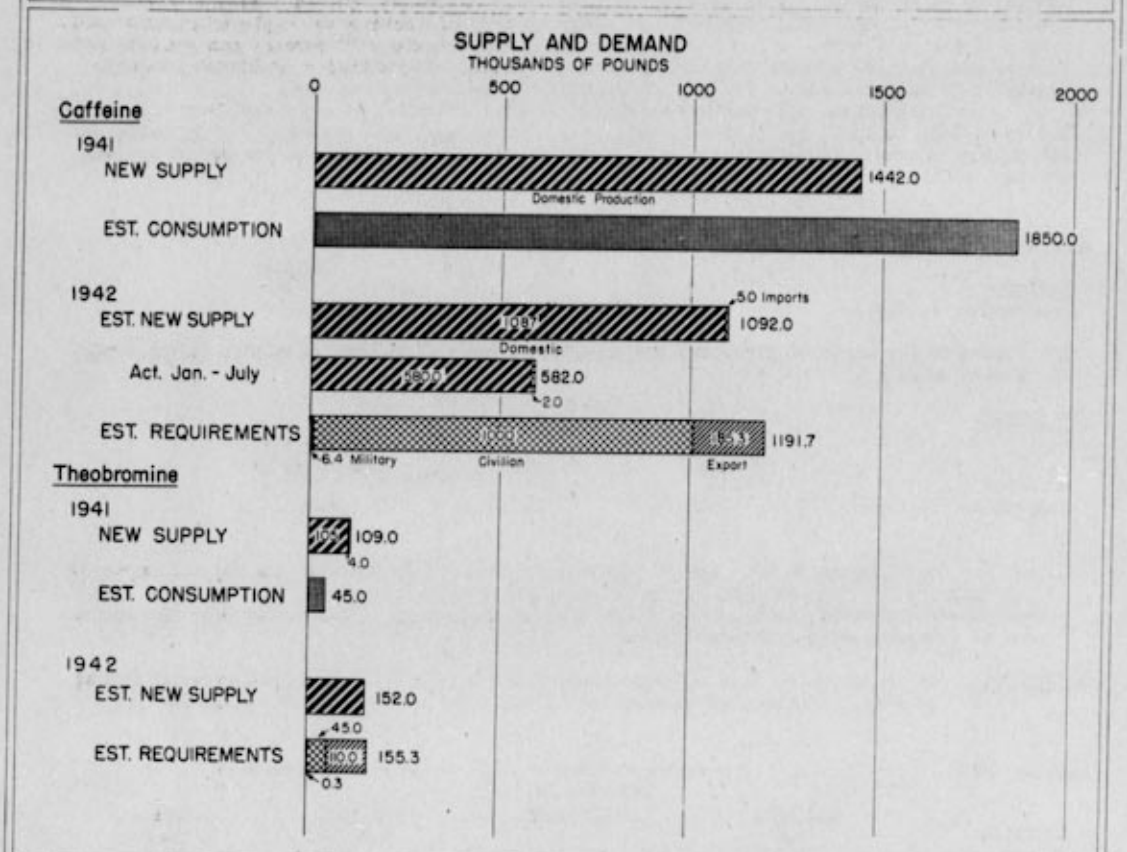
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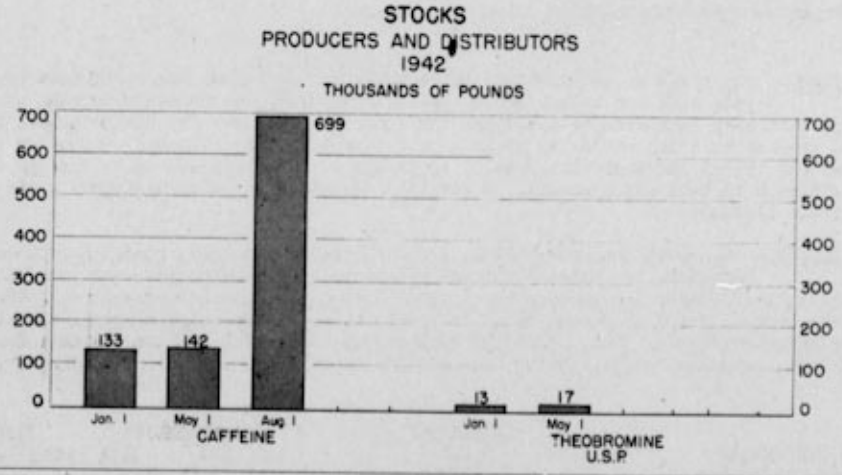
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CAFFEINE AND THEOBROMINE





War Production Board
Statistics Division
Materials Branch

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CAFFEINE AND THEOBROMINE

(All figures in thousands of pounds)

BACKGROUND: Caffeine (1,3,7-trimethylxanthine) is an odorless, bitter tasting, alkaloid obtained principally from tea waste, coffee, or mate leaves, and can be prepared from theobromine by methylation. It is used in medicine as a stimulant, and is a common ingredient of headache remedies and "cold tablets". It also is the main active principle of numerous soft drinks of the cola type. Of caffeine production, approximately 20 percent has gone into medicines, and about 80 percent into soft drinks. Sufficient quantities of caffeine are not available to meet the demand for both medicines and carbonated beverages.

Theobromine (3,7-dimethylxanthine), also an alkaloid, is extracted from cocoa beans, and is present in small quantities in kola nuts. It is used as a stimulant, as is caffeine; its action, however, is relatively greater on the heart and muscles, but its effect is less powerful on the central nervous system.

STOCKS:

	1942		
	Jan. 1	May 1	Aug. 1
Caffeine 1/	133	142	699
Theobromine (U.S.P.)	13	17	N.A.

1/ Stocks in the hands of producers and distributors; does not include stocks in the hands of primary users.

NEW SUPPLY:

	Production		
	1941	1942 (Est.)	1942 Actual Jan.-July
Caffeine	1,442	1,087	580
Theobromine (U.S.P.)	105	152	N.A.

Note: The only imports in 1941 were 4 thousand pounds of theobromine. Estimated imports of caffeine for 1942 (Health Supply Section) are 5 thousand pounds; no imports of theobromine are expected. Actual imports of caffeine, Jan.-Aug., 1942, reported by the Department of Commerce, were 2 thousand pounds.

CONSUMPTION: It is estimated that caffeine consumption in the U.S. was 1,850 thousand pounds in 1941. Theobromine consumption is estimated at 45 thousand pounds in 1941.

REQUIREMENTS:

	1942			
	Military	Exports, incl. Land-Lease	Civilian	Total
Caffeine	6.4	185.3	1,000.0	1,191.7
Theobromine	0.3	110.0	45.0	155.3

Source: Drugs and Cosmetics Section, Chemicals Branch.

SPECIAL PROBLEMS: There are no satisfactory substitutes for caffeine, and sufficient raw materials will not be available, unless controlled, to maintain current production. Suggestions that have been made to alleviate the situation include: (1) Limit the use of caffeine; (2) draw on existing stocks of beverage manufacturers; (3) allocate coffee for caffeine production; (4) import caffeine from Brazil, if possible. Theobromine can be refined from crude theobromine to meet requirements. A possible domestic source of caffeine is the plant Ilex Vomitoria (Aiton).

GOVERNMENT CONTROL: Conservation Order M-222, issued September 5, 1942, restricts the manufacture of caffeine through methylation of theobromine, and prohibits the use and delivery of either theobromine or caffeine except on the specific authorization of the Director General for Operations, WPB. Both drugs were placed under complete allocation beginning October 1, 1942. Exempted from restrictions of M-222 are standard dosage forms (tablets, capsules, etc.) and the use or delivery of two pounds or less of either drug per month.

SUMMARY:

	1942	
	Caffeine	Theobromine
Estimated New Supply	1,092	152
Estimated Requirements	1,192	155

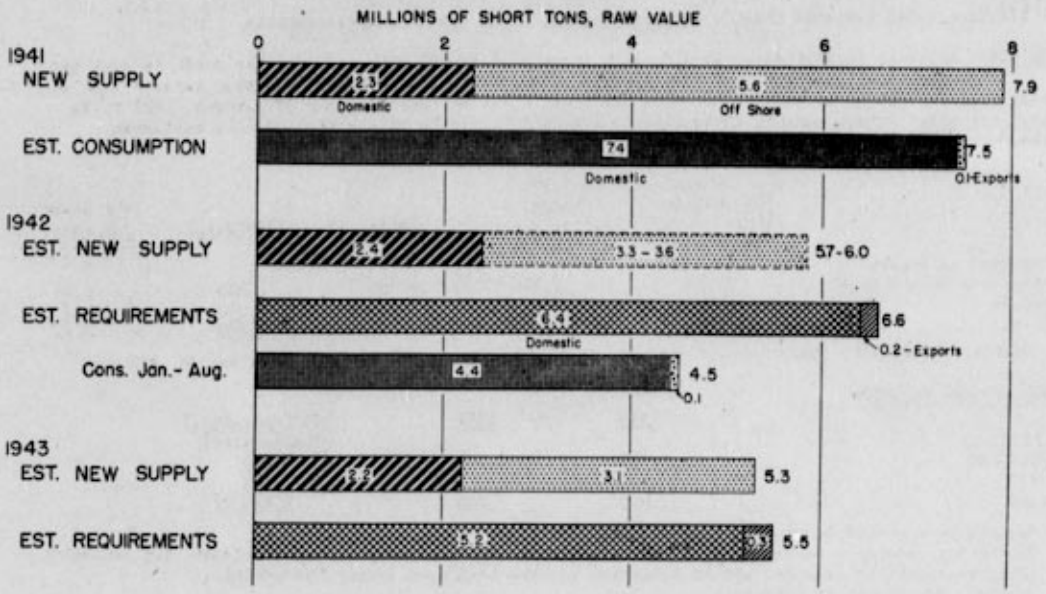
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WAR PRODUCTION BOARD
Statistics Division
Materials Branch

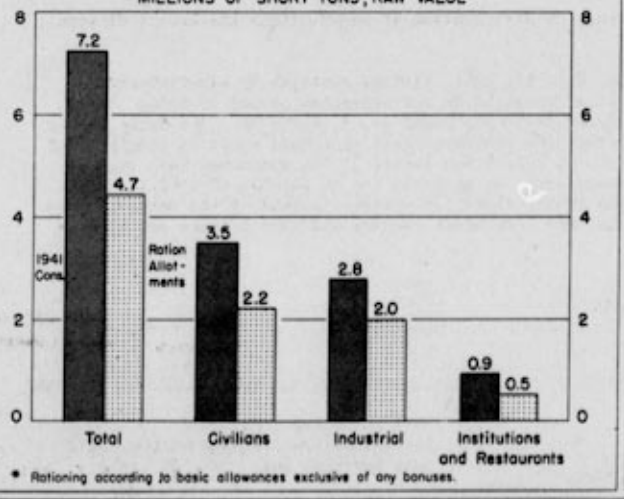
Data as of October 1, 1942
Abstract issued October 9, 1942
Revision due: October 30, 1942

SUGAR

SUPPLY AND DEMAND



1941 ESTIMATED CIVILIAN CONSUMPTION AND 12 MONTHS UNDER RATIONING*



* Rationing according to basic allowances exclusive of any bonuses.

STOCKS



WAR PRODUCTION BOARD,
Statistics Division
Materials Branch

Data as of Sept. 29, 1942
Chart Issued Oct. 9, 1942
Revision Due: Oct. 28, 1942

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SUGAR

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(All figures in thousands of short tons, raw value; 1.07 raw = approximately 1.0 refined)

BACKGROUND: The major sources of sugar are sugar beets and sugar cane. A by-product, called blackstrap molasses, is used principally in the production of industrial alcohol. Sugar can be diverted to what is called high-test molasses when the need for industrial alcohol so requires. Sugar currently presents a shipping problem, owing to submarine activities. Normally, about 70 percent of the United States supply comes from off-shore areas.

STOCKS: (January 1)	1940	1941	1942(Est.)1/	1943(Est.)
	2,612	2,358	3,189	2,300 - 2,600

1/ Includes 1,072 thousand tons in hands of consumers and considered recoverable.

NEW SUPPLY: Arrivals from offshore should total approximately 325 thousand tons per month to meet the current shipping quota. Through June, the average was about 300 thousand tons; arrivals during July-September, however, fell below the quota level by approximately 33 percent. WPB Foods Branch estimates assume monthly quota will be met during balance of the year; O.P.A. estimates assume arrivals at approximately July-September level.

	1940 (Charges against quota)	1941 (Charges against quota)	1942(Est.)	1943(Est.)	1942 Actual Jan.-Aug. (Preliminary)
Supplied as Sugar-					
Continental Beet & Cane	2,104	2,346	2,400	2,200	N.A.
Offshore	4,487	5,584	3,300 - 3,600	3,050	2,377
Total	6,591	7,930	5,700 - 6,000	5,250	N.A.

Source: 1940-1941, Department of Agriculture: 1942-1943, Sugar Section, Food Branch, WPB.

CONSUMPTION AND EXPORTS:

	1940	1941	1942(Jan.-Aug.) (Preliminary)
Consumption	6,850	7,431	4,379
Exports	178 1/	55 1/	103
Total	7,028	7,486	4,482 2/

1/ Exports from non-quota sugar.
2/ Deliveries January - August total 3,664 thousand tons (preliminary), the difference, 818 thousand tons, representing consumer stocks estimated to have been used during the period.
Source: Department of Commerce.

REQUIREMENTS: Estimates of requirements are based on rationing allowances after May 1, 1942, and estimated consumption prior to that date.

	1942(Est.)	1943(Est.)
Exports and Lend-Lease	200	300 1/
Civilian and Military	6,350	5,150
Total	6,550	5,450

1/ Additional Lend-Lease stocks available in Cuba and Hawaii.

SPECIAL PROBLEMS: (1) Shipping from Caribbean area; (2) Distribution of sugar within the United States. (3) Storage facilities.

GOVERNMENT CONTROL: General Preference Order M-55, Dec. 13, 1941, limited receipts by manufacturers and distributors to 80 percent of receipts in corresponding period of 1940. Sugar rationing was instituted the first week of May under Rationing Order No. 3, April 28. The basic weekly allowance per person is ½ pound; on July 4, however, OPA announced that consumers would be eligible for 2 pounds additional during July and August. Also, on July 4 and August 3, OPA announced that during the four months July-October, 1942, industrial users would be eligible for 80 percent of 1941 instead of the basic 70 percent; public eating places and institutions, 75 percent instead of the basic 50 percent. Home canning remains on a restricted basis, and industrial canners and meat packers are allowed a limited amount per pack.

SUMMARY: (Estimated)	1942	1941
Estimated New Supply	5,700 - 6,000	5,250
Estimated Requirements	6,550	5,450

WAR PRODUCTION BOARD,
Statistics Division
Materials Branch

Data as of Sept. 29, 1942
Revised Abstract Issued Oct. 9, 1942
Next Revision Due: Oct. 28, 1942

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TANNIC ACID, U.S.P.

(All figures in thousands of pounds U.S.P. equivalent)

BACKGROUND: The term "tannin", often used synonymously with tannic acid, is more correctly applied as a name for a group of astringent plant principles. Tannic acid itself refers to a group of substances which are anhydrides of different hydroxybenzoic acids. The principal one used medicinally is gallotannic acid (official tannic acid) U.S.P., which is obtained primarily from nutgalls. The latter are excrescences from the young twigs of a number of trees and shrubs such as the oaks and rhus.

Prior to order M-204, the medicinal and industrial conflict for tannic acid centered around the use of the available supply of nutgalls.

USES: The chief use of tannic acid, U.S.P., is in the treatment of burns. Other medicinal uses: treatment of skin diseases; chronic inflammation of the throat, local hemorrhage, as a chemical antidote for various poisons, and in dentistry for the treatment of canker sores and chronic inflammation of mucous membranes. Crude tannic acid, part of which can be refined into U.S.P. quality, is used industrially as a mordant in dyeing, ink manufacture, sizing paper and silk, tanning, photography, as a coagulant for rubber latex, and in silvering mirrors.

STOCKS:

	1942		
	Jan. 1	May 1	August 8
U.S.P. actual	43	49	159
U.S.P. potential 1/	1,377	1,256	1,475

1/ Includes U.S.P. equivalent of nutgalls.

SOURCES: 1/

	1941	1942 (Est.)	1942 Actual Jan.-July
China	1,963	429	429
Near East	79	437	105
Total	2,042	866	534

1/ Imported in the form of nutgalls.
Source: U.S. Department of Commerce. August imports not yet reported.

NEW SUPPLY:

	1941	1942 (Est.)
Production, U.S.P., from nutgalls	469	433

CONSUMPTION AND EXPORTS: Normal peace time consumption of tannic acid, U.S.P. is estimated at approximately 400 thousand pounds.

	1941	1942 (Est.)
Exports	61	45

REQUIREMENTS:

	1942	1943
Military	103	91
Civilian	317	N.A.
Exports, incl. lend-lease 1/	45	N.A.
Total	465	N.A.

1/ Lend-Lease requisitions and forward requirements 29 thousand; other exports estimated.
Source: Drugs & Cosmetics Section, Chemicals Branch.

SPECIAL PROBLEMS: Virtually the only present source of tannic acid, U.S.P., in the U.S. is imported nutgalls. Possible substitutes are divi-divi pods, algarobilla, tara, quebracho wood, sumac, and domestic chestnut wood. Treatment of burns with dyes is another possible substitute.

GOVERNMENT CONTROL: Conservation Order M-204 restricts the use of nutgalls to the maximum production of tannic acid, U.S.P., and the use of tannic acid, U.S.P., (1) to treatment of burns; (2) as an analytical reagent; (3) as an internal antidote in poisoning; and (4) for use in individual prescriptions.

SUMMARY:

	1942
Estimated New Supply	433
Estimated Requirements	465

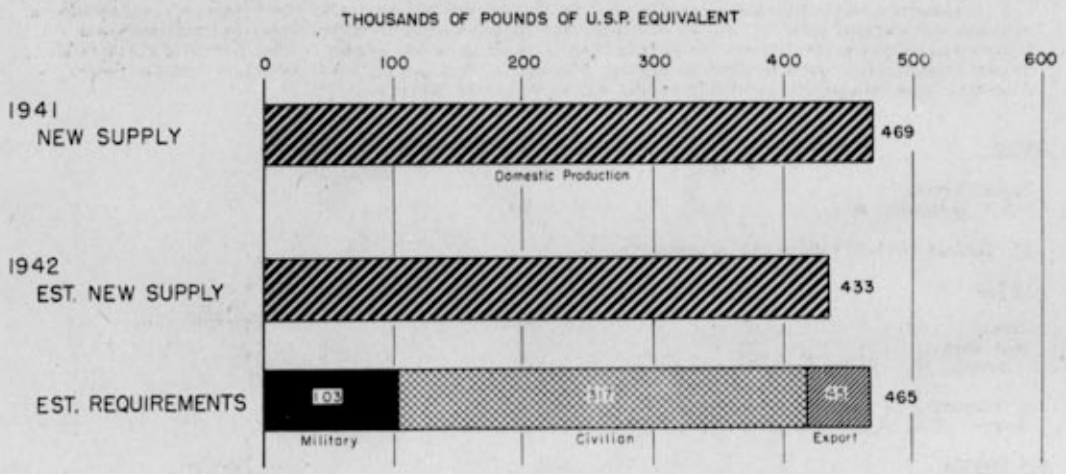
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Materials Branch

Data as of Sept. 29, 1942
Revised abstract issued Oct. 9, 1942
Next revision due: Oct. 30, 1942

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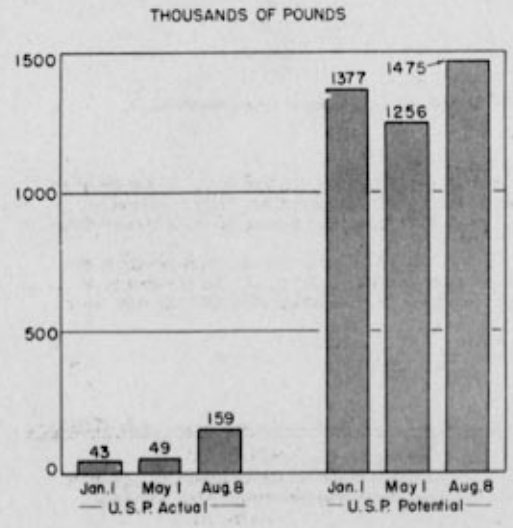
TANNIC ACID

SUPPLY AND DEMAND

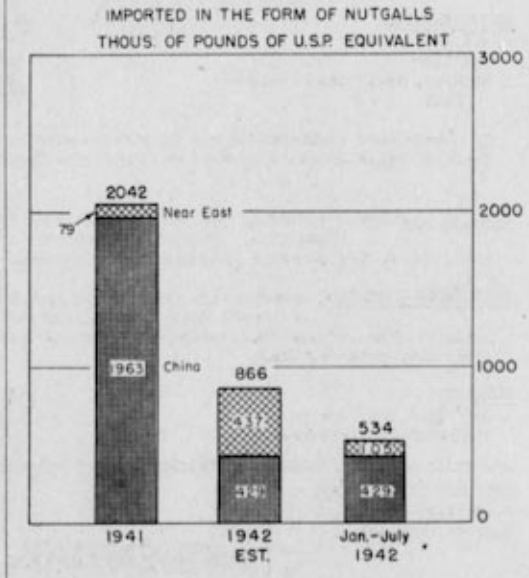


STOCKS

1942



SOURCES



War Production Board
Statistics Division
Materials Branch

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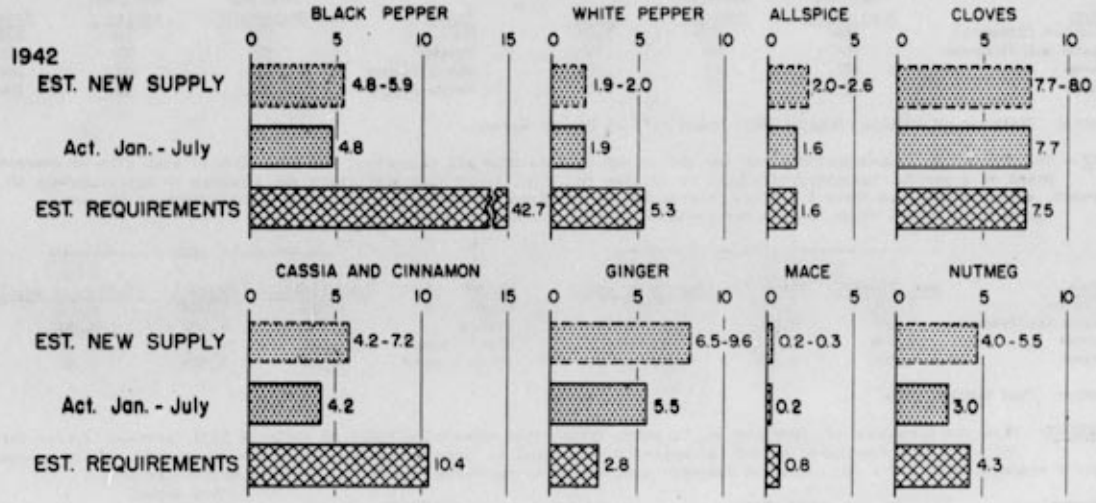
Data as of Sept. 29, 1942
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TROPICAL SPICES

SUPPLY AND DEMAND

MILLIONS OF POUNDS

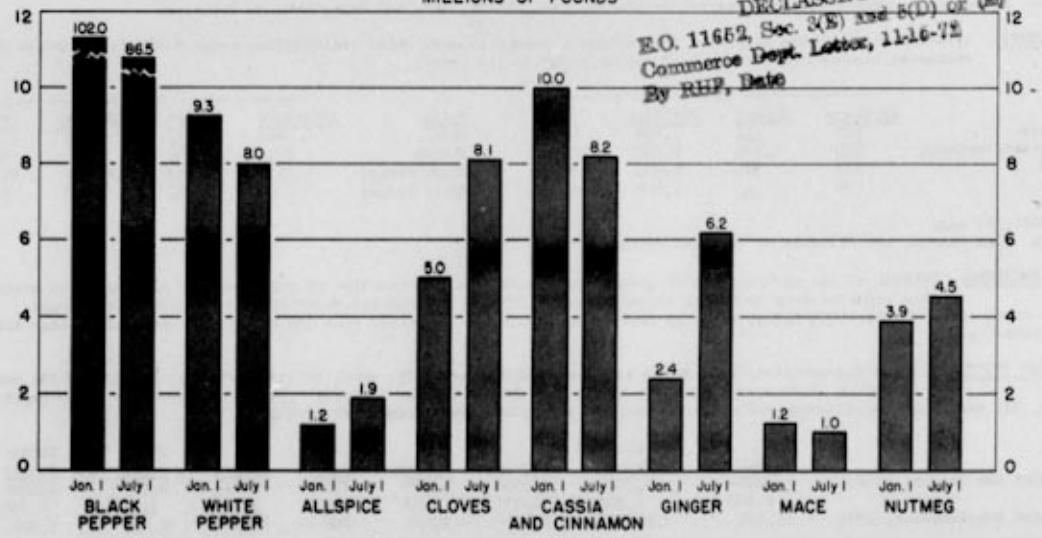


1942 STOCKS *

DRY SPICES ONLY

MILLIONS OF POUNDS

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Commerce Dept. Letter, 11-16-72
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*January stocks estimated. July stocks partially estimated.

War Production Board
Statistics Division
Materials Branch

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Data as of Sept. 25, 1942
Abstract Issued Oct. 9, 1942
Revision Due Oct. 30, 1942

TROPICAL SPICES

(All figures in thousand of pounds)

BACKGROUND: This abstract covers tropical spices now under conservation order. Pepper, by far the most widely used spice, and cassia come almost entirely from Far Eastern areas now under Japanese control. Cinnamon proper (cassia commonly is called cinnamon) is imported from Ceylon. Supplies of other tropical spices also have been scarce owing to shipping difficulties. These include nutmeg, mace, ginger, and allspice, important supplies of which are produced in the Western Hemisphere.

USES: These spices are important in preserving and flavoring food and in beverages. The following analysis of home and restaurant use and manufacturing use was made as part of the April 1, 1942, survey of the spice trade, based on deliveries and use during January and February of 1941 and 1942:

	Percent of Total Use				Percent of Total Use		
Spice	Home and Restaurant	Manufacturing	Total	Spice	Home and Restaurant	Manufacturing	Total
Allspice (Pimento)	49%	51%	100%	Mace	28%	72%	100%
Cassia and Cinnamon	54	46	100	Nutmeg	30	70	100
Cloves	27	73	100	Black Pepper	73	27	100
Ginger	35	65	100	White Pepper	24	76	100

Source: Division of Civilian Supply, WPB, based on Food Branch survey.

STOCKS: The following figures include only dry spices and exclude oils and extracts. The inclusion of such oils or extracts, based on a partial inventory of stocks as of June 30, 1942, would increase cassia and cinnamon by approximately 10 percent, allspice and mace about 8 percent, cloves and nutmeg some 4 percent, and others by about 1 percent or less. March 1 and July 1 stock figures are based on special industry surveys.

	1942				1942		
Spice	Jan. 1(Est.)	March 1	July 1 (Partially est.)	Spice	Jan. 1(Est.)	March 1	July 1 (Partially est.)
Allspice	1,171	1,378	1,900	Mace	1,229	1,098	1,000
Cassia and Cannamon	9,986	9,809	8,200	Nutmeg	3,919	4,182	4,500
Cloves	5,040	3,946	8,100	Black Pepper	102,026	98,909	86,500
Ginger	2,394	1,976	6,150	White Pepper	9,318	9,706	8,000

Source: Food Branch, WPB.

NEW SUPPLY: With the exception of black pepper, in which inventories were being built as early as 1936, average imports for 1934-1938 are considered normal and approximately equal to domestic consumption plus re-exports. Black pepper imports averaged well above the estimated domestic consumption of approximately 30,000 thousand pounds per year.

Imports	1934-1938	1941	1942 (Est.)	1942 Actual Jan.-July
Allspice	2,096	3,690	2,000-2,600	1,617
Cassia and Cinnamon	10,742	17,614	4,200-7,200	4,158
Cloves	4,400	14,630	7,700-8,000	7,659
Ginger	2,436	4,412	6,500-9,600	5,459
Mace	776	1,206	250-290	185
Nutmeg	4,431	8,577	4,000-5,500	3,025
Black Pepper	43,095	57,406	4,800-5,900	4,780
White Pepper	5,426	16,552	1,906-1,950	1,906

Source: Actual data, Department of Commerce; estimates, Food Branch, WPB, and Department of Commerce.

REQUIREMENTS: Civilian requirements represent the estimated amount allowed under conservation order M-127 for 7 months plus estimated consumption during the 5 months prior to the order.

	1942				1942			
Spice	Military	Export	Civilian	Total	Spice	Military	Export	Civilian	Total
Allspice	127	1/	1,450	1,577	Mace	90	1/	700	790
Cassia and Cinnamon	627	1,700	8,100	10,427	Nutmeg	233	150	3,900	4,283
Cloves	234	500	6,800	7,534	Black Pepper	3,351	10,900	28,400	42,651
Ginger	177	1/	2,600	2,777	White Pepper	-	1/	5,300	5,300

1/ Small, if any.
Source: Food Branch, and Division of Civilian Supply.

SPECIAL PROBLEMS: Control of the distribution of present stocks and the coordination of purchases and allocation of available supplies from countries of origin under British control are major considerations. Cargo space could be saved and shipping difficulties eased by increasing imports of essential oils for industrial use, rather than the spices themselves.

GOVERNMENT CONTROL: Under Conservation Order M-127-b, as amended September 25, 1942, deliveries and acceptance of the spices specified above were limited to percent of 1941 level, as follows: ginger, 100 percent; black pepper and cloves, 90; mace, nutmeg, allspice, and white pepper, 75; and cassia and cinnamon 60 percent.

SUMMARY:

	Allspice	Cassia and Cinnamon	Cloves	Ginger	Mace	Nutmeg	Black Pepper	White Pepper
Estimated New Supply, 1942	2,000-2,600	4,200-7,200	7,700-8,000	6,500-9,600	250-290	4,000-5,500	4,800-5,900	1,906-1,950
Estimated Requirements, 1942	1,577	10,427	7,534	2,777	790	4,283	42,651	5,300

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

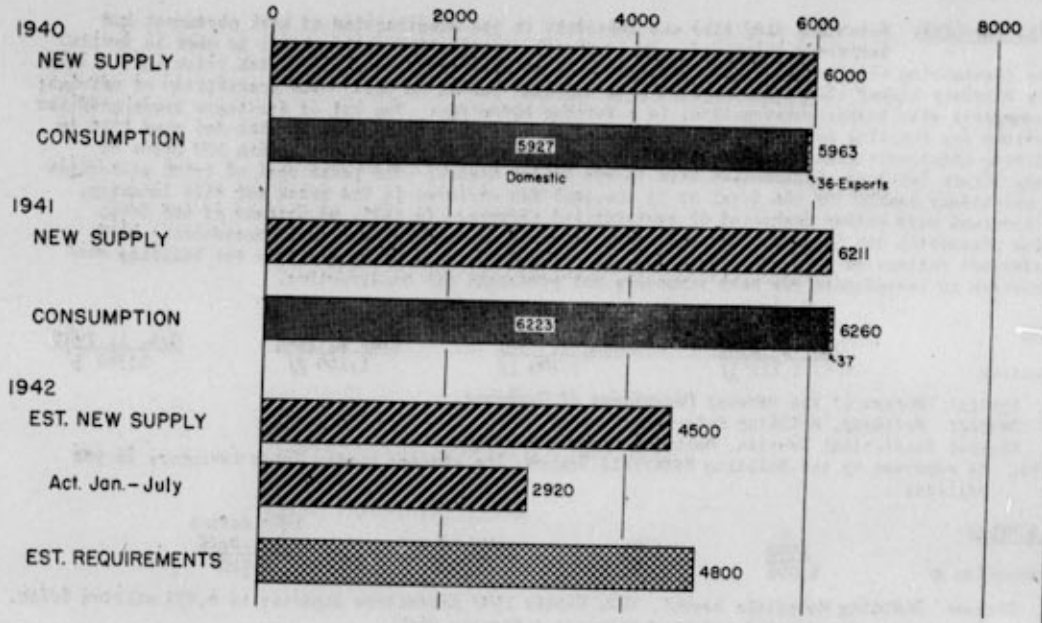
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BUILDING BRICK AND CLAY TILE

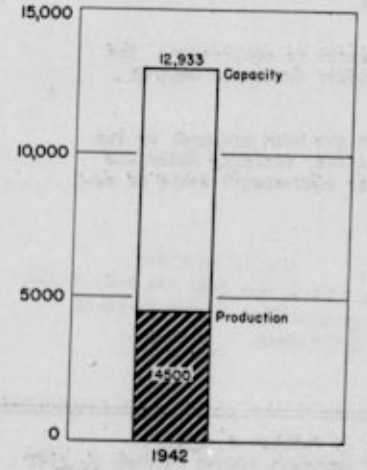
SUPPLY AND DEMAND

MILLIONS OF BRICK OR BRICK EQUIVALENT



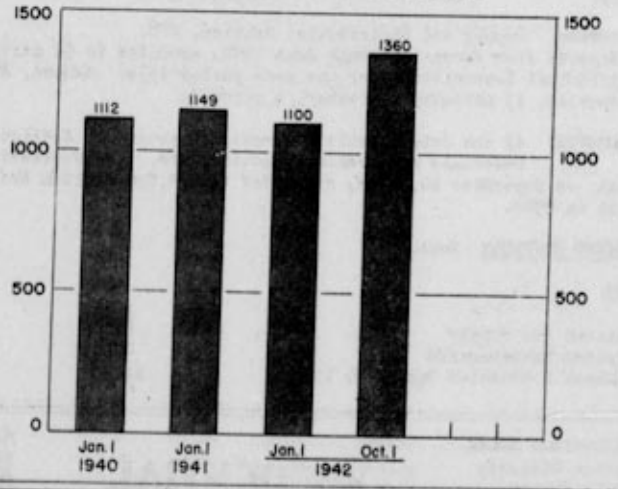
EST. CAPACITY AND PRODUCTION

MILLIONS OF BRICK OR BRICK EQUIVALENT



STOCKS

MILLIONS OF BRICK OR BRICK EQUIVALENT



War Production Board
Statistics Division
Materials Branch

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Data as of Oct. 2, 1942
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By RHP, Date

BUILDING BRICK AND CLAY TILE

(All figures in million brick or brick equivalent)

BACKGROUND: The manufacture of brick and clay tile consists of relatively simple operations. Clay or shale is dug or mined or sometimes dredged, then is crushed or ground, if necessary, and mixed with water (unless the dry-press method is used). The resultant clay then is shaped, pressed, dried, and baked in a kiln. The bulk of brick and tile manufacture now is thoroughly mechanized, and requires little labor. The estimated production capacity for 1942 is 12,933 million brick or brick equivalent. The industry at present operates below 50 percent of capacity. The data summarized in this abstract include glazed and unglazed, common and face brick, unglazed hollow facing tile, and unglazed structural clay tile. Sewer pipe and brick and paving brick are not included.

SPECIAL PROBLEMS: Brick and clay tile are important in the construction of both permanent and temporary buildings. In temporary construction, lime mortar is used to facilitate dismantling when desired. The complete cost of building construction with brick and tile is only slightly higher than that entailed when critical lumber is used. The possibility of salvage, as compared with lumber construction, is a further advantage. The use of strategic transportation services for building materials can be lessened considerably by employing brick and clay tile in building construction whenever possible. There is a clay products plant within 100 miles of every likely building construction site in the United States. The labor cost of brick production is relatively small. Of the total of 33 thousand men employed in the brick and tile industry, 26 thousand were either unskilled or semi-skilled workers. In 1941, 58 percent of the total brick production and 54 percent of the total tile output went for military construction with preference ratings of A-10 or better. The use of non-critical brick and tile for building construction is recommended for both temporary and permanent war construction.

STOCKS:

	Jan. 1, 1940	Jan. 1, 1941	Jan. 1, 1942	Oct. 1, 1942
Quantity	1,112 1/	1,149 1/	1,100 2/	1,360 3/

1/ Source: Bureau of the Census, Department of Commerce.
2/ Source: Estimate, Building Materials Branch, WPB.
3/ Source: Statistical Section, Building Materials Branch.
Note: As reported by the Building Materials Branch, the average summer brick inventory is 982 million.

NEW SUPPLY:

	1940	1941	1942 (Est.)	1942 Actual Jan.-July
Production 1/	6,000	6,211	4,500	2,920

1/ Source: Building Materials Branch, WPB. Excess 1942 production capacity is 8,433 million brick.
Note: Annual imports of brick and clay tile are extremely small.

CONSUMPTION AND EXPORTS:

	1940	1941
Apparent Consumption 1/	5,927	6,223
Exports 2/	36	37
Total	5,963	6,260

1/ Source: Supply and Distribution Section, WPB.
2/ Exports from January through June 1942, amounted to 58 million bricks or equivalent. The principal destinations for the same period were: Canada, 84 percent; South and Central America, 13 percent; all other, 3 percent.

REQUIREMENTS: At the date of this abstract, requirements estimates had not been prepared by the Materials Requirements Section, WPB. The Statistics Section, Building Materials Branch, on September 10, 1942, estimated that 4,800 million bricks (or equivalent) would be required in 1942.

GOVERNMENT CONTROL: None.

SUMMARY:

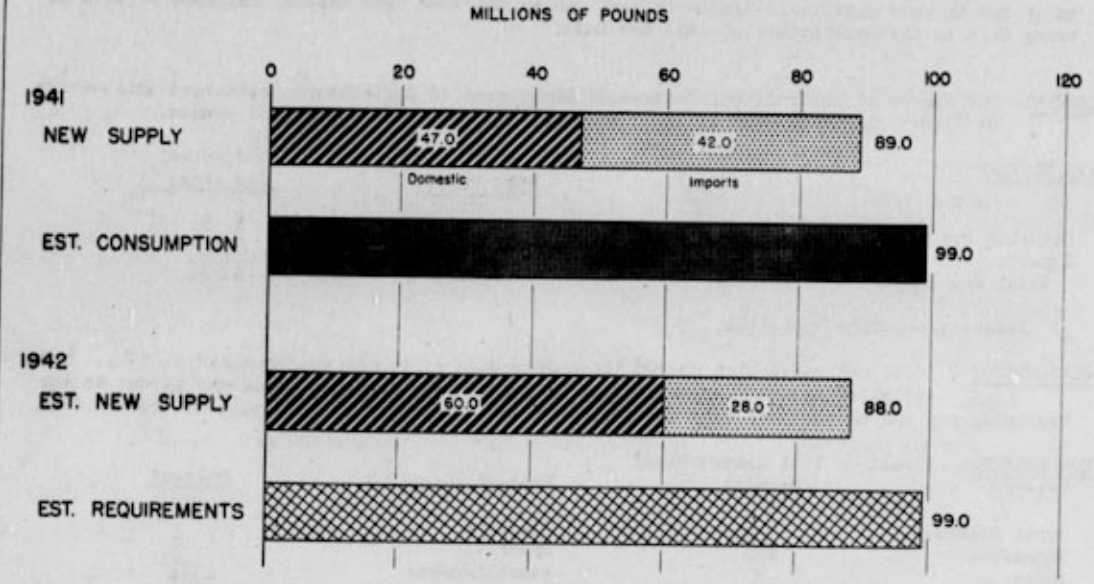
	1942
Estimated New Supply	4,500
Estimated Requirements	4,800
Estimated Production Capacity, 1942	12,933

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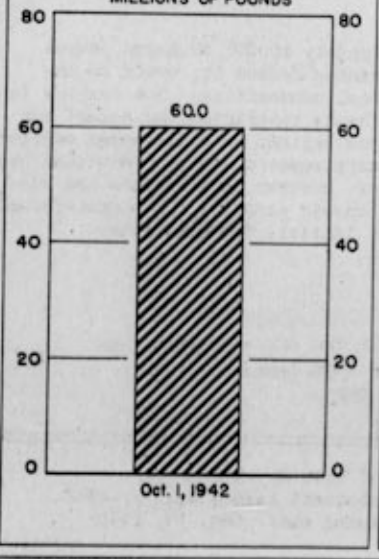
CASEIN

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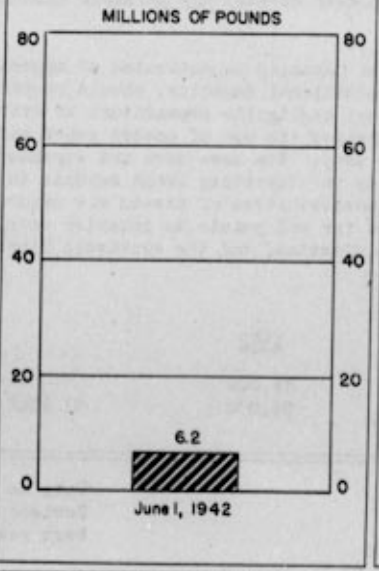
SUPPLY AND DEMAND



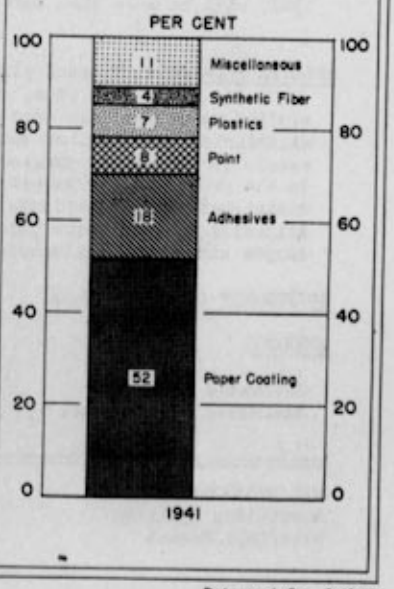
ESTIMATED ANNUAL PLANT CAPACITY



ESTIMATED INDUSTRIAL STOCKS



USE PATTERN



War Production Board
Statistics Division
Materials Branch

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Data as of Oct. 2, 1942
Chart Issued Oct. 9, 1942
Revision Due Oct. 30, 1942

CASEIN

(All figures in thousands of pounds)

BACKGROUND: Casein is a complex product akin to the white of an egg, belonging to the class of chemical compounds known as albumen. In milk, casein occurs in combination with lime as a calcium salt, and, in order to isolate it, the milk must be treated with acid. A white curd is precipitated which is washed and dried, the product then obtained being sufficiently pure for most technical purposes.

USES: The principal use of casein is as an adhesive; as such, it is used in paper coating, furniture manufacturing, textile sizing, etc. It also is used as a constituent of cold water paint and in some plastics. Synthetic wool can be produced from casein, and some of this is being used in the manufacture of felt for hats.

STOCKS: The Bureau of Agricultural Economics, Department of Agriculture, estimates that stocks at casein plants on June 1, 1942, were approximately 6,200 thousand pounds.

NEW SUPPLY:

	1941	1942 (Est.)	1942 Actual Jan.-Aug.
Domestic Production	47,000	60,000 1/	N. A.
Imports	42,000	28,000	16,728
Total New Supply	89,000	88,000	N. A.

1/ Assuming capacity operation.

CONSUMPTION: It is estimated that 99,000 thousand pounds of casein was consumed in 1941. This estimate, however, is subject to certain qualifications. Industry stocks at the beginning and end of the year were not available, and an actual figure could not be verified.

USE PATTERN: (Based on 1941 consumption)

Product	Percent	Product (Cont'd.)	Percent
Paper Coating	52	Plastics	7
Adhesives	18	Synthetic	4
Paint	8	Miscellaneous	11
		Total	100

REQUIREMENTS: The Conservation Unit of the Industry Operations Branch has estimated that 134,000 thousand pounds of casein might be consumed in 1943, if complete substitution were made for tight commodities now being consumed. No estimate of requirements has been made; however, it may be safe to assume that approximately 99,000 thousand pounds, which was the consumption in 1941, will be more than sufficient to meet any probable demands for casein in 1942.

SPECIAL PROBLEMS: Present plant capacity is estimated at approximately 60,000 thousand pounds per year. Additional capacity, should requirements demand it, could be installed readily at low cost and negligible expenditure of critical commodities. The decline in magazine advertising has decreased the use of coated paper and hence restricted the demand for casein in one of its largest uses. New uses have not expanded so rapidly as anticipated earlier in the year, and the necessity for importing large amounts to supplement domestic production has diminished. The substitute possibilities of casein are numerous, however, and include the substitution of cold water paint for oil paints in interior work, casein plastics for phenol-formaldehyde and urea-formaldehyde plastics, and the synthetic fibre, lanitol, for wool fibre.

GOVERNMENT CONTROL: None.

SUMMARY:

	1942
Estimated New Supply	88,000
Estimated Requirements	99,000

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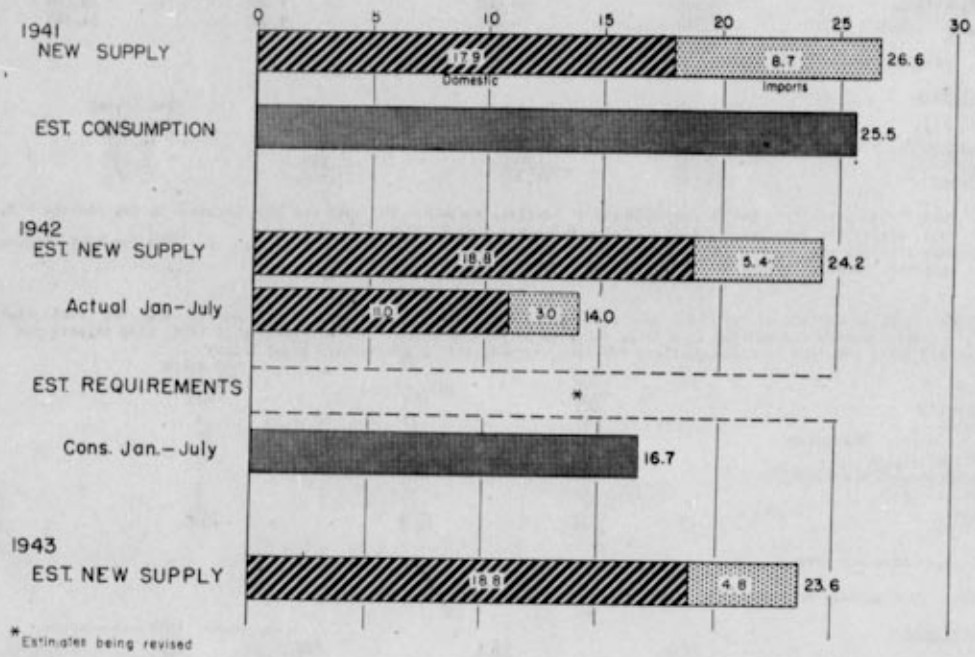
WAR PRODUCTION BOARD
Statistics Division
Materials Branch

Data as of Oct. 2, 1942
Revised abstract issued Oct. 9, 1942
Next revision due: Oct. 30, 1942

CATTLE HIDES

SUPPLY AND DEMAND

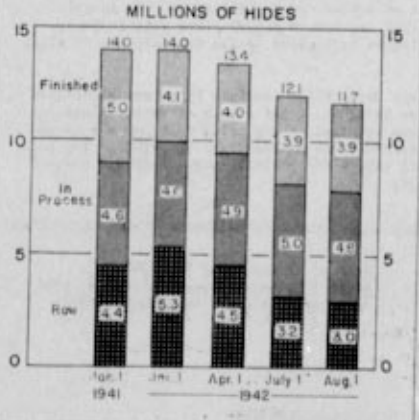
MILLIONS OF HIDES



*Estimates being revised

INDUSTRY STOCKS

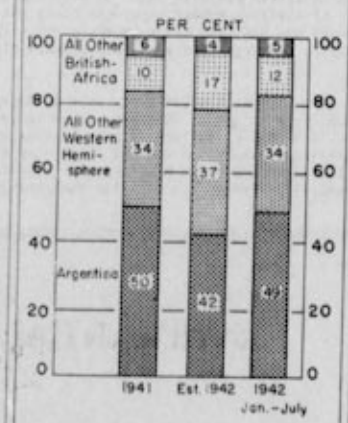
MILLIONS OF HIDES



IMPORTS

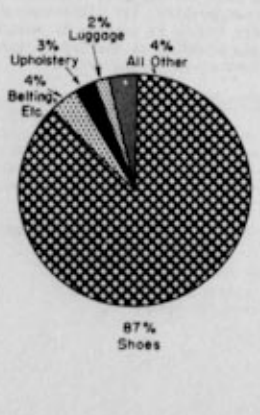
BY COUNTRY OF ORIGIN

PER CENT



CIVILIAN USES

1941



War Production Board
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Data as of Sept 29,1942
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By RHP, Date

CATTLE HIDES
(All figures in thousand hides)

USES: The term "cattle hides", as used commercially, includes cow, steer, and bull hides, i.e., the skins of adult bovines. The leather produced from these hides is used largely for the manufacture of shoes, but other essential cattle hide leathers include industrial belting, harness, and saddlery. Civilian uses of cattle hides in 1941 were as follows: shoes - 87 percent; belting, etc. - 4 percent; upholstery - 3 percent; luggage - 2 percent; and all other - 4 percent.

STOCKS: 1/

	Raw	In Process	Finished	Total
January 1, 1941	4,454	4,586	4,958	13,998
January 1, 1942	5,330	4,622	4,069	14,021
April 1, 1942	4,513	4,933	3,967	13,413
July 1, 1942	3,214	4,966	3,959	12,139
August 1, 1942	2,961	4,847	3,915	11,723

1/ Industry stocks in all hands. Source: Tanners Council of America.

NEW SUPPLY:

	1941	1942 (Est.)	1943 (Est.)	1942 Actual Jan.-July
Domestic Production 1/	17,860	18,800	18,800	10,995
Imports 2/	8,738	5,400	4,800	2,968
Total	26,598	24,200	23,600	13,963

1/ Data for 1941 are from the Tanners Council of America; estimates for 1942 and 1943 prepared by the Leather & Shoe Unit, Statistics Section, Textile, Clothing & Leather Branch, WPB.

2/ Data for 1941 are imports for consumption as reported by the Department of Commerce. For 1942 and 1943, figures represent general imports; estimates by the Leather & Shoe Unit.

IMPORTS: U. S. production of raw hides is inadequate to meet domestic requirements for leather, with the result that this country customarily is a large importer of foreign hides. The percentages of total hide imports for 1940 and 1941, together with expectations for 1942, from specified sources are shown below:

	1941	1942 (Est.)	1942 Actua Jan.-July
Argentina	50%	42%	49%
Canada	5	1/	1
Other Western Hemisphere	29	37	33
British Africa	10	17	12
Australia & New Zealand	2	4	2
British India	1	1/	1
Other	3	1/	2
Total	100%	100%	100%

1/ Less than 0.5 percent.

Note: From January to July, 1942, 2,968 thousand cattle hides were imported.

CONSUMPTION:

	1940	1941	1942 Jan.-June	1942 July	1942 Jan.-July
Tanners' Wettings	19,084	25,520	14,490	2,258	16,748

Source: Tanners' Council of America.

REQUIREMENTS: Estimates of military and civilian requirements under revision at date of this abstract.

SPECIAL PROBLEMS: Cattle hides are by-products; their availability is dependent largely on domestic slaughter for meats and on shipping space to transport foreign hides. The increased military program necessarily will affect the quantity and quality available for civilian use. In addition to the military aspects of the supply and demand problem, the limitation in use of civilian rubber soles and heels and of rubber fabric belting and, in general, the return to leather by manufacturers who had been using products other than leather in recent years will increase the pressure on the cattle hide supply. The supply-demand relationship also is influenced by the availability of other leather-supplying skins.

GOVERNMENT CONTROL: Imported cattle hides are controlled under General Import Order M-63; domestic hides are controlled under M-194, dated July 3, 1942. Together, these orders bring the total supply of cattle hides under complete allocation control. In addition, cutters of sole leather are required to set aside each day all inner- and outersoles and repair taps of military weight and quality which they cut (M-80 as amended, May 22, 1942). The sale or use of soles thus set aside is forbidden except to manufacturers filling orders for military use. M-80 was amended August 5, 1942, to provide additional sole leather for civilian shoe repair.

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

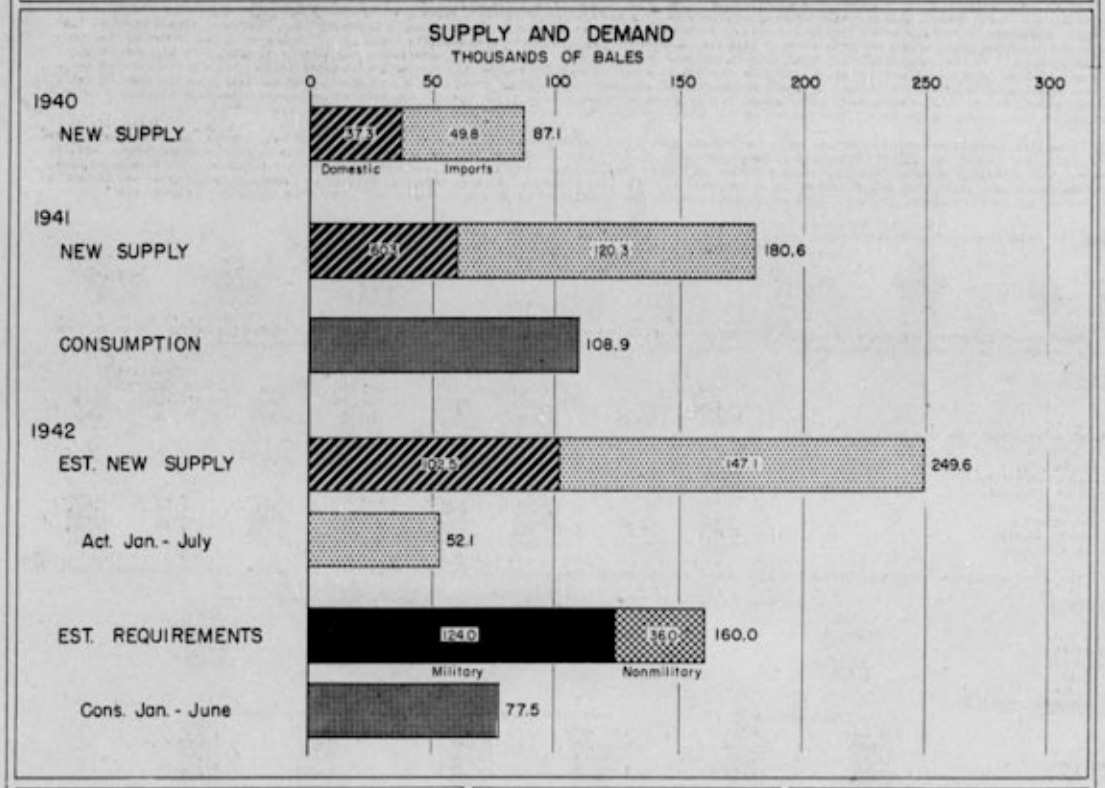
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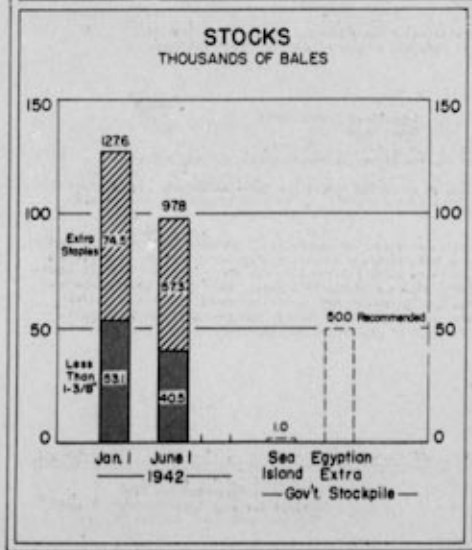
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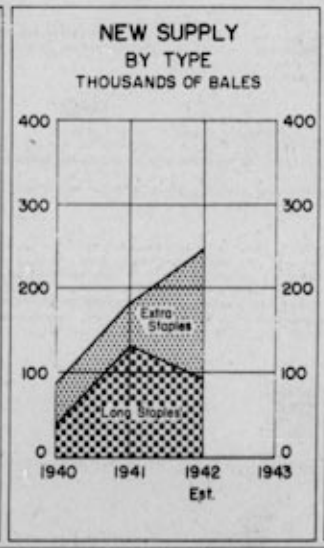
COTTON - LONG STAPLE

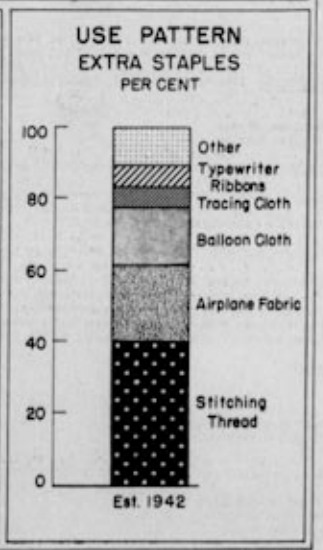
EXCLUSIVE OF AMERICAN UPLAND

(All figures in running bales or equivalent 500 pound bales.)









WAR PRODUCTION BOARD
Statistics Division
Materials Branch

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Data as of Sept. 30, 1942
Chart Issued Oct. 9, 1942
Revision Due: Oct. 30, 1942

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Commerce Dept. Letter, 11-16-72
By RHP, Date

COTTON - LONG STAPLE
(Exclusive of American Upland)
(All figures in running bales or equivalent 500 pound bales)

BACKGROUND: The length of cotton fibers, known as "staple", usually is the most important quality factor, because it determines the strength and fineness. Cotton measuring 1-1/8 inches or longer is classed as "long staple", while that measuring 1-3/8 inches or longer generally is known as "extra staple". Sea Island Cotton, with a staple range of 1-1/2 inches to 2 inches, is the longest, finest, and strongest cotton produced in the world, but present production is very limited. Next to Sea Island, American-Egyptian is the finest cotton grown in this country. "Egyptian" staple imported from Egypt and measuring 1-3/8 inches and over competes with and is equivalent in use to American-Egyptian staple 1-1/2 inches and over. Peruvian Pima (imported from Peru) is used principally for blending with wool and by the asbestos trade, but ordinarily does not compete directly with Egyptian or American-Egyptian. American Upland cotton, very little of which is longer than 1-1/4 inches, has distinctive characteristics, but competition with American-Egyptian and Egyptian is confined to a comparatively small sphere of non-military uses. The United States produces less than its needs of extra staple cotton, but is on an export basis with respect to staples measuring less than 1-3/8 inches. The entire long staple production (including extra staple) of this country ranges from 3 to 6 percent of the total domestic crop, with Upland cotton comprising a very large portion.

USES: Long staple cotton is used in spinning yarns for strong, closely woven industrial fabrics, such as airplane, balloon, tracing, and typewriter ribbon cloth; for combed yarn fabrics for apparel, such as broadcloth, shirtings, lawns, voiles, and organdies; specialties, such as woven labels; and, in general, for stitching thread. Military uses are for use in wings, fuselages, and rudder controls of airplanes; barrage balloons; life rafts; and parachute shroud lines. Stitching thread, particularly that used in industrial products, requires strength, flexibility, and a high degree of smoothness in processing and in the finished product. Egyptian cotton possesses these qualities to an unusual degree and, therefore, generally is preferred.

STOCKS: 1/ Held in consuming establishments; public storage, including bonded warehouses; and elsewhere.

	Extra Staple 2/						
	Egyptian	Am. Egyptian	Sea Island	Peruvian Pima	Total Extra Staple	All Other Long Staple	Total All
Jan. 1, 1942	27,300	38,600	6,660	1,987	74,547	53,051	127,598
June 1, 1942	29,195	17,600	4,876	5,611	57,282	40,508	97,790

1/ There are no government stocks. A stockpile of 1,000 bales of Sea Island, staples 2" or longer, and 50,000 bales of Egyptian extra staple has been recommended, but no action has been taken. 2/ Breakdown estimated by Statistics Section, Textile, Clothing & Leather Branch, WPB.

NEW SUPPLY:

	1940		1941		1942 (Est.)		1942 Actual Jan.-July	
	All Long Staple	Extra Staple	All Long Staple	Extra Staple	All Long Staple	Extra Staple	All Long Staple	Extra Staple
Domestic Production (new crop available in fall)								
American-Egyptian	32,325	23,264	57,562	44,326	101,300	55,715	-	-
Sea Island	4,961	4,807	2,747	2,171	1,200	1,200	-	-
Total Domestic	37,286	27,471	60,309	46,497	102,500	56,915	-	-
Imports: (General) 1/								
Egyptian	46,274	22,111	104,521	781	140,000	91,375	45,065	32,703
All Other	1,591	41	15,810	2,818	7,059	5,160	7,059	5,160
Total Imports	49,865	22,152	120,331	3,599	147,059	96,535	52,124	38,083
Total New Supply	87,151	49,625	180,640	50,096	249,559	153,670	52,124	38,083

1/ Source: Department of Commerce, except for 1942 estimates; the latter were prepared by the Statistics Sect Textile, Clothing & Leather Branch, WPB.

CONSUMPTION:

	All Long Staple		Extra Staple	
	1941 Jan.-Dec.	1942 Jan.-June	1941 Jan.-Dec.	1942 Jan.-June
Egyptian	70,376	46,684	37,350	15,480
All Other	38,564	30,828	58,030	24,182
Total	108,940	77,512	95,180	39,662

REQUIREMENTS: (1942) 1/

	Military		Non-Military		Total	
	All Long Staple	Extra Staple	All Long Staple	Extra Staple	All Long Staple	Extra Staple
Egyptian	68,000	22,180	30,000	15,000	98,000	37,180
All Other	56,000	53,786 2/	6,000	4,212 2/	62,000	58,000 2/
	124,000	75,966	36,000	19,212	160,000	95,180

1/ Estimated by Statistics Section. At date of this abstract, requirements estimates not completed by the Materials Requirements Section.
2/ Actual staple lengths are 1-1/2" and over; these compete with and are equivalent in use to Egyptian cotton of Staples 1-3/8" and over.

USE PATTERN: (For "Extra Staple", based on 1942 estimates)

	Percent		Percent		Percent
Stitching Thread	40.0%	Balloon Cloth	16.8%	Typewriter Ribbon Cloth	5.8%
Airplane Fabrics	21.1	Tracing Cloth	5.8	Other Uses	10.0

SUBSTITUTION: American-Egyptian staple 1/8" longer than the Egyptian staple may be substituted for the latter in manufacturing certain products.

SPECIAL PROBLEMS: Shipping space, rerouted sea lanes, and sinkings constitute the major problems in procuring sufficient Egyptian cotton. Transportation of cotton produced in the southwestern states, formerly shipped via water to the northern mills, is of growing concern, with railway facilities already heavily burdened.

GOVERNMENT CONTROL: Conservation Order M-117 (April 1, 1942) and Amendments applying to top grades of specified varieties of imported Egyptian extra staple; and Order M-197 (July 22, 1942) and amendment applying to American-Egyptian, Sea Island, and Peruvian Pima extra staple, reserve such cotton for certain specified uses. Reserved cotton may be used only for incorporation into articles to be delivered to the Army, Navy, or Maritime Commission, and for the manufacture of stitching thread, the latter use being limited to a specified percentage of the 1941 rate. Such cotton also may be delivered to REW, Commodity Credit Corporation, or any corporation organized under the RFC Act. Cotton imports are controlled under List III of General Imports Order M-63. General Conservation Order M-236, issued September 10, 1942, controls the passage of cotton through customs, thus preventing the global quota of staple lengths 1-1/8 inches through 1-21/32 inches from being consumed in large part of cotton not suitable for military requirements.

SUMMARY:

	1942	
	All Long Staple	Extra Staple
Estimated New Supply	249,559	153,670
Estimated Requirements	160,000	95,180

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

Data as of September 30, 1942
Revised Abstract issued October 9, 1942
Next revision due: October 30, 1942

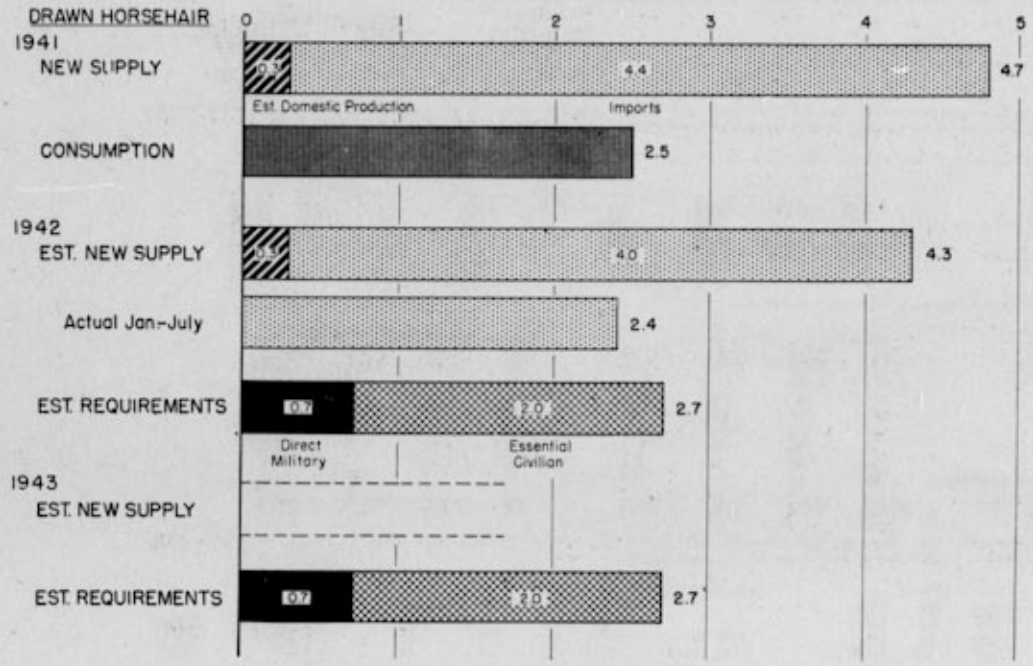
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By RHP, Date

HORSEHAIR

SUPPLY AND DEMAND

MILLIONS OF POUNDS

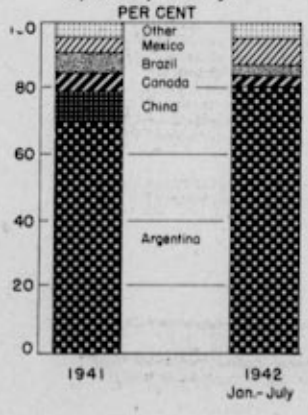


IMPORTS

DRAWN AND RAW

By Country of Origin

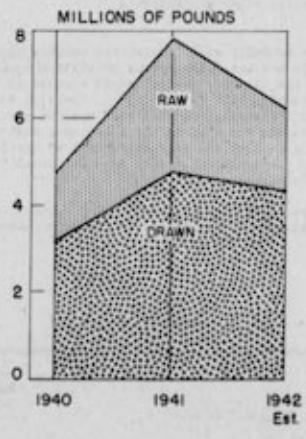
PER CENT



NEW SUPPLY

BY TYPE

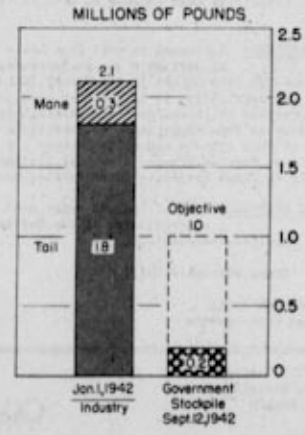
MILLIONS OF POUNDS



STOCKS

DRAWN HORSEHAIR

MILLIONS OF POUNDS



War Production Board
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Data as of Sept 30,1942
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HORSEHAIR
(All figures in thousand pounds)

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BACKGROUND: Horse tail and mane hair is used as a substitute for scarce hog bristles in paint and varnish brushes and for mattresses and upholstery. For the former, it must be "drawn", that is, washed and sorted, a process requiring hand labor which is almost unobtainable in the United States. Most of the supply is imported, Argentina having supplanted China as the chief source. The domestic product is obtained largely from slaughter houses, although hair from live horses is superior. New Army and Navy specifications permit a 45-55% ratio of horse tail to hog bristles in paint and varnish brushes in order to conserve the bristles, and brushes for civilian use now are made principally of mane hair.

STOCKS: Government objective: 1,000 thousand pounds in lengths of 4 inches and up.

	Industry Jan. 1, 1942	Government Stockpile - 1942 Jan. 1	Government Stockpile - 1942 Sept. 12
Tail (drawn)	1,817	-	206
Mane (drawn)	289	-	-
Total	2,106 1/	-	206

1/ Brush manufacturers' stocks were fully covered, but stocks of speculators and importers were not fully covered by this questionnaire; it is thought that total stocks were larger than indicated.

Source: Summary of brush material questionnaire OPM-366, Textile Branch, Office of Research Advisor, WPB.

NEW SUPPLY:

	1940 Raw	1940 Drawn	1940 Total	1941 Raw	1941 Drawn	1941 Total	1942 (Est.) Raw	1942 (Est.) Drawn	1942 (Est.) Total
Domestic Production (Est.)	300	200	500	500	250	750	500	250	750
Imports	1,310	2,854	4,164	2,565	4,434	6,999	1,400	4,000	5,400
Total Supply	1,610	3,054	4,664	3,065	4,684	7,749	1,900	4,250	6,150
Exports 1/			337			524			70

1/ Chiefly raw horsehair, exported for dressing.

IMPORTS:

	1941 Raw	1941 Drawn	1941 Total	1941 Percent	1942 Actual, Jan.-July Raw	1942 Actual, Jan.-July Drawn	1942 Actual, Jan.-July Total	1942 Actual, Jan.-July Percent
Argentina	1,906	2,989	4,895	70.0	458	2,144	2,602	80.6
China	81	595	676	9.7	0	2	2	0.1
Canada	123	285	409	5.8	92	21	113	3.5
Brazil	173	264	437	6.2	37	74	111	3.4
Mexico	186	111	297	4.3	204	71	275	8.5
Australia	3	93	96	1.3	0	0	0	0.0
Uruguay	55	43	98	1.4	27	50	77	2.4
Other Latin American	49	49	72	1.0	27	17	44	1.4
All Other	4	4	19	0.3	4	0	4	0.1
Total	2,565	4,434	6,999	100.0	849	2,379	3,228	100.0

Monthly imports in 1942: January, 301; February, 711; March 597; April, 185; May, 403; June, 570; July, 461; Total 3,228 thousand pounds. Total exports Jan.-June, 30 thousand pounds.

CONSUMPTION:

	1941 Drawn	1941 Raw	1941 Total
Tail	2,000	N.A.	N.A.
Mane	450	N.A.	N.A.
Total	2,450	2,550	5,000

Source: Summary of Brush Material Questionnaires OPM-366; Raw estimated by Textile Branch, WPB.

REQUIREMENTS: (Drawn Horsehair)

	Direct Military Army	Direct Military Navy	Direct Military Maritime	Direct Military Total	Essential Civilian	Total
1942 (Est.)	279	405	10	694	2,000	2,694
1943 (Est.)	284	415	17	716	2,000	2,716

Sources: Navy requirements, last 3 quarters 1942 and 1943, report of Requirements Committee, July 3, 1942; Army, Maritime, and civilian requirements estimates by Textile Branch, July 29, 1942.

Note: Consumption of drawn horsehair in 1942 will be increased by the amount required for Army, Navy, and civilian paint brushes heretofore made wholly of bristle, but a compensating decrease is expected in the production of brushes for household and industrial uses because no wire is available for their manufacture.

SPECIAL PROBLEMS: Increased imports from Latin America probably will furnish the amounts required, or the domestic recovery of horsehair can be increased. It is estimated that about 10 million pounds of hair could be collected from the 11 million live horses in the United States, but the raw hair can no longer be sent to Europe or China for dressing. Such skilled dressers as are to be found in this country usually will be employed in dressing the more valuable hog bristles. Drawn horsehair is, therefore, the critical factor in the supply, and the best quality now is being purchased for the government stockpile from Argentina. No substitute is available for certain civilian uses, such as paint and varnish brushes; hence the use of this article cannot be limited too severely. Since the increased price of horsehair and the diminished consumption of paint and varnish brushes caused by limitations on construction already have decreased the civilian demand, it may not be necessary to place horsehair under further conservation order.

GOVERNMENT CONTROL: General Imports Order M-63 provided that, after March 14, 1942, horsehair could be imported only under the authorization of the Defense Supplies Corporation, and all imported material was placed under control of the Defense Supplies Corporation.

SUMMARY: (Drawn Horsehair only)

	1942
Estimated New Supply	4,250
Estimated Requirements	2,694

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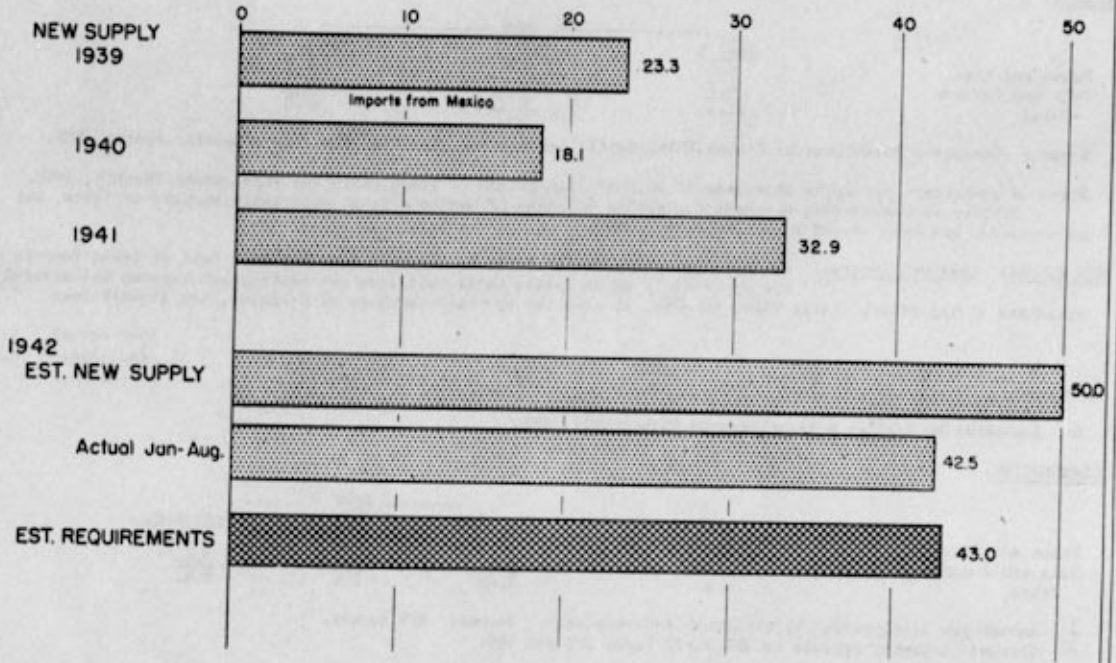
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ISTLE FIBER

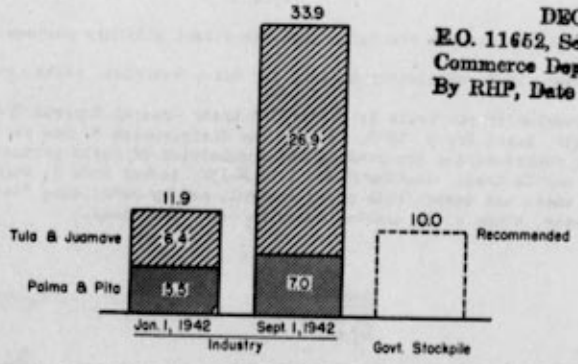
SUPPLY AND DEMAND

MILLIONS OF POUNDS



STOCKS

MILLIONS OF POUNDS



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WAR PRODUCTION BOARD
Statistics Division
Materials Branch

Data as of Oct. 1, 1942
Chart Issued Oct. 9, 1942
Revision Due Oct. 30, 1942

ISTLE FIBER

(All figures in million pounds)

BACKGROUND: Istle, or tampico fiber, is obtained from several varieties of Mexican yucca and agave plants. The Palma and the Pita varieties, i.e., the yucca istles, yield a fine, high-quality fiber that is suitable for spinning and for use with (or in place of) jute, sisal, and henequen in the manufacture of twine and certain kinds of cordage. Comparatively small amounts of Palma and Pita fibers are utilized for brush bristles, the coarser Tula and Juamave fibers, or agave istles, being employed for this purpose, and for upholstery padding. In terms of the quantity consumed, the latter are among the leading vegetable fibers used for household and industrial brushes. In practice, the yucca and agave istles are employed for different purposes, as indicated above, but it is believed that in an emergency they could be prepared in such a manner as to be used interchangeably.

STOCKS:

	1942		
	Jan. 1	July 1	Sept. 1
Palma and Pita	5.5	5.9	7.0
Tula and Juamave	6.4	N.A.	26.9
Total	11.9	N.A.	33.9

Source: Cordage & Miscellaneous Fibers Unit, Statistics Section, Textile, Clothing & Leather Branch, WPB.

Note: A government stockpile objective of 10.0 million pounds of istle fiber was recommended March 5, 1942. Further recommendation was made for public purchase of Mexico's total exportable surplus of istle, but no contracts had been issued by September 26, 1942.

NEW SUPPLY: (General Imports) As indicated above, istle fiber is imported from Mexico. Data on istle imports are reported in an inclusive total that does not distinguish between the several varieties of the fiber. Istle fiber imports, as reported by the Department of Commerce, are shown below:

	1939	1940	1941	1942 (Est.) 1/	1942 Actual Jan.-Aug.
Imports	23.3	18.1	32.9	50.0	42.5

1/ Estimated by Cordage & Miscellaneous Fibers Unit, WPB.

CONSUMPTION:

	1941	1942 2/		
		Jan.-July	Aug.	Jan.-Aug.
Palma and Pita	N.A.	7.3	.5	7.8
Tula and Juamave	7.0 1/	N.A.	.9	N.A.
Total	N.A.	N.A.	1.4	N.A.

1/ Amount put into process by the brush industry only. Source: WPB survey.
2/ Source: Industry reports to WPB on PD Forms 128 and 469.

REQUIREMENTS: At the date of this abstract, requirements estimates had not been completed by the Materials Requirements Section, WPB. Istle requirements for 1942, as estimated by the Cordage and Miscellaneous Fibers Unit, are as follows:

	1942 (Est.)
Direct Military	1/
Export	None
Other Military and Non-Military	43.0 2/
Total Requirements	43.0

1/ Data are not available, but the amounts now being used for direct military purposes are believed to be negligible.
2/ Breakdown: wrapping twine - 13.8, upholstery padding for motor vehicles, tanks, etc. - 9.0, brushes - 20.2.

GOVERNMENT CONTROL: The importation of raw istle is controlled under General Imports Order M-63. Conservation Order M-138, dated May 9, 1942, directs the distribution of raw istle imported in accordance with the M-63 imports order, restricts the importation and acquisition of istle products, and specifies the purpose for which raw istle may be used. Amendment No. 1 to M-138, issued June 8, tightens the restrictions on istle, by bringing istle waste and waste istle under control, and by redefining "istle product" to include any product made from raw istle, alone or in combination with other materials.

SUMMARY:

	1942
Estimated New Supply	50.0
Estimated Requirements	43.0

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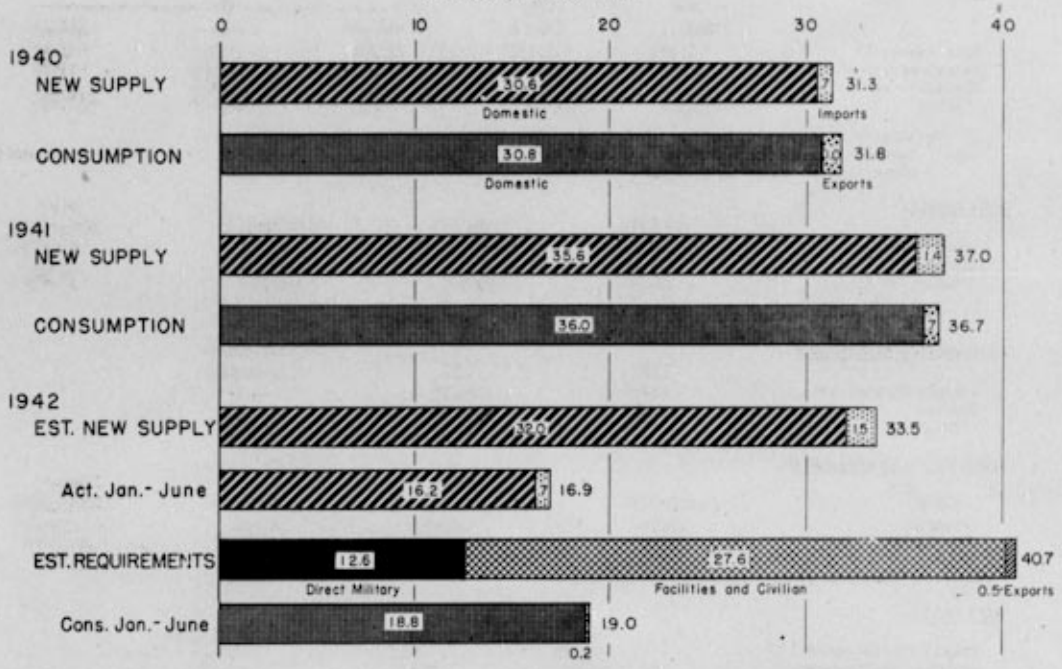
WAR PRODUCTION BOARD
Statistics Division
Materials Branch

Data as of October 1, 1942
Revised abstract issued October 9, 1942
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LUMBER - I. ALL SPECIES

SUPPLY AND DEMAND

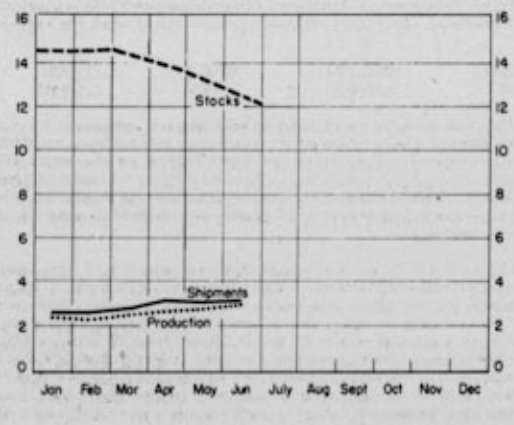
BILLIONS OF BOARD FEET



PRODUCTION, SHIPMENTS AND STOCKS

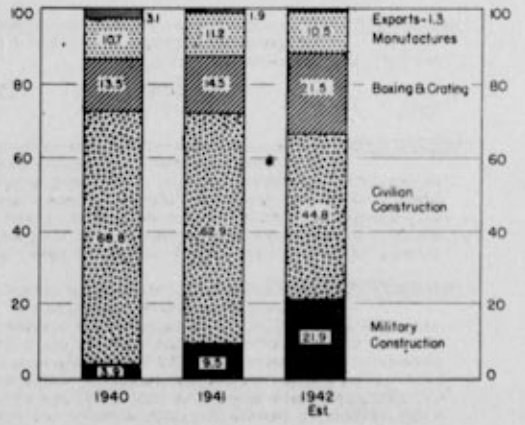
1942 – BY MONTHS

Billions of Board Feet



USE PATTERN

PER CENT



War Production Board
Statistics Division
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Commerce Dept. Letter, 11-15-72
By RHP, Date

LUMBER - 1. ALL SPECIES
(All figures in million board feet)

BACKGROUND: Of all lumber produced in the United States, more than 80 percent is sawed from softwoods, principally Southern pines, Douglas fir, and Ponderosa pine. Oak, maple, red gum, and yellow poplar are the leading hardwoods, in terms of quantity produced. Birch, walnut, and a number of lesser species, such as dogwood and persimmon, are strategic because of specialized uses. Similarly, Sitka spruce, Port Orford cedar, and cypress are vital to the war effort, although comprising only a small percentage of total lumber. Oregon and Washington account for approximately one-third of all lumber produced in this country. California, Alabama, Georgia, Mississippi, Arkansas, North Carolina, Texas, Louisiana, and Virginia also produce more than 1,000 million board feet annually.

STOCKS:

	1940	1941	1942		
	Jan. 1	Jan. 1	Jan. 1	Apr. 1	July 1
Mill stocks 1/	7,633	6,753	6,348	5,595	4,843
Retail stocks 1/	5,807	6,095	6,615	6,905	5,742
Wholesale stocks 2/	1,619	1,555	1,562	1,678	1,511
Total	15,059	14,403	14,525	14,178	12,096

1/ National Lumber Manufacturers Association. 2/ Estimated by Department of Commerce.
Note: Inventories of manufacturing plants are estimated to have increased 100 million board feet in 1940, and 200 million board feet in 1941. There is no government stockpile of lumber.

NEW SUPPLY:

	1940	1941	1942 (Est.)	1942 Jan.-June
Production	30,540	35,650	32,000	16,170 1/
Imports	740	1,361	1,500	764
Total New Supply	31,280	37,011	33,500	16,934

1/ Trade association data adjusted to include unreported production.

CONSUMPTION AND EXPORTS:

	1940	1941	1942 Actual Jan.-June
Domestic Consumption	30,860	36,020	18,848
Exports	975	696	190
Total	31,835	36,716	19,038

PRODUCTION AND SHIPMENTS:

1942	Jan.-Mar.	Change from 1941	Apr.-June	Change from 1941
Production	6,966	- 7.4 %	8,186	- 3.0 %
Shipments	7,737	+ 0.1 %	9,095	+ 7.6 %

Source: National Lumber Manufacturers Association.

USE PATTERN:

	1940	1941	1942 (Est.)
Military Construction 1/	3.9%	9.5%	21.9%
Civilian Construction 2/	68.8	62.9	44.8
Boxing and Crating	13.5	14.5	21.5
Manufactures	10.7	11.2	10.5
Exports	3.1	1.9	1.3
Total	100.0%	100.0%	100.0%

1/ Includes lumber used in construction of ships. 2/ Includes lumber for maintenance and repair.
Source: Forest Service, Department of Agriculture, and Construction Research Unit, WPB.

REQUIREMENTS: Requirements for all lumber are a composite of requirements estimates of the Construction Research Unit and the Containers Branch, WPB, and the Forest Service, Department of Agriculture. They have been approved by the Materials Requirements Section, WPB.

	Direct Military	Facilities	Civilian	Exports	Total
1942	12,585	7,002	20,655	485	40,727

SPECIAL PROBLEMS: The present machine capacity is adequate, but must be maintained by repairs and replacements, and kept in full operation by a sufficient labor supply. Loss of labor to other war activities, and difficulties in obtaining operating supplies, replacement parts, and new trucks and tractors are contributing to the acute shortage of lumber. New tires are needed badly for trucks now engaged in logging operations. Early in 1942, it was difficult for mill operators to anticipate the demand for various grades of lumber because of the restrictions on construction. Some of the most strategic problems center around the production of specialized grades of lumber for essential uses of the armed forces. Efficient procurement and use of lumber also are essential.

GOVERNMENT CONTROL: Order L-121, originally issued May 13, 1942 for 60 days and extended until August 27, restricted sales and deliveries by producers of softwood construction lumber. This Order was replaced by Order M-208, effective August 27, 1942. The new order divides purchasers of all types and grades of softwood lumber into four classes, based on their relative importance to the war and civilian economics. Order M-186, effective July 20, 1942, prohibits the processing of aircraft grades of Sitka spruce logs except upon authorization of the Director General for Operations. Hardwood lumber and softwood box and factory lumber are not at present under government control. Order M-209, effective August 24, 1942, prohibits the use of white oak logs for the manufacture of veneer except for implements of war. Orders M-228 and M-229, effective September 1, 1942, direct the allocation of Noble fir and western hemlock aircraft logs for essential uses by the Director General of Operations. Order M-234, effective September 8, 1942, prohibits the use of Douglas fir logs for non-essential purposes.

SUMMARY:

	1942		1942 Actual Jan.-June
Estimated New Supply	33,500	New Supply	16,934
Estimated Requirements	40,727	Consumption and Exports	19,038

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

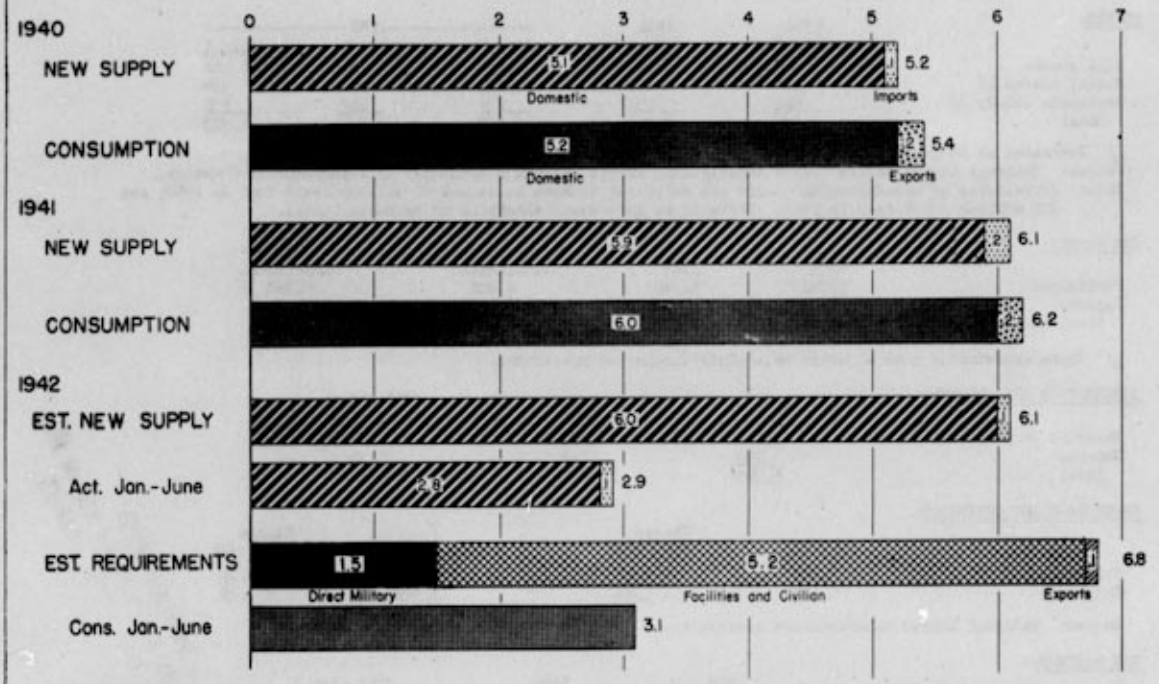
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LUMBER-2. HARDWOOD

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Commerce Dept. Letter, 11-15-72
By RHP, Date

SUPPLY AND DEMAND

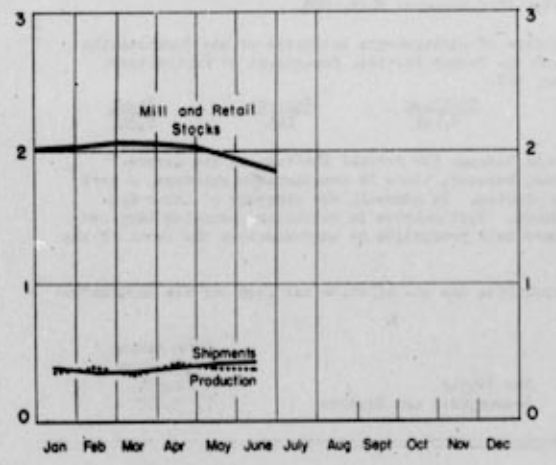
BILLIONS OF BOARD FEET



PRODUCTION, SHIPMENTS AND STOCKS

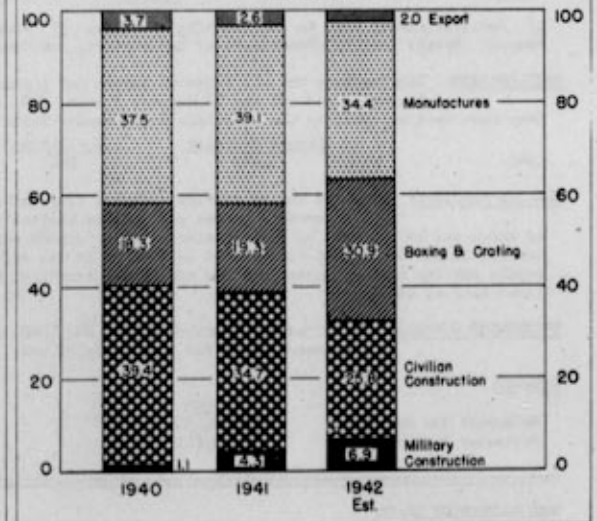
1942 – BY MONTHS

Billions of Board Feet



USE PATTERN

PER CENT



War Production Board
Statistics Division
Materials Branch

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Data as of Sept. 30, 1942
Chart Issued Oct. 9, 1942
Revision Due: Oct. 30, 1942

LUMBER - 2. HARDWOOD
(All figures in million board feet)

BACKGROUND: Hardwood lumber comprises all lumber sawed from trees with broad leaves, as contrasted with softwoods which include all trees with needle or scale-like leaves. Oak is the most important single species, contributing approximately 40 percent of all hardwood lumber. Maple, red gum, and yellow poplar combined comprise an additional 30 percent of the total. Other important species in order of quantity of lumber produced are: birch, tupelo, cottonwood, and beech. Production of hardwood lumber is widely scattered; the largest producing areas, however, are along the Mississippi River, in the Appalachian Mountains, and in the Lake States.

Approximately 40 percent of all hardwood lumber is consumed in manufacturing plants. The furniture industry accounts for about half of the hardwoods used in manufacture, or 20 percent of all hardwood lumber. Construction flooring and other mill work take an additional 40 percent. The remainder is used in boxes and crating. In addition, large quantities of hardwood are required for non-lumber products - cooperage, veneer and plywood, hewn railroad ties, various round timbers, and fuel wood.

STOCKS:

	1940	1941	1942		
	Jan. 1	Jan. 1	Jan. 1	Apr. 1	July 1
Mill stocks	1,807	1,630	1,355	1,346	1,268
Retail stocks 1/	581	610	661	690	574
Wholesale stocks 1/	162	155	156	168	151
Total	2,550	2,395	2,172	2,204	1,993

1/ Estimated at 10 percent of the total reported for all lumber, including softwood.
Source: National Lumber Manufacturers Association, except wholesale estimated by Department of Commerce.
Note: Inventories of manufacturing plants are estimated to have increased 60 million board feet in 1940, and 120 million board feet in 1941. There is no government stockpile of hardwood lumber.

NEW SUPPLY:

	1940	1941	1942 (Est.)	1942 Actual Jan.-June
Production	5,040	5,940	6,000	2,880 1/
Imports	133	178	100	41
Total New Supply	5,173	6,118	6,100	2,921

1/ Trade association data adjusted to include unreported production.

CONSUMPTION AND EXPORTS:

	1940	1941	1942 Actual Jan.-June
Domestic Consumption	5,160	6,070	3,061
Exports	200	164	39
Total	5,360	6,234	3,100

PRODUCTION AND SHIPMENTS:

1942	Jan.-Mar.	Change from 1941	Apr.-June	Change from 1941
Production	1,109	+ 6.5%	1,140	- 2.2%
Shipments	1,117	- 1.0%	1,228	+ 0.4%

Source: National Lumber Manufacturers Association.

USE PATTERN:

	1940	1941	1942 (Est.)
Military Construction 1/	1.1%	4.3%	6.9%
Civilian Construction 2/	39.4	34.7	25.8
Boxing and Crating	18.3	19.3	30.9
Manufactures	37.5	39.1	34.4
Exports	3.7	2.6	2.0
Total	100.0%	100.0%	100.0%

1/ Includes lumber used in construction of ships. 2/ Includes lumber for maintenance and repair.
Source: Forest Service, Department of Agriculture, and Construction Research Unit, WPB.

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REQUIREMENTS: Requirements for all hardwood lumber are a composite of requirements estimates of the Construction Research Unit and the Containers Branch, WPB, and the Forest Service, Department of Agriculture. They have been approved by the Materials Requirements Section, WPB.

	Direct Military	Facilities	Civilian	Exports	Total
1942	1,447	618	4,621	125	6,811

SPECIAL PROBLEMS: Hardwood lumber differs somewhat from softwood because the overall shortage is not severe. Within certain grades and species limitations, however, there is considerable shortage, a part of which can be relieved by substitution of other grades and species. In general, the shortage of labor has not restricted the output of hardwood as much as it has softwood. Difficulties in obtaining operating supplies, repair and replacement parts, and new trucks and tractors, have held production at approximately the level of the first half of 1941.

GOVERNMENT CONTROL: Order M-209, effective August 24, 1942, prohibits the use of white oak logs for the manufacture of veneer except for implements of war.

SUMMARY:

	1942		1942 Actual Jan.-June
Estimated New Supply	6,100	New Supply	2,921
Estimated Requirements	6,811	Consumption and Exports	3,100

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Commerce Dept. Letter, 11-15-72
By RHP, Date

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LUMBER - 1. SOFTWOOD
(All figures in million board feet)

BACKGROUND: Softwood lumber comprises all lumber sawed from trees with needle or scale-like leaves, as contrasted with trees having broad leaves. Approximately two-thirds of all softwood lumber is cut from Southern pines and Douglas fir. Ponderosa pine contributes an additional 14 percent. Spruce, cypress, and cedar do not bulk large in terms of quantity, but are of strategic importance for specialized uses. In 1941, nearly 80 percent of all softwood lumber was used in construction. The proportion probably will be lower in 1942. Boxing and crating comprise the next largest demand, but select grades of softwoods, particularly Douglas fir and spruce, are vital in the manufacture of airplanes and other military equipment. Large amounts of softwoods also are consumed as pulpwood, cooperage, veneer and plywood, poles and piling, and fuel wood.

STOCKS:

	1940	1941	1942		
	Jan. 1	Jan. 1	Jan. 1	Apr. 1	July 1
Mill stocks	5,826	5,123	4,993	4,249	3,575
Retail stocks 1/	5,226	5,485	5,954	6,215	5,168
Wholesale stocks 1/	1,457	1,400	1,406	1,510	1,360
Total	12,509	12,008	12,353	11,974	10,103

1/ Estimated at 90 percent of the total reported for all lumber, including hardwoods.
Source: National Lumber Manufacturers Association, except wholesale estimated by Department of Commerce.
Note: Inventories of manufacturing plants are estimated to have increased 40 million board feet in 1940, and 80 million in 1941. There is no government stockpile of lumber.

NEW SUPPLY:

	1940	1941	1942 (Est.)	1942 Jan.-June
Production	25,500	29,710	26,000	13,290 1/
Imports	607	1,183	1,400	724
Total New Supply	26,107	30,893	27,400	14,014

1/ Trade association data adjusted to include unreported production.

CONSUMPTION AND EXPORTS:

	1940	1941	1942 Actual Jan.-June
Domestic Consumption	25,700	29,950	16,113
Exports	775	532	151
Total	26,475	30,482	16,264

PRODUCTION AND SHIPMENTS:

1942	Jan.-Mar.	Change from 1941	Apr.-June	Change from 1941
Production	5,857	- 9.6%	7,046	- 3.1%
Shipments	6,620	+ 0.3%	7,867	+ 8.8%

Source: National Lumber Manufacturers Association.

USE PATTERN:

	1940	1941	1942 (Est.)
Military Construction	4.5%	10.6%	24.9%
Civilian Construction	74.8	68.7	48.6
Boxing and Crating	12.5	13.5	19.6
Manufactures	5.3	5.5	5.7
Exports	2.9	1.7	1.2
Total	100.0%	100.0%	100.0%

1/ Includes lumber used in construction of ships. 2/ Includes lumber for maintenance and repair.
Source: Forest Service, Department of Agriculture, and Construction Research Unit, WPB.

REQUIREMENTS: Requirements for all softwood lumber are a composite of requirements estimates of the Construction Research Unit and the Containers Branch, WPB, and the Forest Service, Department of Agriculture. They have been approved by the Materials Requirements Section, WPB.

	Direct Military	Facilities	Civilian	Exports	Total
1942	11,138	6,384	16,034	360	33,916

SPECIAL PROBLEMS: Loss of labor to other war activities probably has been the chief restrictive factor in the production of softwood lumber, although there have been serious delays in obtaining replacement parts and supplies for both woods and mill operations. Adverse weather conditions in many sections have retarded output. Machine capacity appears to be adequate, but new trucks and tractors are needed in logging operations. New tires are needed badly for trucks now in operation.

GOVERNMENT CONTROL: Order L-121, originally issued May 13, 1942, for 60 days and extended until August 27, restricted sales and deliveries by producers of softwood construction lumber. This Order was replaced by Order M-208, effective August 27, 1942. The new order divides purchasers of all types and grades of softwood lumber into four classes, based on their relative importance to the war and civilian economies. Conservation Order M-186, effective July 20, 1942, prohibits the processing of aircraft grades of Sitka spruce logs except upon authorization of the Director General for Operations. Orders M-228 and M-229, effective September 1, 1942, direct the allocation of Noble fir and western hemlock aircraft logs, respectively, by the Director General for Operations. Order M-234, effective September 8, 1942, restricts the use of Douglas fir logs to essential purposes.

SUMMARY:

	1942		1942 Actual Jan.-June
Estimated New Supply	27,400	New Supply	14,014
Estimated Requirements	33,916	Consumption and Exports	16,264

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Statistics Division
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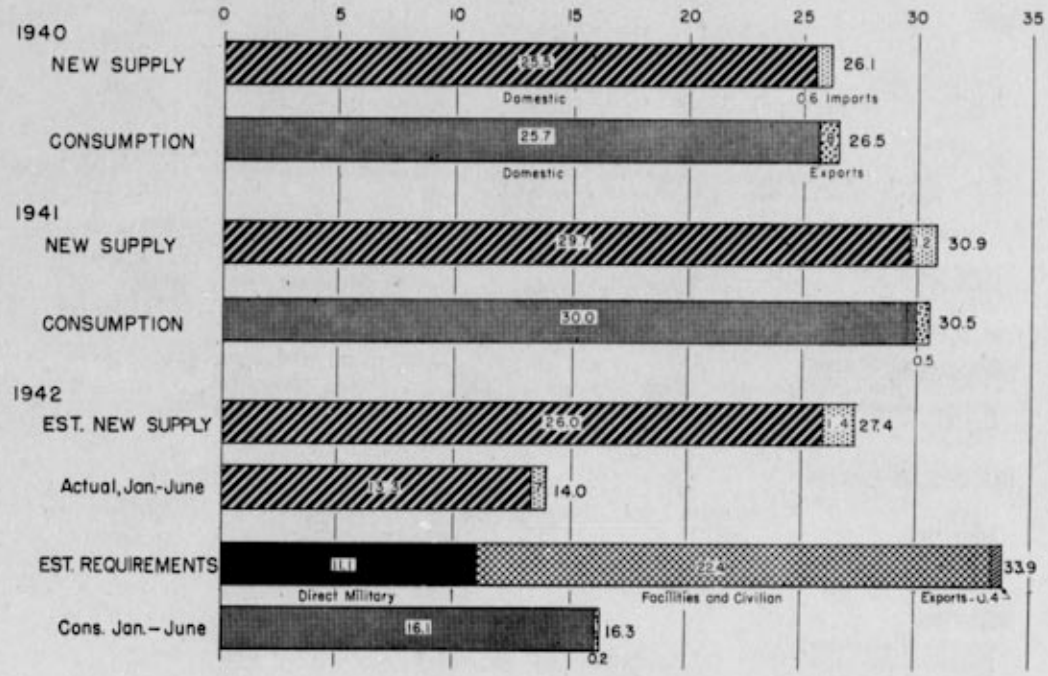
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LUMBER – 3. SOFTWOOD

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SUPPLY AND DEMAND

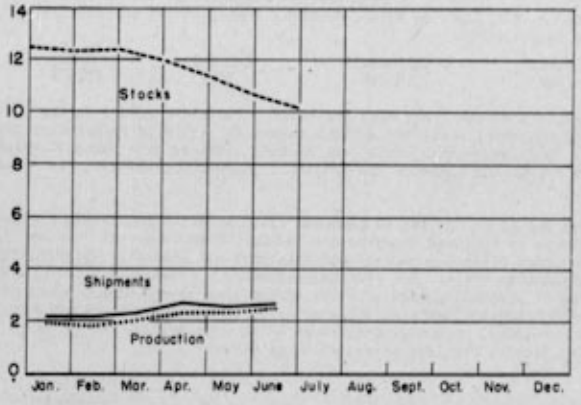
BILLIONS OF BOARD FEET



PRODUCTION, SHIPMENTS AND STOCKS

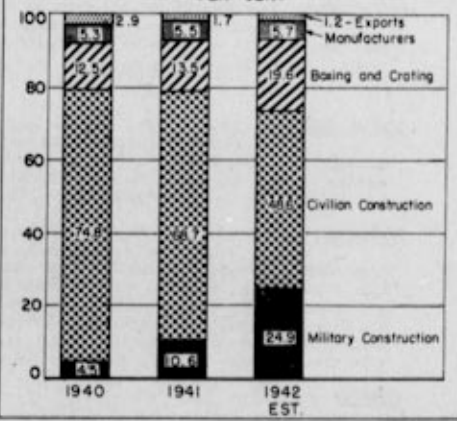
1942 - BY MONTHS

BILLIONS OF BOARD FEET



USE PATTERN

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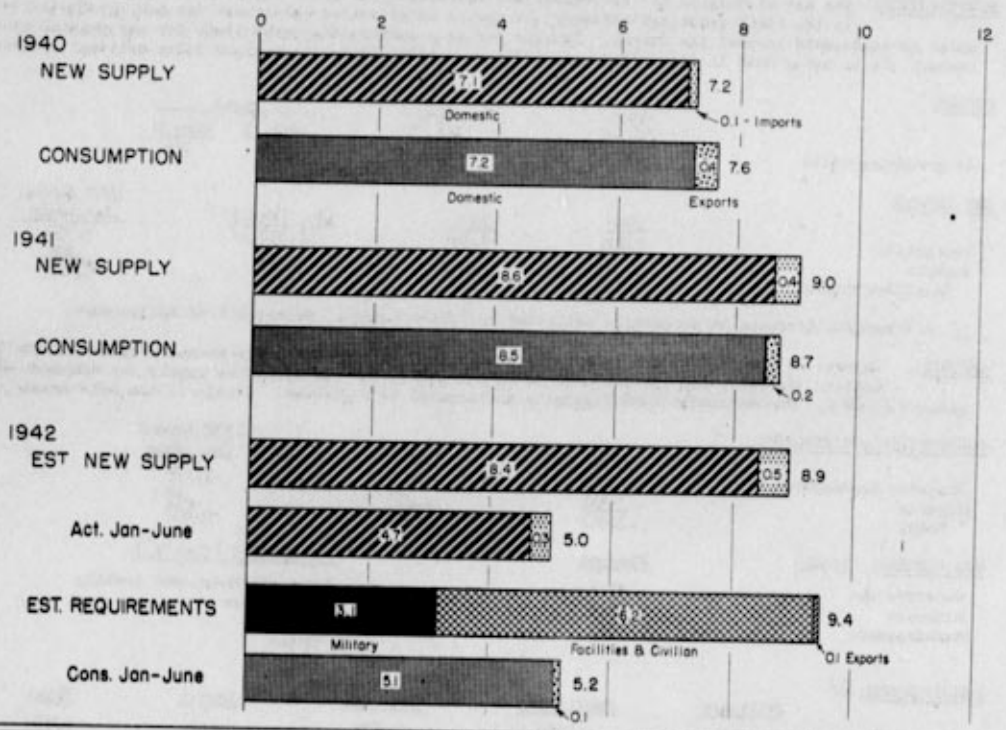
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LUMBER—3a. DOUGLAS FIR

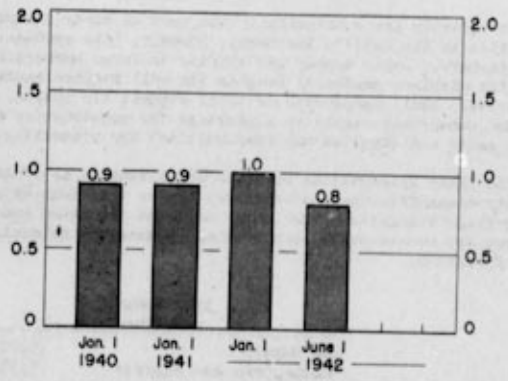
SUPPLY AND DEMAND

BILLIONS OF BOARD FEET



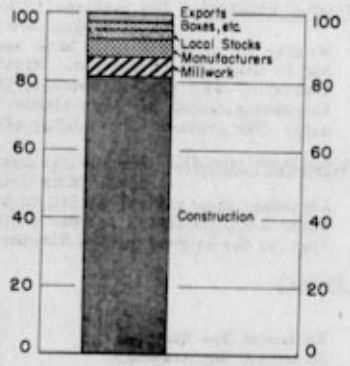
PRODUCERS STOCKS

BILLIONS OF BOARD FEET



USE PATTERN 1941

PER CENT



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LUMBER - 3a. DOUGLAS FIR

(All figures in million board feet)

BACKGROUND: The suitability of Douglas fir for a wide range of building and general construction purposes makes it one of the most important woods of the United States. Special grades are of strategic importance for aircraft construction. A large proportion of the total lumber cut is used as it comes from the sawmill. The remainder (about one-third) is further processed before use. The total stand of Douglas fir at present is greater than that of any other species. Washington and Oregon account for approximately 95 percent of the total production. Data summarized below cover lumber which constituted 90 percent of all Douglas fir timber cut in 1940. Other major uses were: veneer and plywood, 7.6 percent; railroad ties, 1.4 percent; and cooperage, 1 percent.

SUBSTITUTION: The use of Douglas fir for veneer has increased greatly in recent years, replacing other woods. In the tight cooperage industry, it now is an effective substitute for oak, production of which is inadequate to meet the demand. Douglas fir is a satisfactory substitute for any general construction lumber. It is being used in increasing quantities as a naval lumber to replace other critical species and grades.

STOCKS:

	1940	1941	1942	
	Jan. 1	Jan. 1	Jan. 1	June 1
At producing mills	930	851	971	756

NEW SUPPLY:

	1940	1941	1942 (Est.)	1942 Actual Jan.-June
Production	7,121	8,541	8,370 1/	4,730
Imports	97	434	551	292
Total New Supply	7,218	8,975	8,921	5,022

1/ A 2 percent decrease in production estimated by Forest Service, Department of Agriculture.

IMPORTS: Imports of Douglas fir are relatively small, in comparison with the amount produced in the United States. In 1940, imports amounted to only 1 percent of the total new supply, as compared with 4.7 percent in 1941. The estimated 1942 figure is an increase to 6 percent. Canada is the sole source of imports.

CONSUMPTION AND EXPORTS:

	1940	1941	1942 Actual Jan.-June
Domestic Consumption	7,200	8,500	5,173
Exports	411	237	64
Total	7,611	8,737	5,237

USE PATTERN: (1941)

	Percent
Construction	81.6
Millwork	5.9
Manufactures	5.2
Boxes, baskets, and crating	1.7
Local stocks	2.9
Exports	2.7
Total	100.0

REQUIREMENTS: 1/

	Military	Facilities	Civilian	Export	Total
1942	3,074	1,762	4,425	128	9,389

1/ Estimates are a composite of those of the Construction Research Unit and the Containers Branch, WPB, and the Forest Service, Department of Agriculture. They have been approved by the Materials Requirements Section.

SPECIAL PROBLEMS: The problems in the Douglas fir industry are substantially the same as those for producers of other woods. The lumber situation in the Pacific Northwest, however, (the section of greatest Douglas fir production) is more serious than elsewhere. Labor supply has shifted in large numbers from lumbering to other war production. Military demands for airplane grades of Douglas fir will require maximum production of such grades; however, this is a relatively small proportion of total Douglas fir output. The increasing demand for this timber for plywood and veneer may result in a shortage for construction and factory uses. The problem of obtaining adequate repair parts and supplies has been critical for processing mills.

GOVERNMENT CONTROL: Douglas fir lumber is included under Conservation Order M-208, effective as of August 27, 1942. This Order specifically classifies users of softwood lumber into four major groups depending upon their position in the war and civilian economies. The lumber is to be allocated upon this basis. Order M-234 prohibits the use of Douglas fir logs for non-essential purposes and places the allocation of such logs in the control of the Director General of Operations.

SUMMARY:

	1942
Estimated New Supply	8,921
Estimated Requirements	9,389

	1942 Actual Jan.-June
New Supply	5,022
Consumption and Exports	5,237

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

CONFIDENTIAL

Data as of September 30, 1942
Revised abstract issued October 9, 1942
Next revision due: October 30, 1942

LUMBER - 4. CONSTRUCTION

(All figures in million board feet)

BACKGROUND: The greatest single use of all lumber in the United States is for building construction. This is far more evident in the case of softwoods than hardwoods. In 1941, softwoods made up 84 percent of the total lumber produced, and 91 percent of all lumber entering the construction field. This latter figure may increase in 1942. Southern yellow pine was the principal softwood used in 1941, accounting for 34 percent of total lumber used in construction. Douglas fir and Ponderosa pine followed in that order.

Increased military construction has been an important factor in the consumption of lumber. Military construction accounted for 13 percent of lumber used in 1941, while estimates for 1942 indicate a consumption of approximately 33 percent. There is an indicated increase in the use of lumber for government-financed plant expansion from 3.7 percent to 6.3 percent. Government restrictions have limited the amount of lumber used in non-essential civilian construction.

STOCKS: No reports or estimates of stocks of construction lumber at producing mills are available. Such stocks are privately held, and are understood to have been reduced steadily since January, 1938. The decline in softwood lumber stocks was rapid during the first half of 1942.

NEW SUPPLY:

	1940	1941	1942 (Est.)
Production	22,840	26,230	23,810
Imports	466	903	1,025
New supply	23,306	27,133	24,835

IMPORTS: Imports of construction lumber vary greatly from year to year. The total imported in 1940 amounted to 2 percent of new supply, as compared with 3.3 percent in 1941. A continued increase in imports in 1942 is indicated by the importation of approximately 579 million board feet from January through July. Canada is the principal source of imports.

CONSUMPTION AND EXPORTS:

	1940	1941
Civilian	21,910	23,100
Military	1,250	3,500
Total domestic consumption	23,160	26,600
Exports	600	405
Total	23,760	27,005

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By RHP, Date

USE PATTERN:

	Percent 1941	Percent 1942
Military construction	13.0	32.1
Facilities	4.5	25.6
Essential civilian	81.0	40.9
Exports	1.5	1.2
Total	100.0	100.0

REQUIREMENTS: At the date of this abstract, requirements estimates had not been prepared by the Materials Requirements Section. Requirements estimates for 1942, prepared by the Construction Research Unit, WPB, as of July 15, 1942, include off-shore military construction. Maintenance and repair figures were estimated by Forest Service, Department of Agriculture.

	Military Construction	Facilities	Essential Civilian	Exports	Total
Quantity	6,912	7,002	11,269	227	27,410

SPECIAL PROBLEMS: The most important problem in the construction lumber field is the possibility of a general shortage. This indicated shortage will not be caused by lack of timber or mill equipment, but by lack of repair parts and supplies, and depleted labor supply. Skilled lumber workers have been drawn from the lumber industry into other skilled war occupations and into military service. Labor for lumbering operations cannot be recruited readily from other sources.

GOVERNMENT CONTROL: There is no government control of hardwood construction lumber. For softwood lumber, however, L Order 121, issued May 13, 1942, and originally effective for 60 days, was extended until August 27. The order "froze" sales and deliveries by large producers of softwood construction lumber. Conservation order M-208, effective August 27, 1942, divides users of all types and grades of softwood lumber into four major classes, based upon the importance of their demand in the war and civilian economics.

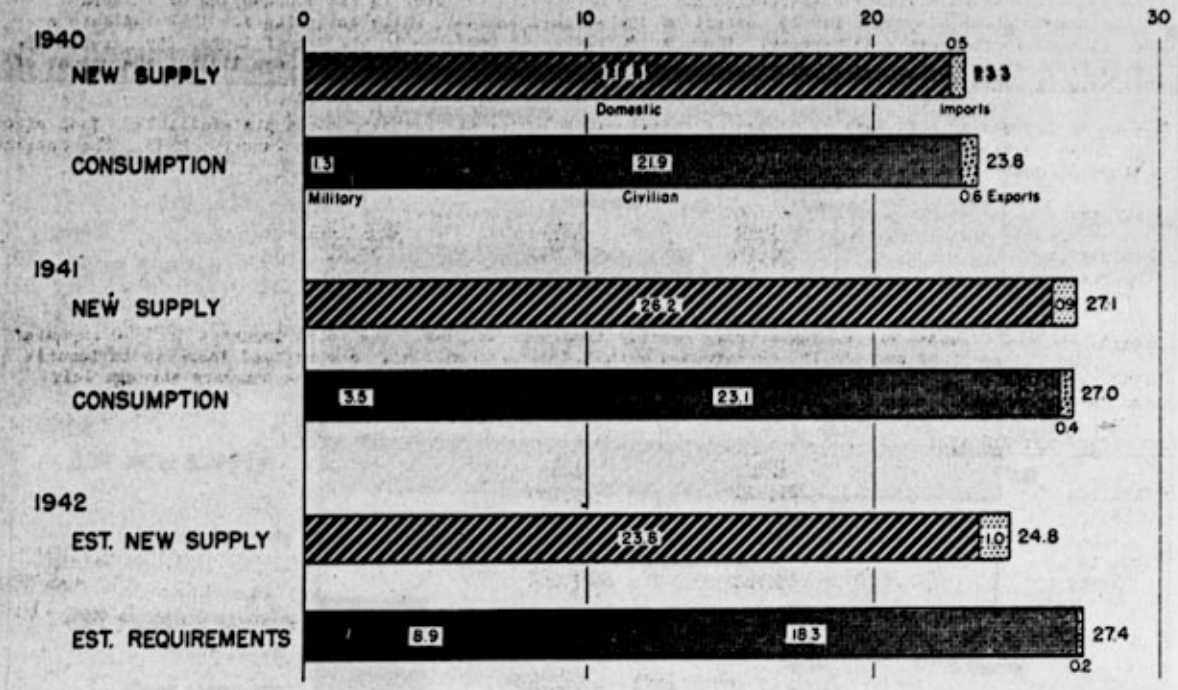
SUMMARY:

	1942
Estimated New Supply	24,835
Estimated Requirements	27,410

LUMBER - 4. CONSTRUCTION

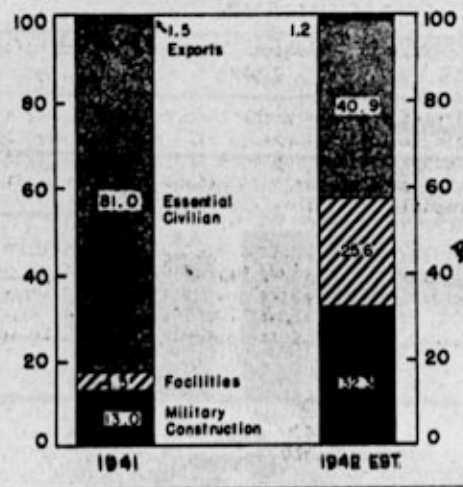
SUPPLY AND DEMAND

BILLIONS OF BOARD FEET



USE PATTERN

PER CENT



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WAR PRODUCTION BOARD,
Statistics Division
Materials Branch

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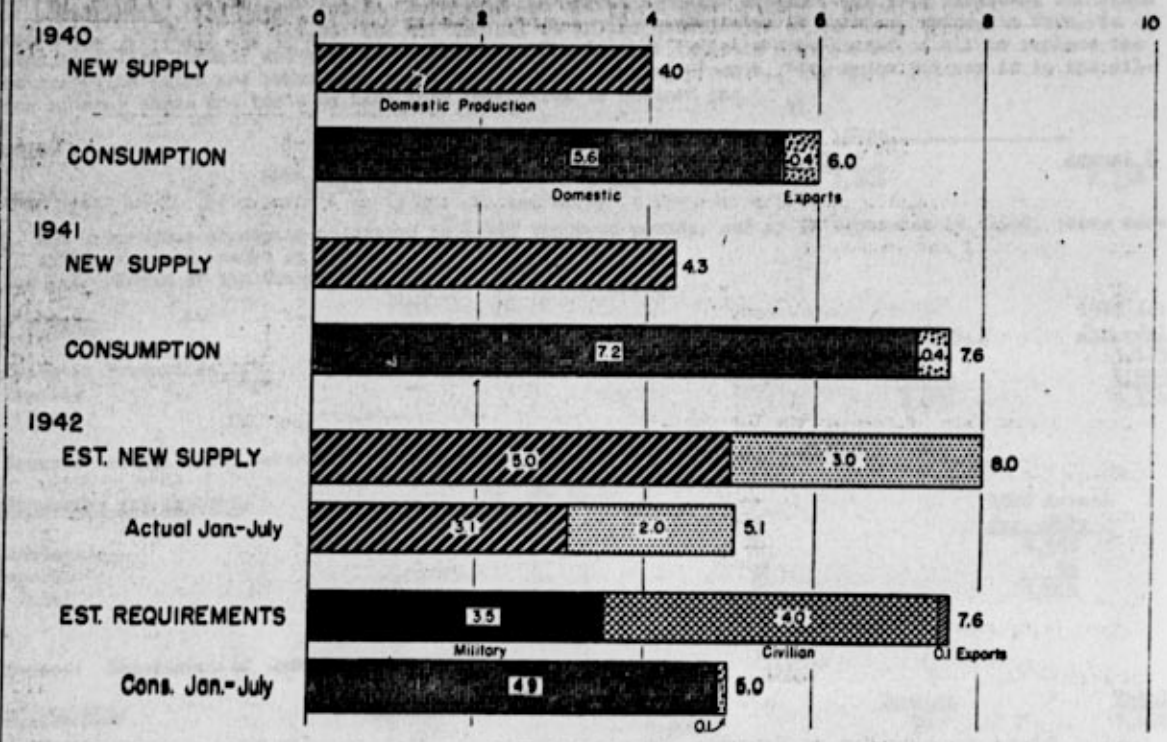
Data as of Sept. 29, 1942
Chart Issued Oct. 9, 1942
Revision Due. Oct 30, 1942

NEATSFOOT OIL

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Commerce Dept. Letter, 11-15-72
By RHP, Date

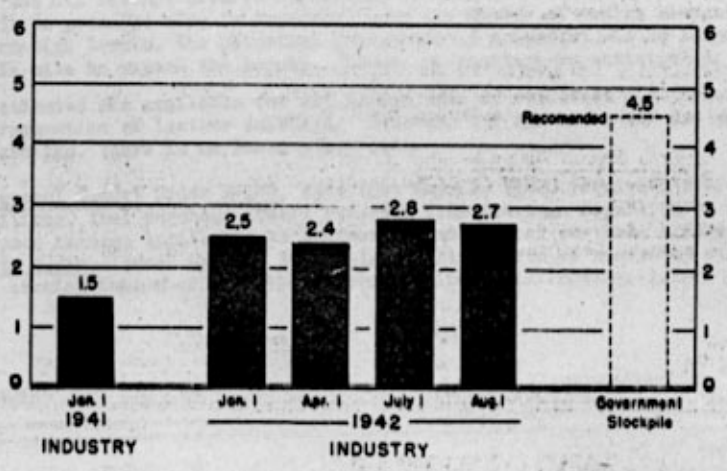
SUPPLY AND DEMAND

MILLIONS OF POUNDS



STOCKS

MILLIONS OF POUNDS



War Production Board
Statistics Division
Materials Branch

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Data as of Sept. 30, 1942
Chart issued Oct. 9, 1942
Revision Due: Oct. 30, 1942

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By RHP, Date

NEATSFOOT OIL

CONFIDENTIAL

(All figures in thousand pounds)

BACKGROUND: Neatsfoot oil is produced from the skin, bones, and feet of cattle. These parts are boiled, and the stock so obtained then is pressed. The United States has been an important exporter of neatsfoot oil; other exporting countries are Argentina, Brazil, Uruguay, Australia, and New Zealand.

USES: The highest grade of neatsfoot oil is used for oiling fine finished leathers, watches, and fine machinery. The second grade oil is used for softening heavy leather, and as a lubricant for linen spindles. Probably the largest use for the oil is in the manufacture of dubbing, which, in turn, is used to soften leather and make it waterproof. The leather industry uses neatsfoot oil to replace the natural oils which are taken from the leather in the tanning process. Its major war use is in the oiling of army shoes and boots to make them impervious to mustard gas.

STOCKS: 1/

		1942		
Industry	Jan. 1, 1941	Jan. 1	July 1	August 1
	1,518	2,494	2,806	2,738

1 The government stockpile objective is 4,480 thousand pounds, and as of September 19, 1942, there were 1,052 thousand pounds on order.
Source: Bureau of the Census.

NEW SUPPLY:

	1940	1941	1942 (Est.)	1942 Actual Jan.-July
Domestic Production	3,975	4,336	5,000	3,125
Imports	-	-	3,000	1,989
Total	3,975	4,336	8,000	5,114

Source: Actual data, Bureau of the Census; 1942 estimates, Statistics Division, WPB.

CONSUMPTION AND EXPORTS:

	1940	1941	1942 Actual Jan.-July
Consumption	5,550	7,224	4,958
Exports	438	396	56
Total	5,988	7,620	5,014

Source: Department of Commerce.

REQUIREMENTS:

1942	Military	Civilian	Foreign	Total
	3,530	4,000	98	7,628

Source: Military and foreign requirements, Material Requirements Section, WPB; civilian requirements, Chemicals Branch, WPB.

SPECIAL PROBLEMS: United States production of neatsfoot oil can be expanded to meet any probable requirements, by larger recovery per animal. There has been no effort in this direction to date because the price of the oil has not offered sufficient inducement to increase its output. Since the total amount of oil that can be produced also is dependent upon the number of cattle slaughtered, and since cattle slaughter is at record-high levels, the potential production of neatsfoot oil is large. Moreover, it can be diluted with vegetable oils to extend the supply. Hence, no shortage is anticipated.

Substitutes are available for all normal uses of neatsfoot oil. Fish oils, particularly, may be used in the preparation of leather dubbings. However, for the basic war use of the oil, as a protection against mustard gas, there is no known substitute.

GOVERNMENT CONTROL: General Export Order M-148, effective May 12, 1942, requires, subject to certain conditions, that purchase orders received from American Republics be accepted and delivered regardless of preference ratings applicable to deliveries under other purchase orders. M-63, Amendment No. 6, General Imports Order, issued May 22, 1942, placed all imports of neatsfoot oil under governmental control. Order M-71 amended September 22, 1942, restricts industrial consumption of neatsfoot oil.

SUMMARY:

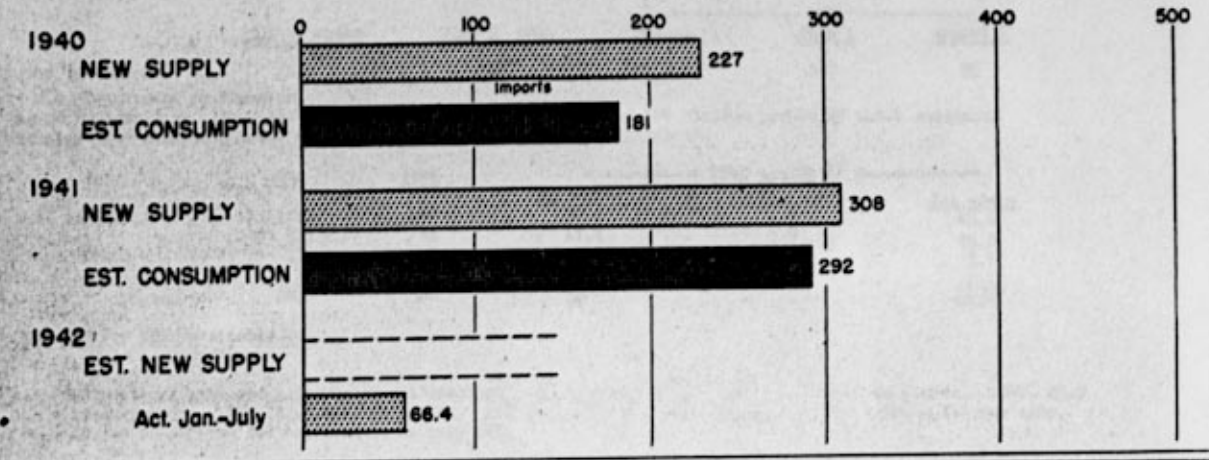
	1942		1942 Actual Jan.-July
Estimated New Supply	8,000	New Supply	5,114
Estimated Requirements	7,628	Consumption and Exports	5,014

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PALM OIL

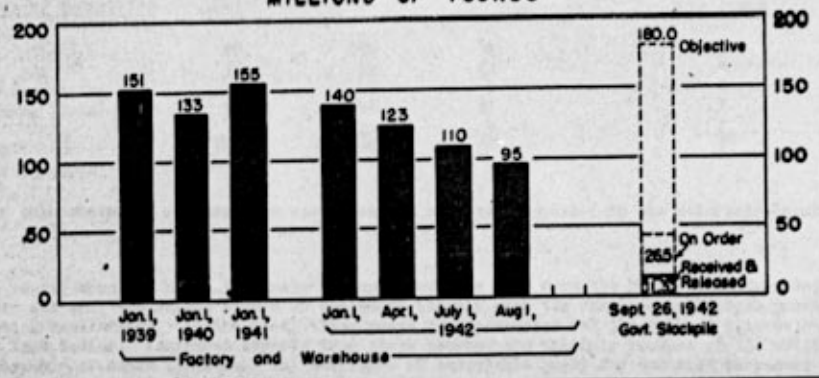
SUPPLY AND DEMAND

MILLIONS OF POUNDS



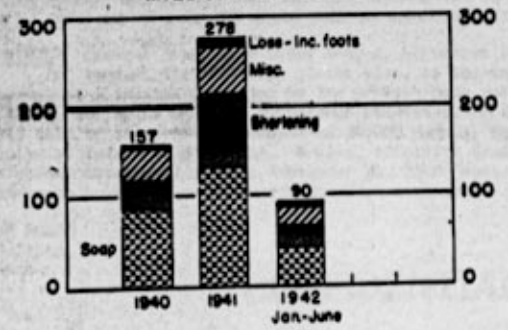
STOCKS

MILLIONS OF POUNDS



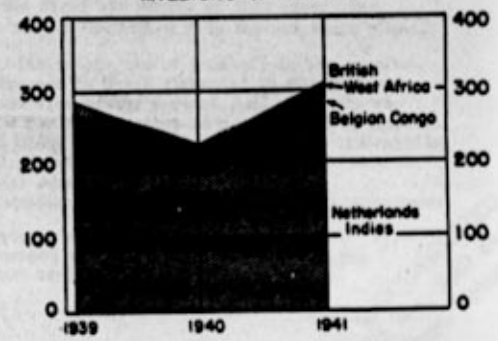
FACTORY CONSUMPTION BY INDUSTRIES

MILLIONS OF POUNDS



IMPORTS BY COUNTRY OF ORIGIN

MILLIONS OF POUNDS



War Production Board
Statistics Division
Materials Branch

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SEE OTHER SIDE FOR ABSTRACT

Data as of Sept. 26, 1942
Chart Issued Oct. 9, 1942
Revision Due: Oct. 30, 1942

PALM OIL

(All figures in millions of pounds

BACKGROUND: Palm Oil is a semi-solid fat obtained from the outside fleshy part of the fruit of the oil palms. (Palm kernel oil is derived from kernels of the same species of palm tree.. The U. S. is dependent entirely upon imports for its supplies of this oil.

USES: Palm oil use in the United States is principally in the production of soap, shortening, and tin plate. It has little direct military use. In soap manufacture, where palm oil accounts for 5 to 10 percent of the oils and fats used, other oils may be substituted, insofar as technical requirements are concerned. In shortening, palm oil, which has accounted for about 3 to 10 percent of all oils used, competes with other fats and oils, notably cottonseed, soybean, corn, and peanut oils. Palm oil is the only oil employed commercially in large quantities in tin and terne plate manufacture. Here it serves as a lubricating medium, for protective coating, and in the application of tin or terne coatings to produce glaze and to facilitate distribution of the protective metal. In such uses it generally is considered technically superior to hydrogenated soybean, cottonseed, and marine animal oils.

STOCKS:	Jan. 1, 1940	Jan. 1, 1941	1942 January 1	1942 July 1	1942 August 1
Factory and Warehouse	133	155	140	110	95

Source: U.S. Department of Commerce.
Note: As of September 28, 1942, the government stockpile objective was 180 million pounds, of which contracts totaled 37.8 million pounds, and 11.3 million pounds had been delivered.

IMPORTS:	1940	1941	1942 Actual 1/ Jan.-March	April-June	Jan.-July
From					
Netherlands East Indies	180	260	58.0	2.6	40.6
Belgian Congo	33	42	17.2	5.0	25.0
British West Africa	13	5	0.7	-	0.7
All Other	1	1	0.1	-	0.1
Total	227	308	56.0	7.6	66.4

1/ No estimate for year available.

RE-EXPORTS: Re-exports of palm and palm-kernel oil combined totaled as follows: 1939, 13.9 million pounds; 1940, 23.9 million pounds; 1941, 32.3 million pounds. Official statistics do not distinguish between the two oils, but the bulk of the re-exports are believed to be palm oil.

CONSUMPTION:	1940	1941
Total Calculated Consumption	181	292

Source: Bureau of Agricultural Economics.

Reported Factory Consumption by Industries	1940	1941	1942 Actual Jan.-June	July, 1942
Industry				
Soap	85	130	41	N.A.
Shortening	33	86	23	"
Edible Products other than Shortening	3	6	1	"
Misc. (principally Tin & Terne Plate)	32	44	21	"
Loss, including Foots	4	12	4	"
Total Factory Consumption	157	278	90	7

Source: U.S. Department of Commerce.

REQUIREMENTS: At the date of this abstract, requirements estimates had not been completed by the Materials Requirements Section, WPB.

SPECIAL PROBLEMS: In recent years, about 75 percent of palm oil supplies have come from the Netherlands East Indies. With this source cut off, the United States is dependent largely upon the remaining principal producing areas the Belgian Congo and British West Africa. In the past, these areas have accounted for the bulk of imports other than those from the Netherlands East Indies. Increased imports from these sources are unlikely because of (a) existing primitive production methods incapable of rapid expansion; (b) shortages of acceptable goods for exchange purposes; (c) relatively large supplies already contracted for by Great Britain; and (d) shipping difficulties.

Since palm oil is a preferred oil in the manufacture of tin and terne plate, and since other oils are as satisfactory for other purposes, the tin and terne plate industry properly is the first claimant to existing stocks of palm oil. Stocks of palm oil now on hand are considered sufficient to meet no more than two years requirements of this industry. In view of curtailed consumption of tin, this estimate is subject to a corresponding adjustment. Hi millions of pounds of palm oil went into the manufacture of soap during the first six months of this year. The feasibility of this use of palm oil might well be questioned in lieu of its use in connection with tin and terne plate.

GOVERNMENT CONTROL: General Preference Order M-59-a, effective April 1, 1942, limits the use of palm oil to the manufacture of tin and terne plate; also, to the manufacturing process in which glycerine is produced and where the amount of glycerine remaining in the product does not exceed one and five-tenths percent, and where the remainder of the glycerine is at least 90 percent recovered. Provision is made for the creation of a reserve of 20 percent of any amount held by any person in excess of 30,000 pounds, the disposal of which is to be made upon express instruction of the Director of Industry Operations. M-63-a, effective January 17, 1942, placed palm oil under full import control. General Preference Order M-71 amended September 22, 1942. restricts industrial consumption of palm oil.

WAR PRODUCTION BOARD
Statistics Division
Materials Branch

Data as of September 28, 1942
Revised abstract issued October 9, 1942
Next revision due: October 30, 1942

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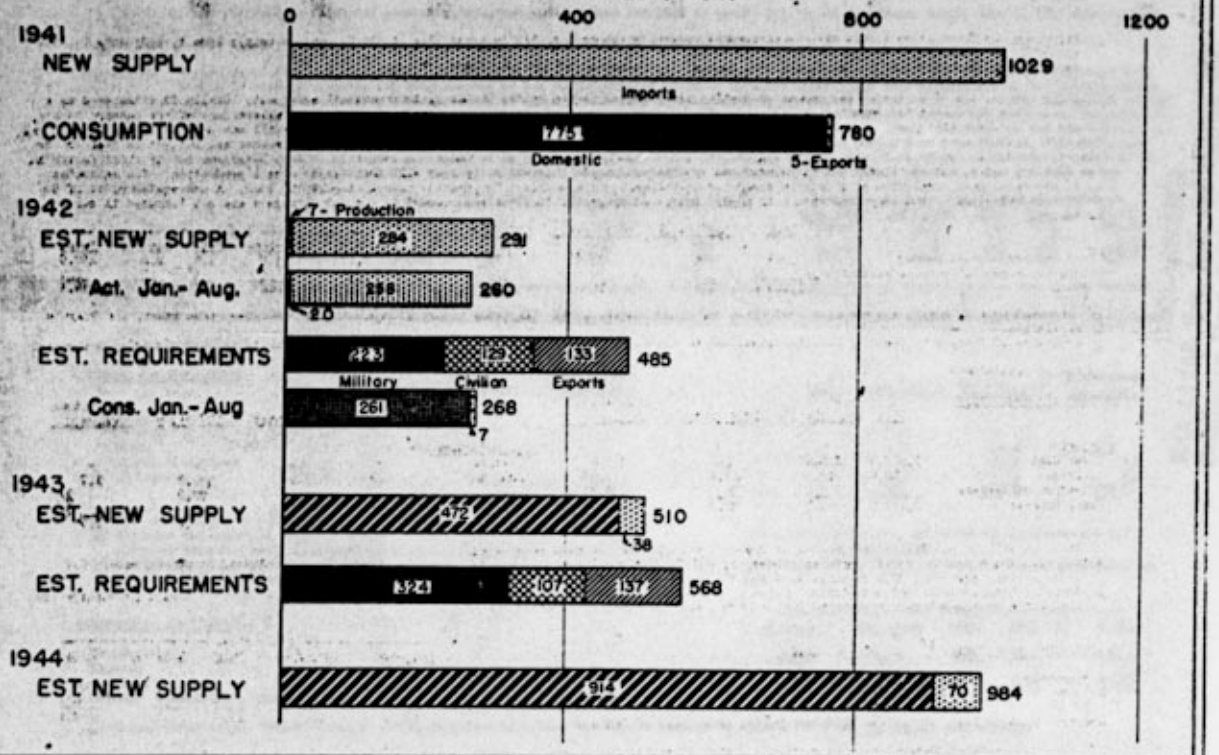
RUBBER

Crude and General Purpose Synthetic

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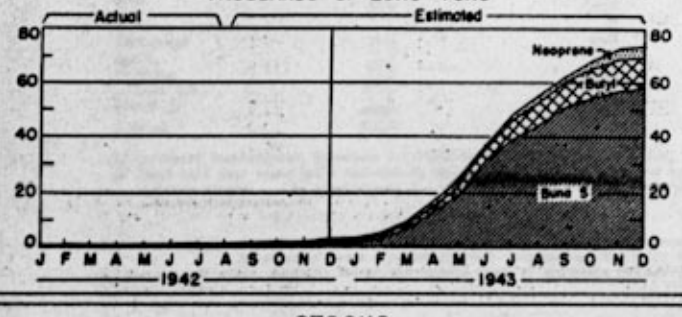
SUPPLY AND DEMAND

THOUSANDS OF LONG TONS



MONTHLY PRODUCTION

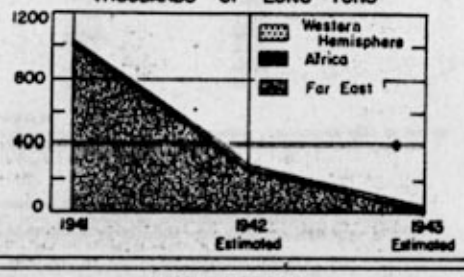
THOUSANDS OF LONG TONS



IMPORTS

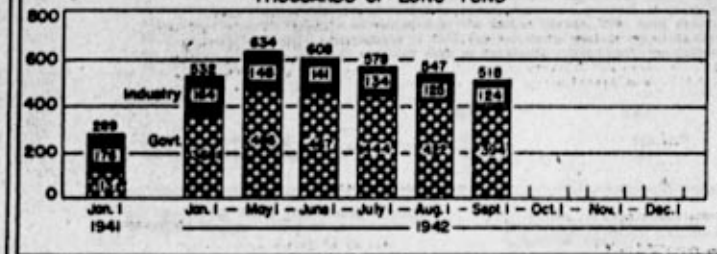
BY COUNTRY OF ORIGIN

THOUSANDS OF LONG TONS



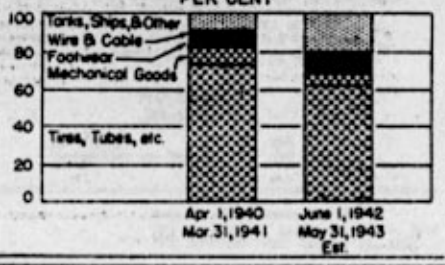
STOCKS

THOUSANDS OF LONG TONS



USE PATTERN

PER CENT



War Production Board
Statistics Division
Materials Branch

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Data as of Sept. 29, 1942
Chart Issued Oct. 9, 1942
Revision Due: Oct. 30, 1942

RUBBER
Crude and General Purpose Synthetic
(All figures in thousands of long tons)

BACKGROUND: Commercial production of natural rubber has been limited in recent years to the Hevea, Caucho, and Guayule types. The elimination of the Hevea rubber plantations of the Far East as sources of supply for the non-Axis nations is forcing development of new types of natural and synthetic rubbers. The Rubber Reserve Company, in cooperation with the State Department and the Board of Economic Warfare, is planning expansion of Latin-American Hevea, Caucho, and Guayule production. Program objectives for 1943 anticipate production to exceed the amounts of rubber produced in Latin America during the boom years 1913-1917. The Government's present synthetic rubber program objective (including Canada) is 735,000 tons Buna S, 132,000 tons Butyl, and 40,000 tons Neoprene. Expanded production of Guayule and Cryptostegia, and additions to Thiokol and Buna S capacity recommended by the Baruch Committee will add to supplies in 1944.

STOCKS: 1/

	1941	1942				
	Jan. 1	January 1	June 1	July 1	August 1	September 1 2/
Crude Rubber						
Government	113	368	447	444	422	394
Industry	178	186	141	134	125	124
	291	554	588	578	547	518

1/ Producers and fabricators stocks of general-purpose synthetic rubber for 1942 in tons: Jan. 1, 19 (producers only); June 1, 122; July 1, 180; August 1, 431.
2/ September stocks preliminary. Canadian stocks August 1 estimated at 28 thousand tons.

NEW SUPPLY: A portion of Ceylon's 1942 rubber production is allocated to the United States by international agreement. Ceylon is eliminated as a source of expected imports for 1943 because of the possibility of military loss and uncertainty over allocations of Far Eastern rubber by the C.R.A.B. for that year. Western Hemisphere and Liberian production, now allocated to the United States, will not provide sufficient natural rubber in 1943 to make up for loss of Far Eastern supplies. Production estimates for general-purpose synthetic rubber are subject to frequent revision. Production of "quick" butadiene by conversion of idle gasoline refineries is under consideration. Since butadiene is the short factor in the Buna S program, any additional butadiene produced by this process in 1942 and early 1943 will mean larger Buna S production. The estimates shown are based upon completion of plants as scheduled in Volume 6, Defense Plant Corporation report, August 18, 1942. A conversion ratio of 86 short tons butadiene to 100 long tons Buna S is used. Increased program objectives recommended in the Baruch report are not included in our estimates.

	1941	1942 (Est.)	1943 (Est.)	1944 (Est.)	1942 Actual				
					Jan.-Mar.	Apr.-June	July	Aug. 1/	Total
Gross Imports - crude rubber	1,029	284	38 2/	70	207.6	45.9	1.9	2.4	257.8
Production - general-purpose synthetic 1/	2/	7	472	914	.5	1.5	2.4	2.9	7.3
Total	1,029	291	510	984	208.1	47.4	4.3	5.3	265.1

1/ Estimated Buna S, Butyl, and Neoprene production for general-purpose use. Excludes industry production of special-purpose types, and Guayule.
2/ Negligible.
3/ Estimates of imports to the U.S. for 1943 submitted to the Rubber Survey Committee by B.E.W. exceed this estimate by approximately 20 thousand tons.
4/ August preliminary

IMPORTS AND PRODUCTION:

	1941	1942 (Est.)	1943 (Est.)	1942 Actual Jan.-July
Imports:				
Far East	1,007.6	255.4	1/	241.8
Africa	10.6	13.3	11.6	7.9
Western Hemisphere	10.8	14.6	26.0	5.7
Total Imports	1,029.0	284.1	37.6	255.4

U.S. Production: 2/	1941	1942 (Est.)	1943 (Est.) 4/	1942 Actual Jan.-Aug.
Guayule	-	.6	-	-
Buna S	.2	4.9	379.0	1.7
Butyl	-	.4	72.0	3/
Neoprene	-	1.9	20.8	3/
Total Production	.2	7.8	471.8	1.7

1/ The availability and disposition of Ceylon rubber for 1943 has not been determined.
2/ Excludes the Neoprene, Hycar, Perbunan, Chemigum, and Thiokol which are produced in privately-owned plants, estimated at approximately 8.7 thousand tons for 1941, 21.5 thousand tons for 1942, and 26.4 thousand tons for 1943. 3/ Negligible.
4/ Excludes "quick butadiene" and Flexon. Based upon conversion factor of 90 short tons butadiene to 100 long tons Buna S. Buna S production estimate for 1943 based upon conversion factor of 86, would be changed to 396 thousand tons.

CONSUMPTION AND EXPORTS: 1/

	1941	1942 Actual				
		Jan.-Mar.	Apr.-June	July	Aug. 1/	Total
Consumption	775.0	106.7	90.7	32.4	31.1	260.9
Exports	5.4	.2	5.9	.6	.2	6.9
Total	780.4	106.9	96.6	33.0	31.3	267.8

Source: Consumption, Rubber Branch, WPB; exports, Department of Commerce.

1/ Crude rubber only. General-purpose synthetic rubber allocated for export January to August, 95 tons. 2/ August preliminary.

REQUIREMENTS: 1/

	1942		1943
	Consumption Jan.-June	Estimated Requirements July-December	1942 Year	Estimated Requirements
Army	74.0	127.0	201.0	302.5 4/
Navy	11.1	10.0	21.1	19.7
Maritime Commission	2/	.8	.8 2/	2.1
Land-Lease	34.8	41.2	82.8	91.0
S.S.R.	1.9	1.5	3.4	3.0
Civilian	75.5	53.5	129.0	106.6
Total U.S.	197.3	234.0	438.1	524.9
Canada 3/	24.1	22.0	46.1	43.0
Total	221.8	256.0	484.6	567.9

1/ Estimated Requirements, Materials Requirements Section, WPB; consumption, Rubber Branch.
2/ First half year consumption included in Navy figure. 3/ Estimated total Canadian consumption. Part of Canadian consumption will be met by Canadian stocks. 4/ Requirements for end items in the Army Supply Program of September 1 indicate a probable reduction in 1943 Army Requirements estimates.

SPECIAL PROBLEMS: Imports for recent months continue below expectations. Speed is essential in production of synthetic rubber to forestall exhaustion of crude supplies in 1943. Compounding ratios for different products should be established immediately to assure optimum uses of crude, reclaim, and of the various types of synthetic rubber. Requirements should be computed separately for each type of synthetic rubber.

GOVERNMENT CONTROL: The Rubber Reserve Company is designated as the sole importer of crude, latex, balata, reclaim, and scrap rubber. Supplementary order M-15b, as amended August 24, 1942, authorizes the use of crude rubber and latex: (1) To fill war orders (unless the consumption of rubber to manufacture such product is prohibited by the order). (2) To manufacture certain products according to specifications established by the Rubber Branch, WPB, upon receipt of authorization from the Director General of Operations. No person shall consume more rubber to fill any war order than is required for delivery within 60 days. General Preference Order M-13, as amended December 31, 1941, provides that no synthetic rubber shall be delivered except as may be specifically directed by the Director of Priorities.

SUMMARY:

	1942	1943	1942 Actual Jan.-Aug.	
Estimated New Supply	991	510	New Supply	260
Estimated Requirements	485	568	Consumption and Exports	268

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Commerce Dept. Letter, 11-15-72
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