Agricultural Resource Management Survey
Phase 2

Cotton Production Practices and Costs Report for 2019
ARMS Purpose & Impact

- **ARMS Phase 1**: May – July: Screening
- **ARMS Phase 2**: October – December
  - Target commodity is Cotton
- **ARMS Phase 3**: Jan. 2020 - April 2020
  - Examines farm sector financial conditions

All Phase 2 respondents completing the Cotton PPCR will be asked to complete a Phase 3 follow-on.

- Data from both phases provide the link between agricultural resource-use and farm financial conditions.
ARMS Purpose & Impact

Uses of ARMS Data:

- Determines farm costs and income and provides data on financial situation of farm & ranch businesses
- Provides farm sector portion of GDP for the nation. If this was not available, Bureau of Economic Analysis would need to conduct their own survey on farm operators.
- Growers have a chance to tell how they used chemicals responsibly to maintain a safe and abundant food supply, otherwise EPA could assume maximum label rates are being applied and likely over count.
- See next slide for ERS Report Examples
ERS Reports based off the ARMS Phase 2 Data you collected:

Agricultural Resources and Environmental Indicators:

The first decade of Genetically Engineered Crops in the US:

No-till Farming is a Growing Practice:

On the Doorstep of the Information Age: Recent Adoption of Precision Agriculture

The Economics of Glyphosate Resistance Management in Cord and Soybean Production:
ARMS Purpose & Impact

Benefits to farmers:

Indirectly through extension, reports, magazines
Farm organizations, commodity groups, agribusiness, Congress, and the USDA

- uses information from ARMS to evaluate the financial performance of Farm/Ranch businesses
- Makes policy decisions affecting agriculture

What did you answer on quiz question #1:

If asked by an operator, please explain at least 3 benefits or uses for ARMS data collected?
ARMS Purpose & Impact
Questionnaires will have barcoded target and parent labels
> **Verify** the name and address for the target operator at the top, and partners

FARMS LLC  
IMA FARMER  
1000 Farm Road  
Anytown, Delta Region 55554
Operations sampled for Phase 2 were screened during Phase 1. Information is in a screening form inserted in questionnaire, but some may need to be rescreened.

(OOB, incomplete information, wrong target interviewed, abnormal farm, partners)

If operation was OOB during **PART of 2019** = complete questionnaire for time spent in business

If operation was OOB for **all of 2019** = make a note of new operator and contact information

**If Screening Cell Box 0006 = 1**

This indicates screening information has **changed** since **ARMS I** and the office would like the operator to be **rescreened**. **Rare.**
Cell Box “0004” record the time when the respondent agrees to start the interview.

- *Always in military time*

Remember to code the ending time when complete on the back page.

*Average time estimate is 65 minutes per response*
Section A: Cotton Field Selection

• **Purpose:** Field-level samples supply details for economic and chemical use analysis for field crops.

• Training enumerators to do simple random sampling for field selection ensures nonbiased and varied data.
Section A: Cotton Field Selection

Total planted Acres

- Only record cotton acres, not entire planted acres of operation
- If no cotton acres planted: Review screening form insert, make notes, go to conclusion
- Do not double count replanted Cotton acres
- Include 1 decimal place – write in ‘0’ if round number

Total number of cotton fields

- used to expand field level data collected in questionnaire and used to determine field selection
Section A: Cotton Field Selection

If Big Difference between Cotton Acres planted on screening insert form vs. now: Make a note explaining the change

If “0” acres of cotton planted, review screening insert form, make notes, and go to the conclusion.
Section A: Cotton Field Selection

- Extremely important that all fields are listed (*list the number of acres beside the description of the field*)
- If more than 18, list the 18 **closest fields** to operator’s residence
- Can use field grid supplement to draw to help operator recall

3. Please list these fields according to identifying name/number or describe each field, then I will tell you which field has been selected.

[If there are more than 18 fields make sure item 2 is TOTAL fields planted, and list only the 18 fields closest to the operator’s permanent residence. If respondent is unable to identify or describe the fields, use the Field Selection Grid Supplement.]

<table>
<thead>
<tr>
<th>FIELD NAME, NUMBER OR DESCRIPTION</th>
<th>FIELD NAME, NUMBER OR DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>11</td>
</tr>
</tbody>
</table>
Section A: Cotton Field Selection

Read across the FLD line to match Item 2: Total number of fields planted

Once you find the number of fields planted: the SEL line below the FLD line, is the randomly selected field.

<table>
<thead>
<tr>
<th>ST:XX</th>
<th>COTTON</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLD:</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>SEL:</td>
<td>1 1 2 1 3 5 6 6 2</td>
</tr>
<tr>
<td>FLD:</td>
<td>10 11 12 13 14 15 16 17 18</td>
</tr>
<tr>
<td>SEL:</td>
<td>4 9 9 13 3 14 15 13 5</td>
</tr>
</tbody>
</table>

4. [ENUMERATOR ACTION: Circle the pair of numbers on the above label associated with the last numbered field in item 3. Select the field according to the number you circled on the label, and record the selected number. If only one field, enter 1.] ........................

<table>
<thead>
<tr>
<th>SELECTED FIELD NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>0021</td>
</tr>
</tbody>
</table>
A farmer has 1250.5 total acres of Cotton in his operation for the 2019 crop year. He planted 16 total cotton fields. Using this information, fill in boxes 0050, 0020 and select the sampled field.

1). How many acres of Cotton did this operation plant for the 2019 crop year? [If no acres planted, review Screening Survey Information Form, make notes, then go to item 4 on back page].

I will follow a simple procedure to make a random selection from the soybean fields planted for the 2019 crop.

2). What is the TOTAL number of Cotton fields that were planted on this operation? [If only one field enter “1” and go to item 4.]
Section A: Cotton Field Selection

The reason for the grid supplement is to list the fields systematically so that a single field may be randomly selected.
Section A: Cotton Field Selection

FSA FARM NUMBERS

• *Don’t know* is allowed.
• Sometimes what the operator considers ‘1 - whole field’ may be broken down and expanded into 3 or 4 fields by FSA.
• The survey asks this question so that outside data, such as weather, soil characteristics and other spatial data can be linked to survey data.
Section A: Cotton Field Selection

• OY Field Substitution —
  – Random field selection **may be** bypassed if the selected operator is also in the Cotton OY survey.
  
  – In this case, the enumerator *may* substitute the OY field instead of randomly selecting another field for ARMS Phase 2.

  – **Important:** You still complete all of Section A
    • Obtain the correct total acres planted
    • Obtain the total number of cotton fields
Any questions?
Section B: Field Characteristics
Section B: Field Characteristics

Purpose:

• Obtains information used to calculate cost of production per planted acre on selected field.

• Data is used to study land tenure, conservation practices, GMO technology

• Seeding rate needed allows ERS to adjust seed expenses between survey years

This section will only include data on the selected field
Section B: Field Characteristics

Cotton in the Delta

Common Units
Bales or Pounds (lbs)

1 bale = 480 lbs

<table>
<thead>
<tr>
<th>Yield Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upland Cotton</td>
</tr>
</tbody>
</table>

Top 5 Counties – 2018 County Estimates
Arkansas – Mississippi, Craighead, Lee, Clay, Phillips
Louisiana – Tensas, Catahoula, Madison, Richland, Franklin
Mississippi – Holmes, Noxubee, Lowndes, Carroll, Madison

Above/Below is not wrong! Just leave note

<table>
<thead>
<tr>
<th>State</th>
<th>Planted Acres</th>
<th>Harvested Acres</th>
<th>Yield Per Acre (Pounds)</th>
<th>Production (Bales)</th>
<th>MYA Price 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arkansas</td>
<td>485,000</td>
<td>480,000</td>
<td>1,133</td>
<td>1,133,000</td>
<td>$0.703/lb</td>
</tr>
<tr>
<td>Louisiana</td>
<td>195,000</td>
<td>189,000</td>
<td>1,067</td>
<td>420,000</td>
<td>$0.750/lb</td>
</tr>
<tr>
<td>Mississippi</td>
<td>620,000</td>
<td>615,000</td>
<td>1,141</td>
<td>1,462,000</td>
<td>$0.739/lb</td>
</tr>
</tbody>
</table>
Section B: Field Characteristics

Required Items for the Section:

1). Cotton Acres – Box 1301
   • Exclude waste, roads, ditches
   • Only count acres replanted 1 time

2). Tenure Arrangement – Box 1302
   • Follow skip patterns depending on owning or renting for cash/share rent

1. owned by this operation?
2. rented for cash with the payment being a fixed cash amount?
3. rented for cash with the payment being a flexible cash amount?
4. rented or a share of the crop?
5. rented for some combination of cash and share of the crop?
6. used rent free?
Section B: Field Characteristics

Item 4: Landlords Share of the Crop:

• Enter in Percent %
• Check for #5, sharing costs, which is more common for share-rented land, but can happen in cash or rental-free agreements

#4 Should say: Rented for a share of the crop
Section B: Field Characteristics

Item 10: Seeding Rate:

Seeding Rates

- General Recommendation – 48 K Seed/A
- Sandy Loams 35 – 40 K seed/A (2.5 seed/ft)
- Silt Loams 40 – 48 K seed/A (3.0 seed/ft)
- Clay Loams 55 K seed/A (4.0 seed/ft)

Seeding rates should be increased 10% if cotton is planted in late May or early June.

Remember Unit Codes

<table>
<thead>
<tr>
<th>Unit Code</th>
<th>Conversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pound/Acre</td>
</tr>
<tr>
<td>23</td>
<td>50 Pound Bags/Acre</td>
</tr>
<tr>
<td>25</td>
<td>Seeds/Acre</td>
</tr>
<tr>
<td>38</td>
<td>Seeds/Foot</td>
</tr>
<tr>
<td>40</td>
<td>250,000 Seed Bags/Acre</td>
</tr>
</tbody>
</table>

Bag Conversion Calculator

Section B: Field Characteristics

Item 16: GMO/GE Traits

Oversight: Ignore Enumerator notes “Leave the second column blank if field was not planted with cotton in 2018”

Please use:

1 = Yes
-1 = Don’t know
4 = No cotton in Field.

Do not record a 3 for No, just leave blank.
Farmer Joe Doe planted and irrigated stacked Cotton in the spring of 2015 and harvested after maturing. Beginning in 2016 - 2018, Farmer Joe Doe planted irrigated stacked corn to the selected field and harvested. In 2019, this year, the farmer finally rotated the field back to cotton and irrigated. He did not plant anything, including cover crops, in the fall for any year.

<table>
<thead>
<tr>
<th>Season and Year</th>
<th>Crop Name</th>
<th>Crop Code</th>
<th>283</th>
<th>318</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Spring/Summer of 2019</td>
<td>Cotton</td>
<td>1345</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>b. Fall of 2018</td>
<td></td>
<td>1347</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>c. Spring/Summer of 2017</td>
<td>Corn</td>
<td>1369</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>d. Fall of 2017</td>
<td></td>
<td>1372</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>e. Spring/Summer of 2017</td>
<td>Corn</td>
<td>1375</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>f. Fall of 2016</td>
<td></td>
<td>1378</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>g. Spring/Summer of 2016</td>
<td>Corn</td>
<td>1380</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>h. Fall of 2015</td>
<td></td>
<td>1382</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>i. Spring/Summer of 2015</td>
<td>Cotton</td>
<td>1348</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

note: updated code 318 with practice exercise in blue folder.
Section C:
Fertilizer Applications
Section C: Fertilizer Applications

• The purpose of this section is to identify nutrients or fertilizers used to produce the 2019 target commodity crops on the selected field.
  – Accurate data used to make informed decisions by policy makers
  – USDA is responsible for publishing these estimates
  – Interviewer’s Manual Beginning on Page 5075
Section C: Fertilizer Applications

- This form is optional, used only as assistance if needed to get consent.
- Enumerators should send the consent form, with the questionnaire, to the Delta RFO.
- Enumerators may keep a copy for themselves.
**Supplements:** Use them if more lines are needed to record fertilizer applications

- Transfer POID, Version, as it appears on questionnaire
- First table number should be 002, and so on

<table>
<thead>
<tr>
<th>VERSION</th>
<th>ID</th>
<th>TRACT</th>
<th>SUBTRACT</th>
<th>C – TYPE</th>
<th>TABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>______</td>
<td></td>
<td>01</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
</tbody>
</table>
Section C: Fertilizer Applications

- Screen for fertilizer applications, enter “1” if yes
  - Important: utilize checklist on questionnaire, as well as Interviewer’s Manual page 5076 for more detail
Section C: Fertilizer Applications

• If no commercial nutrients or fertilizers were applied to the selected field, make a note and skip to Section D.

Note: The application can be made to all or part of the field.

1. Were commercial nutrients or fertilizers applied to the selected field for the 2019 Cotton crop? Include those from operators, landlords, and contractors. 

[If COMMERCIAL nutrient or fertilizer applied, continue; else go to Section D.]
Section C: Fertilizer Applications

The next step is to have the Respondent booklet available – Page 7
If respondent cannot report the formulation, use the formulations below

United States Department of Agriculture
National Agricultural Statistics Service

2019 Production Practices and Costs Report Respondent Booklet

[Enumerator Note: If Respondent cannot report the formulation for Section C, Item 3 use the formulations below.]

Section C, Item 3, Column 2  Common Fertilizers and Their Percent Analysis
Section C: Fertilizer Applications

- In the table, record the plant nutrients (Nitrogen, Phosphate, Potash and Sulfur) applied to the selected field
  - Percent Analysis versus Pounds of actual nutrients
    - Percent Analysis is the percentage of ingredients which makes up the fertilizer
    - Pounds of actual Nitrogen, Phosphate, Potash or Sulfur per acre.
  - Even though no column for product code, please make notes on product applied.
    Example: Potassium...

<table>
<thead>
<tr>
<th>LINE</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Materials Used</td>
<td>What quantity was applied per acre?</td>
<td>[Enter material code]</td>
<td>When was this applied?</td>
<td>How was this applied?</td>
<td>How many acres in the selected field were treated in this application?</td>
</tr>
<tr>
<td>N</td>
<td>Nitrogen</td>
<td>[Enter percentage analysis or actual pounds of plant nutrients applied per acre.]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P&lt;sub&gt;2&lt;/sub&gt;O&lt;sub&gt;5&lt;/sub&gt;</td>
<td>Phosphate</td>
<td>[Show Common Nutrients or Fertilizers in Respondent Booklet]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>Potash</td>
<td>[Leave this column blank if actual nutrients were reported]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>Sulfur</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>Pounds</th>
<th>1</th>
<th>In the fall before seeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Gallons</td>
<td>2</td>
<td>In the spring before seeding</td>
</tr>
<tr>
<td>3</td>
<td>Pounds of actual nutrients</td>
<td>3</td>
<td>At seeding</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>4</td>
<td>After seeding</td>
</tr>
</tbody>
</table>

| Acres |
Section C: Fertilizer Applications

**Important:** Make sure to record each individual fertilizer application made to the selected field on a separate line.

<table>
<thead>
<tr>
<th></th>
<th>31</th>
<th>32</th>
<th>33</th>
<th>34</th>
<th>36</th>
<th>37</th>
<th>38</th>
<th>39</th>
<th>40</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>03</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Handwriting is important!
no notes hand written in bottom lines of table – we have to cross it all out or the keyers will key random notes in those boxes as data
Section C: Fertilizer Applications

*Important* Every application, or every table line, should have a matched line in the field operations table.

Make a note of how many fertilizer applications were applied to remind respondent for section F.
Farmer John Doe first broadcast, ground with incorporation, 200 pounds per acre of 5-15-30-0 Nitrogen, Phosphate, Potash and Sulfur to 19.5 acres in the spring before seeding. Then after seeding, he broadcast, ground without incorporation, 120 pounds of nitrogen to his entire 19.5 acre field.
Section C: Fertilizer Applications

• This concludes Fertilizer applications part to ARMS Phase 2
  – Are there any questions?
Section D: Biocontrols or Pesticide Application
Section D: Pesticide Applications

Purpose: USDA is responsible for publishing estimates of pesticide use in crop production

- NASS is charged with collecting these data
  - Issues related to food safety, water quality and pesticide cancellation are evaluated

- Similar to the fertilizer section
  - Chemical costs are a large part of input costs

- We want chemicals applied to the 2019 crop on the selected field

- In the interviewer’s manual beginning on page 5097
Exclude:
- Chemical Applications to fence rows, ponds, canals and ditch banks should not be recorded.
- Adjuvants: used in a formulation to aid the operation or improve the effectiveness of the pesticide.
  - Includes: wetting agents, spreaders, emulsifiers, dispersing agents, foaming agents and suppressants, penetrants, and correctives.
Section D: Pesticide Applications

**Supplements:** Use them if more lines are needed to record pesticide applications

- First table number should be 002, and so on
- Transfer POID and top identification from questionnaire to supplement
- There will be many lines used for Cotton, make sure you have enough supplements
Section D: Pesticide Applications

Item 1: Screen for pesticide applications, enter “1” in item 1 if they used them

- If the field has not yet been harvested, probe respondent for any applications he plans to make prior to harvest this year
- If no pesticides used (rare), enter 3 and go to section E.

1. Were any herbicides, insecticides, fungicides or other biocontrols or pesticides used on this cotton field for the 2019 crop? 

<table>
<thead>
<tr>
<th>Code</th>
<th>Office Use Edit Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes=1</td>
<td>0302</td>
</tr>
<tr>
<td>No=3</td>
<td>0300</td>
</tr>
</tbody>
</table>
Section D: Pesticide Applications

Respondent Booklet

• Page 12: Chemicals and Pesticides for Cotton

- Categorized as Liquid (L) or Dry (D) formulations (Column 2)
- Lists type or class of each product (Fungicide, Herbicide, Insecticide)
- For products listed more than once, be sure to probe for varied concentrations and use the product code associated with that use
Section D: Pesticide Applications

Column 2: Write product code from respondent booklet, and the chemical product name

— Please print clearly, with as many details as possible

If product code not available:
Write down EPA numbers on the lines under the table
- We will use a program to look the product codes
  — Good example from the past:
Section D: Pesticide Applications

Tank Mixes: Separate products in tank mixes must be recorded on separate lines

- Record in Column 4 the line number of the first product in the tank mix.
- For tank mixes, columns 3 and 5 should be similar
- For tank mixes, columns 6, 7, 8 can be different

<table>
<thead>
<tr>
<th>CHEMICAL PRODUCT NAME</th>
<th>L</th>
<th>LINE</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- When was this applied?
  - 1 BEFORE planting
  - 3 AT planting
  - 4 AFTER planting
  - 5 DEPOLLINATION prior to harvest

- What was the total amount applied per application in the selected field?
  [Enter unit code.]
  - 1 Pounds
  - 12 Gallons
  - 13 Quarts
  - 14 Pints
  - 15 Liquid Ounces
  - 28 Dry Ounces
  - 30 Grams
Section D: Pesticide Applications

*Important*
Ensure that column 5 application times match the lines on the field operations table
Ensure every line of pesticide applications also has a line in the field operations table
Section D: Pesticide Applications

Column 6 OR 7

• With variable rate technology and for spot treatments, obtain only column 7: total amount applied for application, not per acre

• If respondent cannot answer, leave notes based off some good probing questions that include:
  - The number of tanks used to cover the acres
  - Number of gallons in each tank
Farmer Jane Doe broadcast ground with incorporation 4 pints of liquid Roundup Original 2k per acre before planting to 55 acres of the selected cotton field one time. After planting, she then broadcast by aircraft with a custom applicator 2 total pints of Engenia Herbicide to all of her field acres at planting. Using this information, fill in the table below.

<table>
<thead>
<tr>
<th>CHEMICAL PRODUCT NAME</th>
<th>LINE</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round Up Original 2k</td>
<td>01</td>
<td>L</td>
<td>63</td>
<td>64</td>
<td>1</td>
<td>65</td>
<td>4.00</td>
<td>73</td>
</tr>
<tr>
<td>Engenia Herbicide</td>
<td>02</td>
<td>L</td>
<td>63</td>
<td>64</td>
<td>4</td>
<td>65</td>
<td>2.00</td>
<td>73</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHEMICAL PRODUCT NAME</th>
<th>LINE</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round Up Original 2k</td>
<td>01</td>
<td>76</td>
<td>77</td>
<td>55.0</td>
<td>1</td>
</tr>
<tr>
<td>Engenia Herbicide</td>
<td>02</td>
<td>76</td>
<td>77</td>
<td>55.0</td>
<td>2</td>
</tr>
</tbody>
</table>
Section D: Pesticide Applications

Ask for California and Texas only

6. Was the cotton in the selected field covered by an area-wide pink bollworm eradication or suppression program (PBWP)?

[If item 6 = 1, ask--]

a. For the current crop year, what was the cost on the selected field to participate in the PBWP?

<table>
<thead>
<tr>
<th>Code</th>
<th>Yes = 1</th>
<th>No = 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>0341</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dollars & Cents per Acre

0342

Dollars & Cents per Bale

0343

INCLUDE operator, landlord, and contractor costs per acre and/or per bale charges for this year’s cotton. If you receive a credit on your PBWP assessment for planting Bt cotton to control pink bollworm, report only the amount of the assessment you, your landlord, or your contractor paid.

Section D: Page 21: SKIP

For California and Texas Only
Section D: Pesticide Applications

Questions?
Section E: Pest Management Practices
Section E: Pest Management Practices

Purpose
This section provides data about pest management practices that growers use on their crops, either as alternatives to pesticides or practices which improve the effectiveness of pesticides

– Begins on Interviewer Manual’s page 5123
Section E: Pest Management Practices

- The introductory statement does two things to help the respondent:
  - Asks respondent about pest management practices used on the selected field and how decisions are made regarding those practices.
  - It defines Pests for the operators to include Weeds, Insects, and diseases.

Note the Skip Pattern in First Question – If no Pesticides go to item 6.

Now I have some questions about your pest management decisions and practices used on the selected field for the 2019 cotton crop. By pests, we mean weeds, insects, and diseases.

[Enumerator Action: Were pesticide applications reported in Section D?]

☐ Yes - Continue ☐ No - Go to item 6
Section E: Pest Management Practices

• In Section E, beginning in question 1 through 28, follow the Interviewer’s Manual beginning on Page 5123.

• This section has a lot of skip patterns
  – Question 3, Question 8, Question 9, Question 11, Question 15/16, Question 22, Question 23, Question 25, Question 27.

Example: Question 8

8. In 2019, how was the selected field primarily scouted for insects, weeds, diseases, and/or beneficial organisms? ..................................................

   1. By deliberately going to the field specifically for scouting activities [Enter code 1 and go to item 9.]
   2. By conducting general observations while performing routine tasks [Enter code 2 and go to item 11.]
   3. The selected field was not scouted. [Enter code 3 and go to item 13.]
Q2: BT (Bacillus Thuringiensis): BT toxin are insecticidal to larvae of moths, butterflies, bullworms, etc. Natural insecticide found in the soil and acts as biological pesticide when applied to cotton.

Q9: BWEP: Boll Weedvil Eradication Program – joint USDA/state initiative. Operates on a cost sharing basis with participating farmers required to pay an annual assessment fee (either on a per acre, per pale or both basis. Fees vary on stage from $2/acre to $30/acre depending on the state laws and eradication phase.
Section E: Pest Management Practices

If Column 2 = 1, must continue
• Missed a lot last year

Column 3: If 2 or more people did equal scouting, take lower code

If no scouting costs, follow skips and explain
### Section E: Pest Management Practices

**Item 26:** If Field was not operated by respondent, leave blank/note

<table>
<thead>
<tr>
<th>Active Ingredients</th>
<th>2019 Yes</th>
<th>2019 No</th>
<th>2020 Yes</th>
<th>2020 No</th>
<th>2021 Yes</th>
<th>2021 No</th>
<th>2022 Yes</th>
<th>2022 No</th>
<th>2023 Yes</th>
<th>2023 No</th>
<th>2024 Yes</th>
<th>2024 No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Glyphosate (e.g., Roundup®)</td>
<td>2001</td>
<td>2002</td>
<td>2003</td>
<td>2004</td>
<td>2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Glufosinate (e.g., Liberty®)</td>
<td>2006</td>
<td>2007</td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Dicamba (e.g., Xtend®, Xtendimax®, Engenia®)</td>
<td>2011</td>
<td>2012</td>
<td>2013</td>
<td>2014</td>
<td>2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. 2, 4-D (e.g., Enlist®)</td>
<td>2016</td>
<td>2017</td>
<td>2018</td>
<td>2019</td>
<td>2020</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Item 27:** If column 2 = 1, Columns 3 – 6 must be filled in

<table>
<thead>
<tr>
<th>For herbicide tolerant seeds that are tolerant of:</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Glyphosate (e.g., Roundup®)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Glufosinate (e.g., Liberty®)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Dicamba (e.g., Xtend®, Xtendimax®, Engenia®)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. 2, 4-D (e.g., Enlist®)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section E: Pest Management Practices

Most answer are 1 = Yes and 3 = No. Do not leave blank if No.

-1/DK is allowed for every question in section, but please make every attempt to get valid data for questions you can.

If every section is -1, the section will need be marked as Incomplete/Refusal.
Section E: Pest Management Practices

Questions?
Section F: Field Operations
Section F: Field Operations

Purpose

• Machinery information is used to identify tillage systems, cropping practices and residue levels
• Machinery information used to compute fuel, repair and capital costs associated with producing cotton

Objectives

Pick up all equipment operations starting after the harvest of previous crop through the stalk cutting or harvest/hauling of the target crop from the field to storage or point of sale.
Section F: Field Operations

Before you begin:

• Review the Check List
• Open the Respondent booklet – Page 18
• Keep a note of how many Pesticide or Fertilizer applications were applied to carry over to this table

*Remember: All Pesticide and Fertilizer applications in section C and D must be recorded in this table.*
Section F: Field Operations

Supplements:
– If more operations were completed on selected field than lines available, use a supplement
  • Don’t forget to number in sequential order on the supplement
  • Transfer ID Information from Original Questionnaire to supplement
  • There will be many lines used
### Section F: Field Operations

**Special Cases**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Abandoned Crops:</strong> Another crop was planted for the 2019 crop year, but abandoned and plowed under before the target crop was planted</td>
<td>Begin with the operation of plowing down abandoned crop</td>
</tr>
<tr>
<td><strong>Cover Crop:</strong> Plowed under before the target crop was planted</td>
<td>Begin with planting cover crop, include any operation done on the cover crop, such as plowing down the cover crop</td>
</tr>
<tr>
<td><strong>New Renter:</strong> If Operator is new renter in the field</td>
<td>Record all field ops since last harvest and he should also report operations preformed by another operator, if he knows what was done</td>
</tr>
<tr>
<td><strong>Newly Cleared Land:</strong> Planting on newly cleared land</td>
<td>Field operations should begin to be recorded with land forming and tillage after the clearing</td>
</tr>
<tr>
<td><strong>Replanting the Target Crop:</strong> Cotton Planted, plowed down, replanted</td>
<td>Include operations associated with both plantings, including plow down, watch acres covered</td>
</tr>
</tbody>
</table>
### Section F: Field Operations

**Field Ops Table Column Review**

- **Column 1** - Line Number
- **Column 2** – Sequence Number
  - This can change if you have an operation out of order
  - Do not erase/rewrite all lines, instead just change sequence number, and correct all affected sequence numbers
  - Tandem operations have the same sequence numbers, but entered on separate lines

<table>
<thead>
<tr>
<th>No.</th>
<th>Line</th>
<th>Sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>87</td>
<td>87</td>
</tr>
<tr>
<td>02</td>
<td>87</td>
<td>87</td>
</tr>
<tr>
<td>03</td>
<td>87</td>
<td>87</td>
</tr>
</tbody>
</table>
Column 3 – Operation/Equipment Used

• If Respondent reports a machine that does not have an available code, which implement best describes it?

Column 4 – Code from Respondent Booklet

• Implements that have several tillage components attached to a single frame should be recorded as one implement, not as tandem or multiple hookups.

Example: Do All: disk blades, field cultivator, harrow
Section F: Field Operations

Column 5 – Machine Operator

Column 6 – Size or Swath of Machine Used
- Size means the swath covered by the machine, not how wide the equipment is.
- Example: Broadcast fertilizer spreader: 6 ft. wide, spreads 36 ft.

Column 7 – Unit Code
- Record ONLY Pounds/Bales for Hauling Operations
  (trucks, wagons, boll buggy)
Section F: Field Operations

Column 8: Acres Covered:

• Partial Field Coverage – Watch Acres
• Multiple Machines at same time, enter each piece on separate lines as separate operations (Ex: multiple combines)

OR

Column 9: Total Hours Spent:

• For land forming, module building, hauling, use column 9: total hours

Land forming includes machines to make/close ditches or change slope of the land
Section F: Field Operations

Column 10: Power Source Used

• If unsure of HP, provide notes of tractor type
• For the module building operation, you will need to include the power source used to move the module builder to edge of field.

Column 11: Fuel Type

• Only record column 11 if column 10 = 1-5
*Updated Practice Exercise placed in blue folders, and extra copies available for your mini-school trainings*

- This is due to an updated respondent booklet, which changes field operation machine codes, added the module builder and stalk cutter

On 160.5 acres, the farmer used a 90 ft. self-propelled boom sprayer to apply chemicals before planting. Next, a custom applicator applied fertilizer by airplane to the entire 160.5 acres. After fertilizer, the farmer used a 12 row hipper (>200HP) to form rows before planting. Then the farmer used a 12 row conventional planter (>200HP) for planting all 160.5 acres. For the next field operation, a custom aerial applicator sprayed chemicals. For harvesting, the farmer used a self-propelled 6-row cotton picker and a 10,000 lb. boll buggy. After harvest, the farmer moved a 30 ft. module builder to the edge of the field with a >200 HP tractor to use, and a 12-row stalk cutter was used (>200HP).
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>07</td>
<td>95</td>
<td>Apply Chem</td>
<td>1</td>
<td>90</td>
<td>1</td>
<td>160.5</td>
<td>1</td>
<td>93</td>
<td>94</td>
<td>95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>07</td>
<td>95</td>
<td>Apply Chem</td>
<td>6</td>
<td>90</td>
<td>1</td>
<td>160.5</td>
<td>1</td>
<td>93</td>
<td>94</td>
<td>95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>07</td>
<td>95</td>
<td>Hopper</td>
<td>1</td>
<td>90</td>
<td>1</td>
<td>160.5</td>
<td>1</td>
<td>93</td>
<td>94</td>
<td>95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>07</td>
<td>114</td>
<td>Plant</td>
<td>6</td>
<td>90</td>
<td>1</td>
<td>160.5</td>
<td>1</td>
<td>93</td>
<td>94</td>
<td>95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>07</td>
<td>95</td>
<td>Spray</td>
<td>1</td>
<td>90</td>
<td>1</td>
<td>160.5</td>
<td>1</td>
<td>93</td>
<td>94</td>
<td>95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>07</td>
<td>215</td>
<td>Harvest</td>
<td>1</td>
<td>90</td>
<td>1</td>
<td>160.5</td>
<td>1</td>
<td>93</td>
<td>94</td>
<td>95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07</td>
<td>07</td>
<td>221</td>
<td>Boll Buggy</td>
<td>1</td>
<td>10,000</td>
<td>4</td>
<td>160.5</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08</td>
<td>07</td>
<td>212</td>
<td>Module</td>
<td>1</td>
<td>90</td>
<td>1</td>
<td>160.5</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09</td>
<td>07</td>
<td>211</td>
<td>Stalk Cutter</td>
<td>1</td>
<td>90</td>
<td>1</td>
<td>160.5</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Practice Exercise Review
## Section F: Field Operations

### Labor Table

<table>
<thead>
<tr>
<th>Type of Workers</th>
<th>1 scouting for weeds, insects and diseases?</th>
<th>2 irrigating?</th>
<th>3 performing other work by hand?</th>
</tr>
</thead>
<tbody>
<tr>
<td>You (the operator)</td>
<td>1101 Hours</td>
<td>1102 Hours</td>
<td>1103 Hours</td>
</tr>
<tr>
<td>Partner(s)</td>
<td>1104 Hours</td>
<td>1105 Hours</td>
<td>1106 Hours</td>
</tr>
<tr>
<td>Unpaid workers</td>
<td>1107 Hours</td>
<td>1108 Hours</td>
<td>1109 Hours</td>
</tr>
<tr>
<td>Paid part-time or seasonal workers exclude custom and contract labor</td>
<td>1110 Hours</td>
<td>1111 Hours</td>
<td>1112 Hours</td>
</tr>
<tr>
<td>Paid full-time workers exclude custom and contract labor</td>
<td>1113 Hours</td>
<td>1114 Hours</td>
<td>1115 Hours</td>
</tr>
</tbody>
</table>

- Focus on selected field only
- Have the option for Per Hour or Total
Custom Services

- Cases where the labor and machine are hired together to perform an operation
- Refer back to field ops table to see which services were custom reported
- Use equations for module building and hauling from field to gin, if cannot be separate out use -1
Section F: Field Operations

Questions?
Section G: Irrigation & Conclusion Section
Section G - Irrigation

Purpose:

- Identify operating characteristics of irrigation system and the amount and source of water used on the selected Cotton field.
- To conserve water and costs, farmers try to control the amount of water applied.
- Information collected is used to compute the fuel, repair and capital costs of irrigating the target crop on the selected field.
- Utilize the Interviewer’s Manual beginning on page 5171.
Section G - Irrigation

Item 1: Acres irrigated in the selected field. The respondent should only report the number of acres of Cotton in the selected field that was irrigated for the 2019 crop.

- Record to the nearest tenth
- If not irrigated (rare) go to conclusion
- If only part of a field was irrigated, only count those acres
- Even though a crop may have received water several times, count irrigated acres only once

1. How many acres in the selected field were irrigated for the 2019 Cotton crop?
   [If none, go to Conclusion]
Section G - Irrigation

Item 1: Acres irrigated in the selected field:

EXCLUDE:

- Acres in selected field which could have been irrigated (facilities were available) but were not irrigated
- Land in and around the selected field in irrigation ditches, trenches, borders, levees and skip rows
- Fringe areas of the selected field (generally in areas with sprinkler systems such as center pivot systems) which did not receive water
Section G - Irrigation

Item 2A: Irrigation System Type Codes

- Refer to Page 20 (back page) of respondent booklet for codes

<table>
<thead>
<tr>
<th>Irrigation System Type Codes – ARMS 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pressure Systems</strong></td>
</tr>
<tr>
<td>1. HAND-MOVE</td>
</tr>
<tr>
<td>2. SOLID or PERMANENT SET</td>
</tr>
<tr>
<td>3. SIDE ROLL or WHEEL LINE</td>
</tr>
<tr>
<td>4. CENTER PIVOT or LINEAR MOVE</td>
</tr>
<tr>
<td>with sprinklers on main line</td>
</tr>
<tr>
<td>5. CENTER PIVOT or LINEAR MOVE</td>
</tr>
<tr>
<td>with sprinklers below main line,</td>
</tr>
<tr>
<td>but more than 2 feet above ground</td>
</tr>
<tr>
<td>6. CENTER PIVOT or LINEAR MOVE</td>
</tr>
<tr>
<td>with sprinklers less than 2 feet</td>
</tr>
<tr>
<td>above ground</td>
</tr>
<tr>
<td>7. BIG GUN</td>
</tr>
<tr>
<td>8. LOW FLOW IRRIGATION</td>
</tr>
<tr>
<td>(drip, trickle or micro sprinkler)</td>
</tr>
<tr>
<td>9. OTHER - SPECIFY</td>
</tr>
<tr>
<td><strong>Gravity Systems</strong></td>
</tr>
<tr>
<td>10. Siphon Tube from unlined clitches</td>
</tr>
<tr>
<td>11. Siphon Tube from lined clutches</td>
</tr>
<tr>
<td>12. Portal System from unlined ditches</td>
</tr>
<tr>
<td>13. Portal System from lined clutches</td>
</tr>
<tr>
<td>14. ANY POLY PIPE SYSTEM</td>
</tr>
<tr>
<td>15. GATED PIPE (not poly pipe)</td>
</tr>
<tr>
<td>16. IMPROVED GATED PIPE</td>
</tr>
<tr>
<td>(surge flow or calibration not poly pipe)</td>
</tr>
<tr>
<td>17. SUBIRRIGATION</td>
</tr>
<tr>
<td>18. OPEN DISCHARGE FROM WELL or PUMP</td>
</tr>
<tr>
<td>19. OTHER - SPECIFY</td>
</tr>
</tbody>
</table>

a. What irrigation system was used to apply the most water on the selected field? [Show System Type Codes (Page 28) in the Respondent Booklet.]
Section G - Irrigation

- Additional definitions begins on Page 5184 and goes through Page 5185 including
  - Types of PRESSURE Irrigation Systems
  - Types of GRAVITY-FLOW Irrigation Systems
- Become familiar with these definitions before survey

<table>
<thead>
<tr>
<th>PRESSURE SYSTEMS</th>
<th>GRAVITY SYSTEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  HAND-MOVE</td>
<td>10 SIPHON TUBE from unlined ditches</td>
</tr>
<tr>
<td>2  SOLID or PERMANENT SET</td>
<td>11 SIPHON TUBE from lined ditches</td>
</tr>
<tr>
<td>3  SIDE ROLL or WHEEL LINE</td>
<td>12 PORTAL SYSTEM from unlined ditches</td>
</tr>
<tr>
<td>4  CENTER PIVOT or LINEAR MOVE with sprinklers on main line</td>
<td>13 PORTAL SYSTEM from lined ditches</td>
</tr>
<tr>
<td>5  CENTER PIVOT or LINEAR MOVE with sprinklers below main line, but more than 2 feet above ground</td>
<td>14 ANY POLY PIPE SYSTEM</td>
</tr>
<tr>
<td>6  CENTER PIVOT or LINEAR MOVE with sprinklers less than 2 feet above ground</td>
<td>15 GATED PIPE (not poly pipe)</td>
</tr>
<tr>
<td>7  BIG GUN</td>
<td>16 IMPROVED GATED PIPE (surge flow or cablegation not poly pipe)</td>
</tr>
<tr>
<td>8  LOW FLOW IRRIGATION (drip, trickle or micro sprinkler)</td>
<td>17 SUBIRRIGATION</td>
</tr>
<tr>
<td>9  OTHER - SPECIFY</td>
<td>18 OPEN DISCHARGE FROM WELL or PUMP</td>
</tr>
<tr>
<td></td>
<td>19 OTHER - SPECIFY</td>
</tr>
</tbody>
</table>
Section G - Irrigation

Item 2B: Total Quantity of Water Applied

- Record in Inches Per Acre OR Total Acre Feet
- If operator does not know 2B, continue to 2Bi (Total hours) and 2Bii (Gallons Per Minute – same as IC 1169)
- If operator does know 2B, continue to 2C.

*To estimate for gallons per minute* multiply:

\[ \text{cubic feet per second} \times 450 \text{ GPM (gallons per minute)} \]

1 CFS = 450 GPM
Section G - Irrigation

2E: What was the pump type?
- If more than 1 pump type, enter code of pump closest to water source
- Sprinkler Irrigation System: generally use: Centrifugal, deep well turbine or submersible type pumps
- Turbine/Submersible pumps are generally used when water needs to be lifted
Section G - Irrigation

Turbine/Centrifugal: Impeller (rotating part that transmits motion in a device) which spins the water rapidly, increasing pressure to distribute water across field.

Submersible Pump: Can be installed in wells, under water. Single unit with a pump and electric motor that is submerged.

Booster Pump: Relatively small horsepower pump used to provide added lift or pressure.

Siphon Pump: Used generally to prime a large siphon tube that transfers water from a mainline water supply to a ditch/canal providing water to the field.
Section G - Irrigation

Pay Attention to Skip Patterns. A lot in this section. Examples:

- If Item 2a = code 1 – 9 (Pressure System) ⇒ Ask 2G, 2H, 2I
- If 2e = 99 (No Pressure System) ⇒ 2J, 2K,
- If #4 = 1, continue. Otherwise go to #5
- If #2A = 10 or 11 (Siphon tubes used) ⇒ Ask #5
- If #2A = 14 ⇒ Ask #6
- If #2A = 15 or 16 ⇒ Ask #7 & #8
Section G - Irrigation

Detailed analysis and definitions of Item 2 begins on page 5184 in Interviewer’s Manual and goes through page 5191.
Section G. Irrigation

- This concludes the Irrigation part to ARMS II
  - Are there any questions?
Conclusion

• Inform respondents they will be re-contacted in February or March of 2020
  – To collect additional information to complete the profile of their operations for ARMS
  – Purpose is to ask about entire year and year-end information at that time
Conclusion

• Important to retain the respondent’s cooperation for Spring interview
  – Very limited use of the respondent’s PPCR data can be made if data from Spring interview is not available
  – Remember, the ARMS III, combined with ARMS II represents the full ARMS
  – Emphasize you will call to make an appointment for a time convenient to the respondent for Spring interview
Conclusion

ITEMS 1 A&B:
Maria will go over
Location of the Selected Field through a mapping exercise, next
Conclusion

- Record the ending time in cell 0005
- Exclude time you spend reviewing the questionnaire or verifying calculations
- Use military time (add 12 if after noon)

[Thank the respondent, then review this questionnaire.]

6. ENDING TIME [MILITARY]
Conclusion

- Records Use:
  - Fill out after the interview is completed
  - Analysts and other data users interested in comparing reported data with use of records
  - Signals a higher quality

RECORD USE
7. [Did respondent use farm/ranch records to report--?]

<table>
<thead>
<tr>
<th>YES = 1</th>
<th>YES = 1</th>
<th>YES = 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>fertilizer data?</td>
<td>pesticide data?</td>
<td>Majority of this expense data?</td>
</tr>
<tr>
<td>0011</td>
<td>0012</td>
<td>0013</td>
</tr>
</tbody>
</table>
Conclusion

That's all Folks!
Any Question?
Mapping & Things to Remember

Don’t Forget!
Conclusion: Location of Selected Field

- Tell the respondent you need to mark the location of the selected field of the target commodity on a map
- May be best while you are choosing selected field location (Section A)
- Record Parish/County where it’s located
- Utilize the field description box

1. I need to locate the selected field of soybeans on this map.

2. What county is the selected soybean field in? . . . . . .

   Field description. ...........................................
Conclusion: Location of Selected Field

To accomplish this task:

• Use Apple Maps on your iPad using the GPS unit.

Note: Apple maps is for 0051 and 0052

County maps will not be given this year
Objective: Please complete the latitude and longitude in items 0051 and 0052

- Due to the editing system, there is an option for 5 decimals
- Apple maps only shows up to 4 decimal places – that is OK!
- You will notice 3 decimal places in front of Longitude
  - 1 is for the NEGATIVE Sign (-):
Location of Selected Field

Practice Time 😊

1). Google Maps – Search:
“1000 Luther Davis Rd, Benton, MS, 39039”

2). Hit the “I” Symbol and select Satellite

3). Place “Pin” in field directly to the left – Hold Down Finger

4). Latitude/Longitude pop up to the left – record the points.
Location of Selected Field

Practice Answers

LATITUDE

0051
3 2 . 7 3 6 7

LONGITUDE

0052
- 9 0 . 2 7 1 8

decimal
decimal
Location of Selected Field

Practice Exercise Answers

(1). Practice Exercise Answers: Use your IPAD to drop a pin and record the latitude and longitude of the following address: **1016 Highland Colony Pkwy, Ridgeland MS**

<table>
<thead>
<tr>
<th>LATITUDE</th>
<th>LONGITUDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0054</td>
<td>0055</td>
</tr>
<tr>
<td>N</td>
<td>W</td>
</tr>
<tr>
<td>d d m m s s</td>
<td>d d d m m s s</td>
</tr>
</tbody>
</table>

OR

<table>
<thead>
<tr>
<th>LATITUDE</th>
<th>LONGITUDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0051</td>
<td>0052</td>
</tr>
<tr>
<td>32.437301</td>
<td>-90.145492</td>
</tr>
</tbody>
</table>
Things to Remember

Final Points

• With so many pesticides/field operations on Cotton, supplement management is key. Make sure all are in order with transferred POIDS.

• Include notes with acreage differences, screening information, unusual field to acres ratios, and unavailable machine or product codes in respondent booklet

• Use sequence numbers instead of rewriting whole tables, do not skip lines, do not write notes over the blank lines in table

• Matches will be found on AURA.
Things to Remember

Required Sections

- Section A, Items 1 to 4
- Section B, Items 1, 2, 12 and 23
- Section C, Items 1, 2 and Table Column 2 only
- Section D, Items 1 and Table Columns 2 - 4
- Section F, the entire Field Operations table
- Conclusion, entire section

• But remember, we want you to give your best effort to have the respondent complete the entire survey!
Things to Remember

- Bench Marks/Due Date – UPS to Arkansas Office

<table>
<thead>
<tr>
<th>Survey</th>
<th>Benchmarks</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARMS 2/ MSUES (MS only)</td>
<td>50%</td>
<td>Ask Supervisor</td>
</tr>
<tr>
<td>ARMS 2/ MSUES (MS only)</td>
<td>80%</td>
<td>Ask Supervisor</td>
</tr>
<tr>
<td>ARMS 2/ MSUES (MS only)</td>
<td>100%</td>
<td>Ask Supervisor</td>
</tr>
</tbody>
</table>
MSUES
( MS Supervisors Only )
What is MSUES

• The Mississippi State University Extension Service (MSUES) Cropping Practices Survey is a joint effort between the National Agricultural Statistics Service (NASS) and the MSUES.

• The MSUES project began in the early 1980's.
Project Purpose

• The primary objective of this cooperative project is for MSUES to provide the Mississippi Department of Revenue tables of use values on cultivatable land for each year.

• This data will be used by Mississippi Department of Revenue to determine income and land use taxes.

• Another use of the data is MSUES publishes Planning Budgets for each crop.
  — Cotton, Corn, Grain Sorghum, Rice, and Wheat 2019 Planning Budgets.
Changes From Previous Project

• The changes from previous year includes:
  – Data for only one commodity will be selected for a crop year.
  – The 2019 commodity crop will be CORN.
  – Sample size will be approximately 168 producers
2019 MSUES

ANY
QUESTIONS?