Cornell Cooperative Extension's
Lewis County Ag Digest

Volume 21 Issue 5 May 2015

Whose Farm is it Anyway?

If you think you know this farm, call our office with your guess. ***Those with correct answers will be eligible for a tote bag compliments of CCE-Lewis County!*** Need another hint? Visit our website at http://blogs.cornell.edu/ccelewis for another angle. See page 6 for contest details and last month's winner.

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Cornell University Cooperative Extension Lewis County

County Office Building
Outer Stowe Street, PO Box 72
Lowville, NY 13367
315-376-5270 Email: lewis@cornell.edu

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The material is sent for your information as part of the program for commercial agriculture by Cooperative Extension.

For further program details, contact or visit our office, which is open from 8:00 a.m. to 4:30 p.m. Monday through Friday. Please feel free to contact us at any time. Our telephone number is 315-376-5270.

Sincerely,

Michele Ledoux - email: mel14@cornell.edu
Executive Director

Peggy Murray - email: mlm40@cornell.edu
Extension Educator
Farm Business Management

Kris Panowicz – email: kmp34@cornell.edu
Agricultural Secretary/Bookkeeper/
Advertising

Mike Hunter - email: meh27@cornell.edu
Extension Educator
Field Crop Specialist

Terri Taraska – email: tt394@cornell.edu
Extension Educator
Dairy Specialist

Mellissa Spence – email: mms427@cornell.edu
Extension Educator
Sustainable Agriculture

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Helping You Put Knowledge to Work
Cornell Cooperative Extension of Lewis County provides equal employment and program opportunities.

Predicting Killer Frost This Fall

By Ron Kuck, Cornell Cooperative Extension of Jefferson County

Geez, we haven't even scoured the plows yet and we're talking frost? I came upon an article in The Country Folks in 2008, by Paris Reidhed, who is a field crops consultant in the Mohawk Valley and a frequent contributor to Country Folks.

This column stated that precisely 182.625 days after the first spring thunderstorm there will be a cover-the-tomatoes killer frost. This applies only to those regions of the country located along the 45th parallel North. The 45th parallel roughly marks the border between the NNY and Canadian province of Quebec. Watertown sits just 60 miles south of the 44th parallel. The 45th parallel passes through the states of Idaho, Wisconsin, New York, and through the Canadian provinces of Ontario and Quebec—all strong dairy states.

According to the article the science of this is something called the jet stream polar drift rule. This "rule" dictates that one weather extreme deviating from the vernal equinox (spring) will be followed by the opposite weather extreme six months later around the autumnal equinox (fall).

I have followed this since 2008 and my recollection is that this prediction was pretty accurate until the last two years. So note when we had our first thunderstorm this spring and mark your calendar for frost date. Let's check back then. In the meantime let's get the soils warm and dry.

Footnote: According to records at the Watertown Airport (1945-current), there is an 80% chance that there will be a frost earlier than October 8th and a 90% chance that a frost occurs before October 13th.

Rethinking Soybean Weed Control

By: Mike Hunter, Cornell Cooperative Extension of Jefferson County

With the widespread adoption of glyphosate resistant (Roundup Ready) soybeans in Northern New York, our most common soybean weed control program is a single post-emergence application of glyphosate herbicide. This has proven to be a simple and effective weed control method when the herbicide is applied at the right time. Delayed post-emergence herbicide applications and the risk of glyphosate-resistant weeds developing are reasons to rethink our current soybean weed control program. Should we begin using pre-emergence residual herbicides in our soybean weed control program?

Soybeans can withstand early season weed pressure better than corn. However, we still need to make sure that we have controlled the weeds before they begin to compete for soil moisture, nutrients, and sunlight. According to the 2015 Cornell Guide to Integrated Field Crop Management, it is recommended that glyphosate be applied to glyphosate-resistant soybeans 24 to 30 days after planting. In most cases the weeds will be 2 to 4 inches tall; however, this may not always be the case. It is not uncommon to see delayed glyphosate herbicide applications of soybeans when the weeds are much taller and the soybeans are barely visible in the field. When we see this happen the soybean grower has already experienced significant yield losses.

It may be time to consider a planned two-pass herbicide program for your soybeans. The use of a pre-emergence residual soybean herbicide would provide early season weed control and help protect yield if the glyphosate herbicide application were delayed. The use of a pre-emergence residual program will also help reduce the chances for glyphosate-resistant weeds to develop on your farm. While there are no confirmed cases of glyphosate-resistant weeds in New York, many people suggest that it will only become a matter of time before we see them show up. A planned two-pass herbicide program will guarantee that at least two modes of action are being used on the weeds.

In 2014, the Northern New York Agricultural Development Program funded a soybean weed control research project located in Jefferson County. Russ Hahn, Cornell University, was the lead researcher on the project. The primary focus was to look at the control of common lambsquaters in glyphosate-tolerant soybeans using planned two-pass programs versus a total post-emergence program. In this replicated field experiment there were nine pre-emergence herbicide treatments followed by a post-emergence application of glyphosate and six post-emergence treatments of glyphosate and tank mixes with glyphosate.

The field was planted on June 9th and the pre-emergence herbicides were applied on June 10th. The post-emergence treatments were applied on July 18th (39 days after planting). All of the pre-emergence treatments received this post-emergence application of glyphosate as well. This delayed post-emergence application of glyphosate was only nine days later than recommended and the common lambsquaters was already 14 inches tall at the time of application. At the time of the post-emergence application, many of the pre-emergence herbicide treatments were still very clean. At the

end of the season the trial was harvested and the yields were recorded. The average yield for the two-pass herbicide treatments was 55 bushels per acre and the one-pass late post-emergence treatments averaged only 35 bushels, *a 20 bushel yield difference.*

It may be time to start using more pre-emergence residual soybean herbicides in our weed control programs. If you would like more information about pre-emergence soybean weed control programs or would like a copy of the NNYADP soybean weed control trial research report contact Mike Hunter at 788-8450 or 376-5270, or by email at meh27@cornell.edu.

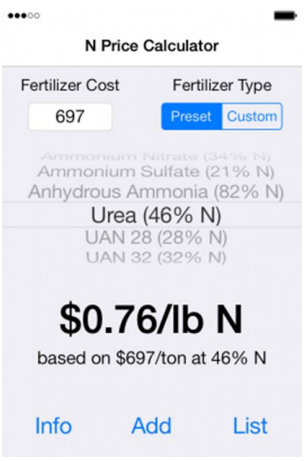
app of the MONTH

N Price Calculator App

Have you ever tried to calculate the dollar amount per pound of nitrogen, when you only know the price per ton and the percent of N in a fertilizer? It's not something you can do in your head very easily.

The free N Price calculator app allows you to compare the price of various forms of nitrogen fertilizer products in terms of their price per pound of nitrogen.

Nitrogen fertilizers such as anhydrous ammonia, urea, and urea ammonium nitrate (UAN) vary in their nitrogen content and are sold on a price per ton basis. This app converts the price of each fertilizer product from price per ton to price per pound of nitrogen — allowing for "apples to apples" comparisons. By comparing the price per pound of nitrogen from multiple fertilizer sources on the N Price Calculator's Price List, the cheapest source of nitrogen can be identified.



Check out this application for iPhone and iPad: http://itunes.apple.com/app/n-price-calculator/id455090088?mt=8

Check out this application for Android: https://play.google.com/store/apps/details?id=ipcm.calc.nprice

NYS Mesonet Weather Observing Network

By Dr. Jerald Brotzge, NYS Mesonet Project Manager

The New York State (NYS) Mesonet or Early Warning Weather Detection System is an advanced, statewide weather station network. This network will be the first of its kind in New York and will consist of up to 125 surface weather stations that will detect weather phenomena across the entire state. This weather detection system will provide federal, state, and local communities with access to high-resolution, real-time data, and more robust predictive models.

- Each station will measure temperature, relative humidity, wind speed and direction, precipitation, solar radiation, atmospheric pressure, and soil moisture/ temperature at three depths.
- Seventeen of these sites will have instrumentation to measure vertical profiles of wind, temperature, and moisture.
- Twenty of these sites will measure snow depth and snow water equivalent for hydrological applications.
- All data will be transmitted in real-time to a central location, quality controlled, and then disseminated to the public via our website – www.nysmesonet.org.
- The NYS Mesonet will support more accurate and precise decision-making in agriculture, emergency management, energy, ground transportation, and aviation (e.g. soil moisture and temperature data will improve irrigation efficiency and various pest models will be improved).
- Each station consists of a 33 ft. tower centered within a 33 ft. x 33 ft. plot of land. To ensure the highest quality of data each station must be at least 300 feet from the nearest obstacle (tall trees, buildings, etc.) or potential heat sources (pavement).
- The University at Albany will pay for any expenses associated with installation and maintenance of each station.

If you would be interested in hosting a Mesonet site, please contact Dr. Jerald Brotzge at jbrotzge@albany.edu.

If you would like to learn more about the NYS Mesonet, please visit our website at www.nysmesonet.org.

Cost –Sharing Available to Protect NNY Alfalfa Crops: Register by May 15

By Kara Dunn, NNYADP publicist

The Northern New York Agricultural Development Program, Cornell Cooperative Extension, and the Shields Lab at Cornell University are partnering to offer farmers a cost-sharing opportunity to encourage more growers to treat fields with biocontrol nematodes in areas infected with the highly destructive alfalfa snout beetle. The deadline for expressing interest in the funding is May 15, 2015.

Alfalfa snout beetle is the major limiting factor in alfalfa production and stand longevity in all six NNY counties: Clinton, Essex, Franklin, Jefferson, Lewis, and St. Lawrence. The pest is also known to exist in three other counties in New York State and in southeastern Ontario.

'Uncontrolled, the beetle can destroy a new alfalfa seeding in just a year or two, with field losses from $250 to $400 per acre,' says Cornell Cooperative Extension Field Crops and Soils Specialist Kitty A. O'Neil.

To date, the beetle-attacking nematodes have been applied to between 8,000 and 10,000 acres of NNY farmland. A single application is enough to prompt success.

'Early adopting producers who have applied the nematodes to multiple fields within an area have reported a significant decline in the alfalfa snout beetle population on their farm and are now successfully growing alfalfa again,' says Cornell Cooperative Extension Field Crops Specialist Michael E. Hunter.

The farmer-driven Northern New York Agricultural Development Program is making funding available to help underwrite the rearing and application of the native nematodes. Extension personnel are serving as the application conduit.

'On-farm research in Northern New York in the past seven years indicates that just a single application of the biocontrol nematodes is required in a field as the nematodes will persist in the field for many years,' says Cornell Entomologist Elson Shields.

The most recent research funded by the Northern New York Agricultural Development Program shows that the nematodes will persist through a corn crop grown after alfalfa in the same field.

The project is also encouraging growers to plant varieties of alfalfa that are increasingly resistant to the pest, as identified by the selective breeding project funded by the Northern New York Agricultural Development Program and managed by the Cornell University Department of Plant Breeding and Genetics.

Farmers interested in participating in the cost-sharing program will find guidelines on the home page at www.nnyagdev.org. Requests must be made through Cornell Cooperative Extension of Clinton, Essex, Franklin, or St. Lawrence counties to Kitty A. O'Neil at 315-854-1218 or kitty.oneil@cornell.edu and for Jefferson or Lewis counties to Michael E. Hunter at 315-788-8450 or meh27@cornell.edu.

The funding for the cost-sharing program was made possible through the $600,000 appropriated to the Northern New York Agricultural Development Program in the 2014-2015 New York State Budget.

The nematode biocontrol concept that arose from NNY alfalfa fields is now being evaluated to control pests in berry crops in Northern New York and, with funding through the New York Farm Viability Institute, in grape and organic apple crops elsewhere in New York State.

For more information about the Northern New York Agricultural Development Program, a complete list of 2015 projects, and results of the past projects, visit the Program website at www.nnyagdev.org.

Whose Farm Is It Anyway?

The cover of the Ag Digest features a different Lewis County farm each month. The contest works like this:

1. The challenge – look closely and let us know if you think you know either of the following:
   - Farm name
   - Farm owner name
   - Detailed description of its location

   NOTE: If you need another hint, visit our website at http://blogs.cornell.edu/ccelewis/ and click on "Agriculture" where you will see the same farm from a different (often more common) angle.
2. Call CCE of Lewis County at 376-5270 with your guess no later than May 5th.
3. All correct entries received by the deadline will be entered into a drawing. The winner will receive a prize, sponsored by our advertisers.
4. The answer and the winner will be announced in the next issue.
5. You can only win a prize once each calendar year; however, the person with the most correct answers in a year will receive the Grand Prize.

Last Month's Winner **was Betsey Burbank** of Lowville who correctly guessed it was the farm of Lauren and Debbie Zehr on the Number Three Road in Lowville. Betsey received $25 in car tokens compliments of Hanno's Hometown Car Wash.

New Crop Production Guide Aimed at Helping Farmers Tap Organic Markets

Press Release

If you are an organic-crop producer in the Northeast, or a farmer interested in transitioning to organic, there is a new resource available to provide the research-based information you need to be successful.

The newly published Penn State Organic Crop Production Guide — believed to be the first and only organic field-crop production guide tailored to the mid-Atlantic and Northeast regions — is among the most comprehensive university-produced guides in the country, according to Charlie White, sustainable agriculture extension associate in Penn State's College of Agricultural Sciences.

"The guide provides science-based information on organic practices and ecological processes, all in one volume," White said. "It features case studies from farmers and other firsthand information gleaned from field days, workshops and networking events, tapping into the knowledge and experience of producers. In addition, it offers the expertise of partner organizations such as Pennsylvania Certified Organic."

The 243-page production guide also incorporates scientific information generated by Penn State research. The College of Agricultural Sciences conducts organic research on more than 40 acres of cropland at the Russell E. Larson Agricultural Research Center at Rock Springs, about 10 miles from the University Park campus in Centre County.

Recent Penn State research has explored such topics as weed management, environmental quality and profitability in organic feed and forage production; multifunctional cover-crop cocktails for organic systems; reduced-tillage organic feed-grains production; and organic production of heritage small grains.

Data from the Organic Trade Association indicate that sales of organic products in the United States jumped to $35.1 billion in 2013, up more than 11.5 percent from the previous year's $31.5 billion. In the U.S. Department of Agriculture's 2008 Organic Survey, 551 certified organic farms in Pennsylvania reported sales of nearly $213 million.

According to USDA, rising consumer demand for organically produced goods provides market incentives for U.S. farmers across a broad range of products. The department points out that organic products now are available in nearly 20,000 natural food stores and nearly three out of four conventional grocery stores.

"One of the big opportunities for producers is the growing demand for organic livestock feed," White said.

"Pennsylvania is an importer of feed, and there's a shortage of organic grain for dairy and poultry producers."

But transitioning to organic production is not a simple matter, he explains. For instance, because organic standards do not permit the use of synthetic chemicals, controlling weeds that compete with crops for soil nutrients, water and sunlight is among the biggest challenges for organic growers. He noted that the guide provides detailed recommendations for weed control in organic systems.

"Successful weed management in organic cropping systems is knowledge intensive and requires skill," he said. "Cultural and mechanical tactics must be highly integrated and may include crop rotation, tillage, mulches and cover crops."

The guide also contains sections covering:

- soil health and management,
- soil fertility,
- cover crops,
- insect and disease management,
- marketing organic crops,
- planning crop rotations,
- organic field-crop budgets and
- other topics.

"The information will be useful to all levels of experience, whether someone is a seasoned organic producer or is just considering whether to make the transition," White said.

The Penn State Organic Crop Production Guide is available in print or in PDF format. A bundle that includes both versions can also be purchased. Pricing information and a preview of the guide is available online.

To order, call toll-free 877-345-0691 from 8 a.m. to 4:30 p.m., Monday through Friday. All major credit cards are accepted. Checks and money orders payable in U.S. currency can be mailed to Publications Distribution Center, College of Agricultural Sciences, The Pennsylvania State University, 112 Agricultural Administration Building, University Park, PA 16802-2602.

Handy Bt Trait Table

MSU Field Crops Entomology Program

CDD #028
Updated April 2015

With questions or for corrections, contact:
Chris DiFonzo, Field Crops Entomologist
Michigan State University, East Lansing, MI

The most up-to-date version of this bulletin is posted at: www.msuent.com

Most corn hybrids planted in the U.S. now contain one or more transgenic traits for weed or insect management. These traits are meant to increase flexibility and profitability for producers, but sometimes also lead to questions or cause confusion about their spectrum of control or refuge requirements to delay resistance. This bulletin provides a handy one-stop-guide to understand sales materials, bag tags, and the hybrids you purchase.

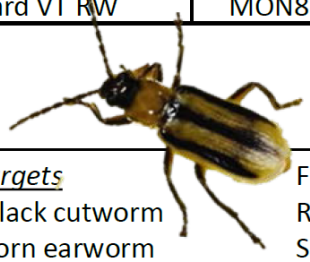
Table 1 lists the names of the important 'events' (transformations of one or more genes) in corn, their more familiar Trade Names, the protein(s) expressed, and their pest targets. Table 2 lists specific trait packages (combinations of events) sold by various seed companies, with their spectrum of control and refuge requirements. In recent years, the pyramiding of Bt traits allowed for the reduction of some refuges from 20% to 10% or 5%, depending on the trait package. Some hybrids still require a structured refuge planted as a block or series of rows, but many hybrids are now sold as a convenient refuge-in-the-bag (RIB). But it is still important to take the following steps:

*Understand the ***biology*** of each trait, the expected level of control, and refuge requirements;
Confirm that the seed you ordered the previous year is the seed delivered in the spring;
*Keep good ***planting records*** and save a representative sample of ***bag tags;***
*For herbicide applications, ***Ask Twice-Spray Once***, especially if you hire a custom applicator;
*Most important, if you see **unexpected damage or poor performance** of a trait (especially damage from corn rootworm), contact your seed dealer and extension educator immediately so that the field can be visited while the problem is still fresh and samples can be taken. This is critical to **identify and manage cases of rootworm Bt resistance**.

This bulletin strives for completeness, but keeping track of Bt traits isn't easy. For a searchable, easy-to-use database of GM crop approvals, see the ISAAA web site at http://www.isaaa.org/gmapprovaldatabase

Table 1. Event names for proteins expressed in Bt corn plants

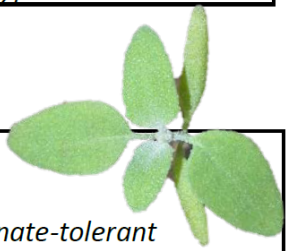
Trade name	Event name	Protein(s) expressed	Insect Target or *Herbicide Activity*
Agrisure CB/LL	Bt11	Cry1Ab+PAT	corn borer + *glufosinate tolerance*
Agrisure Duracade	5307	eCry3.1Ab	rootworm
Agrisure RW	MIR604	mCry3A	rootworm
Agrisure Viptera	MIR162	Vip3Aa	broad lep control
Herculex 1 or CB	TC1507	Cry1F + PAT	corn borer + *glufosinate tolerance*
Herculex RW	DAS-59122-7	Cry34Ab1/Cry35Ab1+PAT	rootworm + *glufosinate tolerance*
Roundup Ready 2	NK603	CP4 EPSPS	*glyphosate tolerance*
YieldGard CB	MON810	Cry1Ab	corn borer
YieldGard VT Pro	MON89034	Cry1A.105+Cry2Ab2	broad lep control
YieldGard VT RW	MON88017	Cry3Bb1+CP4 EPSPS	rootworm + *glyphosate tolerance*



Abbreviations used in Table 2 on page 10

Insect targets

BCW	black cutworm
CEW	corn earworm
ECB	European corn borer
FAW	fall armyworm
RW	corn rootworm
SB	stalk borer
WBC	western bean cutworm



Herbicide activity

GT	*glyphosate tolerant*
LL	Liberty Link, *glufosinate-tolerant*
RR2	Roundup Ready 2, *glyphosate-tolerant*

Table 2. Bt corn trait packages, with spectrum of control and refuge requirements. (Updated April 2015)

Trait Family Product	Bt protein(s)	Insects **controlled** or *suppressed* Above-ground----------In soil		Herbicide tolerant?	Refuge %, placement (for the MIDWEST)
AGRISURE					
Agrisure CB/LL/RW	Cry1Ab mCry3A	**ECB** *CEW FAW SB*	**RW**	LL	20% structured-adjacent
Agrisure 3000GT	Cry1Ab mCry3A	**ECB** *CEW FAW SB*	**RW**	GT LL	20% structured-adjacent
Agrisure Artesian 3011A	Cry1Ab mCry3A	**ECB** *CEW FAW SB*	**RW**	GT LL	20% structured-adjacent
Agrisure Viptera 3110	Cry1Ab Vip3A	**BCW CEW ECB FAW SB WBC**	---	GT LL	20% structured-½ mile
Agrisure Viptera 3111	Cry1Ab mCry3A Vip3A	**BCW CEW ECB FAW SB WBC**	**RW**	GT LL	20% structured-adjacent
Agrisure 3122 E-Z Refuge	Cry1Ab Cry1F mCry3A Cry34/35Ab1	**BCW ECB FAW WBC** *CEW SB*	**RW**	GT	5% in the bag (RIB)
Agrisure Viptera 3220 E-Z Refuge	Cry1Ab Cry1F Vip3A	**BCW CEW ECB FAW SB WBC**	**---**	GT	5% in the bag (RIB)
Agrisure Duracade 5122 E-Z Refuge	Cry1Ab Cry1F mCry3A eCry3.1Ab	**BCW CEW ECB FAW SB WBC**	**RW**	GT	5% in the bag (RIB)
Agrisure Duracade 5222 E-Z Refuge	Cry1Ab Cry1F Vip3A mCry3A eCry3.1Ab	**BCW CEW ECB FAW SB WBC**	**RW**	GT	5% in the bag (RIB)
HERCULEX					
Herculex 1 (HX1)	Cry1F	**BCW ECB FAW WBC** *CEW*	---	LL	20% structured-½ mile
Herculex RW (HXRW)	Cry34/35Ab1	----	**RW**	RR2 (most)	20% structured-adjacent
Herculex XTRA (HXX)	Cry1F Cry34/35Ab1	**BCW ECB FAW WBC** *CEW*	**RW**		20% structured-adjacent
OPTIMUM					
TRIsect	Cry1F mCry3A	**BCW ECB FAW WBC** *CEW*	**RW**	LL RR2	20% structured-adjacent
Intrasect	Cry1F Cry1Ab	**BCW ECB FAW WBC** *CEW SB*	---	LL RR2	5% structured-½ mile
Intrasect Leptra	Cry1F Cry1Ab Vip3A	**BCW CEW ECB FAW SB WBC**	---	LL RR2	5% structured-adjacent
Intrasect XTra	Cry1F Cry1Ab Cry34/35Ab1	**BCW ECB FAW WBC** *CEW SB*	**RW**	LL RR2	20% structured-adjacent
Intrasect XTreme	Cry1F Cry1Ab mCry3A Cry34/35Ab1	**BCW ECB FAW WBC** *CEW SB*	**RW**	LL RR2	5% structured-adjacent
AcreMax (AM)	Cry1F Cry1Ab	**BCW ECB FAW WBC** *CEW SB*	---	LL RR2	5% in the bag (RIB)
AcreMax RW (AMRW)	Cry34/35Ab1	---	**RW**	LL RR2	10% in the bag (RIB)
AcreMax1 (AM1)	Cry1F Cry34/35Ab1	**BCW ECB FAW WBC** *CEW*	**RW**	LL RR2	10% in the bag *(RW)* & 20% structured-½ mile *(CB)*
AcreMax TRIsect (AMT)	Cry1F Cry1Ab mCry3A	**BCW ECB FAW WBC** *CEW SB*	**RW**	LL RR2	10% in the bag (RIB)
AcreMax Xtra (AMX)	Cry1F Cry1Ab Cry34/35Ab1	**BCW ECB FAW WBC** *CEW SB*	**RW**	LL RR2	10% in the bag (RIB)
AcreMax XTrem (AMXT)	Cry1F Cry1Ab mCry3A Cry34/35Ab1	**BCW ECB FAW WBC** *CEW SB*	**RW**	LL RR2	5% in the bag (RIB)
YIELDGARD / GENUITY					
YieldGard CB (YGCB)	Cry1Ab	**ECB** *CEW FAW SB*	---	RR2	20% structured-½ mile
YieldGard VT Rootworm	Cry3Bb1	-----	**RW**	RR2	20% structured-adjacent
YieldGard VT Triple	Cry1Ab Cry3Bb1	**ECB** *CEW FAW SB*	**RW**	RR2	20% structured-adjacent
Genuity VT Double PRO or as RIB complete	Cry1A.105 Cry2Ab2	**CEW ECB FAW SB**	---	RR2	5% structured-½ mile 5% in the bag (RIB)
Genuity VT Triple PRO or as RIB complete	Cry1A.105 Cry2Ab2 Cry3Bb1	**CEW ECB FAW SB**	**RW**	RR2	20% structured-adjacent 10% in the bag (RIB)
Genuity SmartStax RIB Complete	Cry1A.105 Cry2Ab2 Cry1F Cry3Bb1 Cry34/35Ab1	**BCW CEW ECB FAW SB WBC**	**RW**	LL RR2	5% in the bag (RIB)
OTHER					
Smartstax (Mycogen) or as Refuge Advanced	Cry1A.105 Cry2Ab2 Cry1F Cry3Bb1 Cry34/35Ab1	**BCW CEW ECB FAW SB WBC**	**RW**	LL RR2	5% structured-adjacent 5% in the bag (RIB)
Powercore	Cry1A.105 Cry2Ab2 Cry1F	**BCW CEW ECB FAW**	This product is pending approvals		

Ventilation for the Calf Barn

By Terri Taraska,
Cornell Cooperative Extension of Lewis County

In general, ventilation is a system that includes fans, inlets, and controls. Ventilating systems affect:

- Air temperature
- Moisture level
- Moisture condensation on surfaces
- Air speed across animals
- Odor and gas concentrations
- Airborne dust and disease organism level

Basic ventilating process:

- Brings fresh air into the barn
- Mixes outside and inside air; picks up heat, moisture, and air contaminants
- Exhaust moist, contaminated air from the building

Ammonia levels, air flow or velocity, percent humidity, temperature and airborne microbial concentration are parameters that will be measured in different types of calf housing. Much of this work goes back to evaluating the ventilation in the barn. Ventilation of the barn can be manipulated with different types of mechanical ventilation. In general there is three types of mechanical ventilation: negative pressure ventilation, positive pressure ventilation and neutral pressure ventilation.

So what is Positive Pressure Ventilation? This is the forcing of outside air to the area above where calves are housed. The idea is to bring fresh air in the barn without creating a draft on the calf. (And what exactly is a draft, some definitions in the literature include a draft is air moving at a speed greater than 60 feet/minute or another source defined it as air speed greater than 100 feet/min.)
The very general basics of designing a positive pressure system is the following three steps:

- Choose fan or fans to ventilate the barn appropriately
- Pick a tube diameter and air speed to assure uniform discharge of air and good inflation along the entire length of the tube
- Size the holes to deliver fresh air to calves without creating a draft.

Positive pressure ventilation

So what is negative pressure ventilation? Negative pressure systems exhaust air from the structure with wall-mounted fans that create a slight negative pressure or vacuum; the reduced pressure sucks air in through inlets.

So what is neutral pressure ventilation? Neutral pressure systems in a barn use a fan to force air through a tube into the calf barn and exhaust fans to remove stale air from the building. Think of it as a combination of both a positive pressure system and a negative pressure system. Air is pulled in along one wall of the barn and fans set up along the other side, pulling that fresh air across the barn, across pens and out the other side of the barn.

Below is a table showing the minimum cubic feet per minute (cfm) per animal (table from "Dairy Freestall Housing and Equipment, MWPS-7). The traditional ventilation rates per animal for cold, mild and hot weather are:

Age	Cold Weather (cfm/head)	Mild Weather (cfm/head)	Hot Weather (cfm/head)
Calves 0-2 mth	15	50	100
Calves 2-12 mth	20	60	130
Heifers 12-24 mth	30	80	180
Cow, 1400 lb	50	170	470

Some concern maybe with producers is that as soon as you add or turn on fans in the winter, it will create an extremely cold interior in the barn. If calf barns are well ventilated, the interior temperature will resemble outdoor ambient temperature most of the time, usually tracking within a range of about 5 degrees Fahrenheit. Rather than try to warm the barn through reduced ventilation, efforts should be made to provide thermal support with the provision of very deep bedding, preferably long straw, or blankets for calves during the first three weeks of life.

So if you are interested in figuring out a ventilation design in your calf barn, give us a call. You can check with us in the extension office or your local veterinarian for ideas on whether you need some additional ventilation.

High Sugar Forages

By Ron Kuck, Cornell Cooperative Extension of Jefferson County

Sugar tastes good even to ruminants. The bacteria that ferment your forage also like the "taste" of sugar and high sugar forages ferment faster and more completely than lower sugar forages.

But why should we include high sugar forages in a cow's diet when we can get the same energy out of starch? Sugar is rapidly fermentable which helps ammonia in the rumen breakdown rumen degradable protein. Without sugar the nitrogen would be lost and excreted. Sugar also doesn't appear to alter the rumen pH as starches do.

So how do we do this? As always it comes down to forage harvest management. The AM/PM question come up now and again. Photosynthesis uses sunlight o build up sugars in the plant all day resulting in highest sugar levels in the afternoon if the sun has been out all day. Sugars are lowest in the morning because the plant burned sugar all night through respiration without being able to make any.

So cut hay in afternoon and we will get high sugar forages? In the dry west this could come true because of low humidity at night. Plants stop respiring (burning sugar) a 40% DM plus the temperature drops which also slows respiration. Here in the humid east, forage cut in the afternoon most likely will never get to 40% DM and temps won't drop so dramatically. Only if we get an evening with radiant cooling (no clouds) will we be able to mow in the afternoon.

The solution for the humid east to harvest high sugar forages come from Tom Kilcer, Advance AG Systems and a former CCE agent. You should have heard of it "Hay in a Day". The sugar levels in hay/haylage harvested this way can rival PM cut hay. Two links also on our website: ccejefferson.org
https://www.morningagclips.com/hay-in-a-day-what-does-it-really-mean/

https://www.youtube.com/watch?v=oSsQvVga6tw

Resources:
Chad Hale for Progressive Forage Grower
Tom Kilcer, Advanced Ag Systems

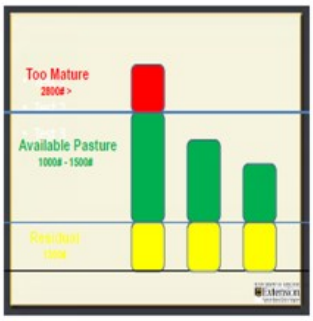
Pasture Management Tips

By Karen Hoffman, NRCS, Norwich, NY

Since transition to pasture always seems to be challenging for some, we always have the same (or similar) pasture management tips in April every year. Dairy farmers need to be especially careful about transitioning, or milk production may take a hit. Remember that switching from stored feeds to pasture is like changing silos - the rumen bugs need time to adjust to a higher quality feed. Even other kinds and classes of livestock need to make the shift, but you don't generally see the effect of no transition time causing lower production - they usually make up the difference in growth later in the season.

Best bets are to begin the transition before the grass really starts to grow rapidly – generally before it reaches 6 inches in height. If the ground is so wet that they'll sink up to the hocks, you may want to wait a little longer, or find a paddock where the ground is drier to start on. Transitioning at the shorter height sets up your "grazing wedge" - in other words, it begins the process of getting the grass staged to be grazed at the right height throughout the grazing season. If you wait to turn out until it's 6 to 8 inches tall, you've set yourself up for a lot more clipping or haying, because the animals will never catch up with it. The shorter starting height also limits intake, and so helps the rumen bugs adjust over the first week or two on grass.

Grazing Wedge /Rising Plate Meter



The one caution with early spring transition to grazing is to not overgraze your pastures. The plants will initially grow from stored nutrients, but if overgrazed those nutrients are depleted quickly, the plants will lose their root mass, and will take longer to regrow. Leave enough leaf area for the plants to continue photosynthesizing, which usually means a short residency period or what is sometimes called “flash grazing” - this restricts the animals ability to graze it too short. It’s a delicate balancing act in the spring, and requires observation and the ability to change grazing strategies quickly. In other words, this is where the art is needed in the application of the science of managed grazing!

El Sostento, a bilingual e-newsletter

By Lizzy Eiholzer, Bilingual Dairy Specialist

This newsletter is created by Libby Eiholzer (Libby Gaige), Bilingual Dairy Specialist of the Northwest New York Dairy, Livestock and Field Crops Team. El Sostento (Sustenance and Support) is published four times a year and focuses on providing relevant content to dairy farmers who have Hispanic employees.

Topics for this quarter include:

- How to Avoid Housing Issues
- What's in a Ration? - Spanish/English vocabulary
- Worth a Listen- Radio story on the impact immigration reform could have on agriculture
- Calving Assistance: Working With Heifers- Spanish/ English
- *La Virgen de Guadalupe- Who is she?*
- Pest Management DVD order form
- Bed Bug Fact Sheet- Spanish/English

Link to access newsletter

http://nwnyteam.cce.cornell.edu/submission.php?id=472&crumb=bilingual|13

If you work with producers that would like to receive the newsletter, please let me know and I can add them to my distribution list. I'm also always looking for ideas for future issues, so let me know if you have suggestions. Please contact me at 607-793-4847 or www.nwnyteam.org.

Livestock Lifestyles May 2015

By Steve Ledoux, Cornell Cooperative Extension of Jefferson County

May brings new calves, new lambs, and green grass as the cycle of life on a livestock farm turns once more. Now is the time to get an inventory of how much hay you had left, how many animals you have to feed over the summer and into next winter and to evaluate your pastures. All of these common threads will allow you to make better decisions on your feeding programs and improve the value of your livestock at market time.

If you didn't have enough hay over the winter now is the time to figure out which fields can get fertilized between cuttings to increase yields or where you can spread manure between cuttings. Nitrogen usually limits grass production more than any other nutrient. Extra fertilizer on the right fields at the right times can result in enough extra hay to make it through next winter. Making more than you need during the summer makes it a lot easier to carry extra livestock numbers through the winter. Purchased late, winter hay is at its most expensive and you are taking a chance with quality. Planning now can make you more money in the long run. If you can't make a lot more hay on the land you have now then consider buying it during the summer when it is more economical or putting what you have undercover or wrapping it to cut losses and stretch your hay crop to its maximum. Either way or a combination of both methods should get you the extra hay you need.

Pasture doesn't mean WRAP pasture, wind, rain, air, and prayer. It means managed grass resources to maximize plant growth and production of livestock in a cost efficient manner. Look at the grass you have. Are there more weeds than grass? Is it overgrazed, played out from over grazing and under fertilized? If yes is the answer to any of these questions then think about no tilling grass seed into your existing stands, or reducing stocking density. A little more fertilizer on grass in a pasture pays big dividends in yields and pounds sold per acre and will give your pastures longevity. Management with your grass resources is as important as your livestock management skills for profitability and stewardship of the soil. Grass is a cheap way to grow livestock and to utilize land unsuitable for crop production.

More quality hay, productive pasture, and healthy livestock begin in May and set the tone for your whole year. For more information contact Steve Ledoux at 315-788-8450 or at swl73@cornell.edu for more information.

Bunker Silo Safety

By Karl Cyzmmek and Curt Gooch, PRO-Dairy

As you anticipate harvesting and storing your first cut forage take some time to review safety during this very busy season.

All types of silos have particular health and safety concerns but most involve farms using bunk silos to store their forage. Certain activities around bunker and trench silos present serious or fatal fall and/or rollover hazards. Recognize also that solutions to address these hazards will take engineering effort, site specific planning, capital and your own ingenuity.

For the present time all dairy operations, regardless of silo or storage type, are encouraged to implement the following guidelines:

- Annual silo safety training
- Tractor safety equipment
- Silage truck safety equipment
- Silo structural inspection
- Silo site and sounding area
- General Communications

**All farms should have complete, accurate written procedures plus document all safety trainings completed on your farm.

The complete article and others on Farm Safety from Cornell PRO-Dairy can be found at http://magazines.dairybusiness.com/dbeaug14/ and www.ccejefferson.org.

Winter Dairy Management

By Terri Taraska, CCE Lewis County

In March we had the program for Winter Dairy Management. With a variety of dairy producers representing both tie stall barns and free stalls, we had a good turn out with a lot of interaction between producers and presenters.

Dr. Tom Overton, Cornell University Professor of Animal Science and Director of PRO-Dairy, provided information on the fundamentals of dairy nutrition and how this would relate to milk components.

Dr. Overton reminded us that there are many non-nutritional factors that affect milk fat:

- genetics,
- days in milk,
- season,
- heat stress,
- feeding patterns, and
- stocking density.

Nutritional factors that affect milk fat include:

- dietary carbohydrates,
- unsaturated fats,
- feeding strategies, and
- ionophores.

On the business side, Jason Karszes, senior extension associate, Cornell PRO-Dairy, reviewed the impact of milk components on the milk check and understanding income over feed costs and its impact on profitability. Jason emphasized to the group that when evaluating your feeding program, net milk over purchased feed costs per cwt highly correlates to overall farm profitability. If you have a topic you want to learn more about at the next Winter Dairy Management program or other programs please contact your local extension office with your ideas and/or concerns.

Investing in the Future of Agriculture

Meet the Farmer: Conway Dairy, LLC

By Mellissa Spence, Cornell Cooperative Extension of Lewis County

Agriculture is the number one labor force in Lewis County with the dairy industry in the forefront. Conway Dairy, LLC, in Turin has recently expanded their dairy operation and I would like to tell you their story. Randy and Sue Conway and their sons, Derek and Jacob, operate the Conway Dairy, LLC.

In 1982, Randy purchased his grandfather's (Stanley Percoski) farm and his father's (John Conway) farm to milk a combined 100 Holstein cows.

In 2004, Derek returned to the family farm after completing a degree in Dairy Science from Morrisville College and formed the partnership with his parents.

In 2006, the farm built a new free stall barn by retrofitting the existing tie stall barn into what is now the milking parlor and expanded to 200 Holstein cows.

In 2008, the family farm welcomed back Jake after completing a degree in Dairy Science from Morrisville College, which is by the way, Randy's Alma Mater. What a proud moment to have both his sons graduate from the same college!

In 2011, the Conway's bought the neighboring farm to accommodate the growing dairy farm. This farm is where the calves from weaning age up to breeding age are housed and the pregnant/dry cows remain until freshening.

In 2014, a new addition to the free stall barn was built and a new manure pit was constructed by applying for federal and state grants. The dairy expanded to 330 cows and will increase to 400 cows. Today, the farm can be recognized with NYSCHAP, CAFO, a Nutrient Management Program, and is involved in the Dairy Profit Monitor Program with Cornell Cooperative Extension of Lewis County. Also, Derek and Jake are involved in the Lewis County Young Producers Group.

To truly understand the significant impact that a farm expansion provides, the farm has contributed over a million dollars to the county by hiring local labor, buying local farm equipment, hiring a local construction company, and buying products from local businesses.

The Conway's own 600 acres and rent 400 acres. Randy said, "If nobody rented land, where would the tax revenue come from. The land would turn into fallow land and lack the nutrients to grow profitable crops."

The manure pit was excavated by Shue Brothers in Port Leyden and the concrete was purchased from V.S. Virkler & Sons in Lowville. Adirondack Builders had a crew of five individuals that worked daily for five months. The building supplies were purchased from Widmeyer Farm & Home in Glenfield and the steel products were purchased from Specialty Welding & Fabrication in Lyons Falls. Not only has the farm expansion provided income to the local area, the Conway's upgrade their farm machinery when necessary by buying or replacing old machinery from Cazenovia Equipment Company in Lowville, as well as White's Farm Supply. The sand used for bedding in the free stall comes from Shue Brothers in Port Leyden, herd health is provided by Countryside Vet Clinic in Lowville, culled animals go the Northern New York Farmers Market in Lowville, local cattle truckers haul the animals to the market, and for the first

time this year, the Conway's will hire someone to do their manure handling.

Randy said, "As the family grows and margins get tighter, we need to become more efficient, which means increasing cow numbers." As I interviewed all three male family members with Sue in the background, I asked Randy how he encouraged his sons to be involved in the family business. Randy said, "Working together has made them who they are today. They worked for the items they wanted. Sure, we may have bad days, but we vent a little and always get along and never stay upset with one another." In the future, as their sons have families of their own, the family dairy business will continue to expand to provide income for all three families. In the meantime, Randy and Sue will leave behind a legacy that they can be proud of.

As dairy farms in the area continue to prosper, remember that everything they do to succeed always goes back into the local economy. That is economic development!

Agriculture is here to stay in Lewis County!

Moving On…

By Terri Taraska, Cornell Cooperative Extension of Lewis County

Well, as much as I have enjoyed meeting new dairy farmers in the area, I have been offered an opportunity of which I would like to take advantage. I have especially enjoyed writing and talking with producers about their calves. In the past the importance of the calf may have been on the "back burner," but today the farmers are interested in the survival and productivity of their calves, knowing they are the next generation of milkers on the farm. There is always new information about calf care, but it always comes back to the fundamentals:

- keep calving pens clean and
- make sure calves get adequate, good quality colostrum.

Even producers that use automated programs know that the human, who is monitoring the calf for any early sign of problems, will never be replaced. Thank you!!!!

If you have any questions please contact Michele Ledoux (mel14@cornell.edu, 315-376-5270)

Equine Botulism

By Dr. Jerry Bertoldo, DVM, Cornell Cooperative Extension NWNY Dairy Team

A field veterinarian for the NYS Department of Agriculture and Markets from Eastern NY diagnosed Botulism on two Amish farms in two counties within the past couple weeks. One farm lost 12 horses in 24 hours. Botulism is sometimes referred to as "forage poisoning" in adult horses or "shaker foal syndrome" in foals one to two months old. It is a progressive, paralyzing disease that is 80-100 percent fatal in affected horses. Botulism is not contagious from horse to horse. Humans are not in danger from contact with affected animals.

Clinical signs of the disease include:

- the loss of facial expression,
- a sleep appearance,
- saliva drooling from the corner of the mouth,
- loss of tongue control and
- loss of tail tone.

Early in the disease a horse's appetite remains good, but there is a great deal of difficulty in chewing food and "playing" in feed and water buckets is noted. As weakness becomes more profound, the horse will experience muscle trembling, generalized sweating, and labored breathing. A weakened, shuffling gait may develop. Eventually, the horse goes down and death results due to paralysis of the respiratory muscles. Treatment is difficult and expensive even with early detection when the horse is only showing mild signs. Antibiotics are usually not very useful. Down horses have grave prognoses. Euthanasia should be considered.

Botulism is caused by a potent toxin (poison) produced by the bacterium *Clostridium botulinum.* The botulism bacteria live in the soil as well as the intestinal tract of many birds and mammals, including the horse.

Botulism can be initiated in one of three ways:

- In the case of "forage poisoning," the horse ingests pre-formed toxins that have contaminated grain or hay, most often due to putrefied carcasses of birds or rodents. Ensiled hay crop silage and baleage with a pH of 5.5 or higher as well as round bales left on dirt or pasture can be common sources of the toxins. Moldy conditions are often associated with the presence of the botulinum toxin.
- The bacteria itself can enter a horse's body via contamination of a wound, especially a deep puncture wound. A good example is "shaker foal syndrome," which is most frequently caused by the bacteria entering the newborn foal's body through its moist navel.
- The third method by which the disease can be initiated is by ingestion of the spores in the soil. Hay should not be fed on wet and muddy ground especially where it can be trampled. The ingested spores activate in the horse's intestinal tract where they produce potent toxins that are then absorbed.

The disease is difficult to diagnose because it resembles several other medical conditions and diseases. Prevention through vaccination is critical. Consult your veterinarian for help in disease control and assessing the risk of botulism on your farm. Please contact us if you need more help or information.

2015 Cornell Guide for Integrated Field Crop Management Available

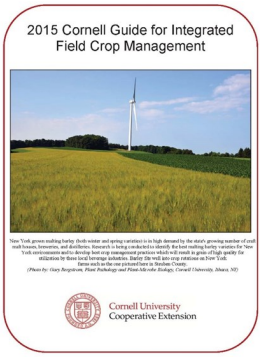
Press release

The 2015 edition of the *Cornell Guide for Integrated Field Crop Management* is now available. This annual publication provides up-to-date field crop production information for New York State. It is designed as a practical guide for field crop producers, crop consultants, agriculture chemical dealers, and others who advise field crop producers.

In addition to the annual variety and pesticide updates, highlighted changes in this edition of the *Field Crops Guide* include:

- Significantly revised nutrient management information for all field crops.
- Updated information on recycling agricultural plastics.
- An expanded malting barley discussion.

New for 2015 are three different product options for the Cornell Guidelines. Users can obtain a print copy, online-only access, or a package that combines print and online access. The print edition of the 2015 *Field Crops Guide* Cost is $26 plus shipping. Online-only access is $26. A combination of print and online access costs $36.50 plus shipping costs for the printed book.



Cornell Guidelines can be obtained through your local Cornell Cooperative Extension office or from the Cornell Store at Cornell University. To order from the Cornell Store, call (800) 624-4080 or order online at http://store.cornell.edu/c-875-pmep-guidelines.aspx.

Flood-Related Diseases in Livestock

By Terri Taraska, Cornell Cooperative Extension of Lewis County

Well, by the time this edition is out, flooding concerns will be under control. But you still may be working with standing water in fields and pastures. In keeping with the article on the botulism scare on the equine side (which horses are very susceptible to from drinking stagnant water and eating spoiled food), I am adding some livestock-related information to flood-related diseases.

Blackleg and other clostridial diseases

Blackleg is caused by micro-organisms spread over fields by standing water and is a potentially serious post flood disease. It can also affect sheep and goats, in addition to cattle (especially youngstock). Symptoms include acute lameness, depression, fever, and swelling in the hip, shoulder, chest, back, neck, or throat muscles. If untreated, blackleg is usually fatal within 24 hours after onset. Treatment may be effective in the early disease stages. The best prevention is to vaccinate all cattle before they are put on pastures that have been flooded. Vaccines are available which also protect against malignant edema.

Tetanus (lockjaw)

Tetanus is a problem whenever animals have puncture wounds. Symptoms include generalized stiffness caused by muscle contractions. Legs and tail are extended (you may see the "saw horse" appearance). Animals can be vaccinated as a preventative, and the disease is treatable in its early stages.

Foot Rot

Constant exposure to mud and water softens tissues around the feet of cows and sheep. Lameness and swelling of the hoof are common symptoms of the disease. Prevention with walking cows through a solution of copper sulfate as they leave the milking parlor can be helpful.

Mastitis

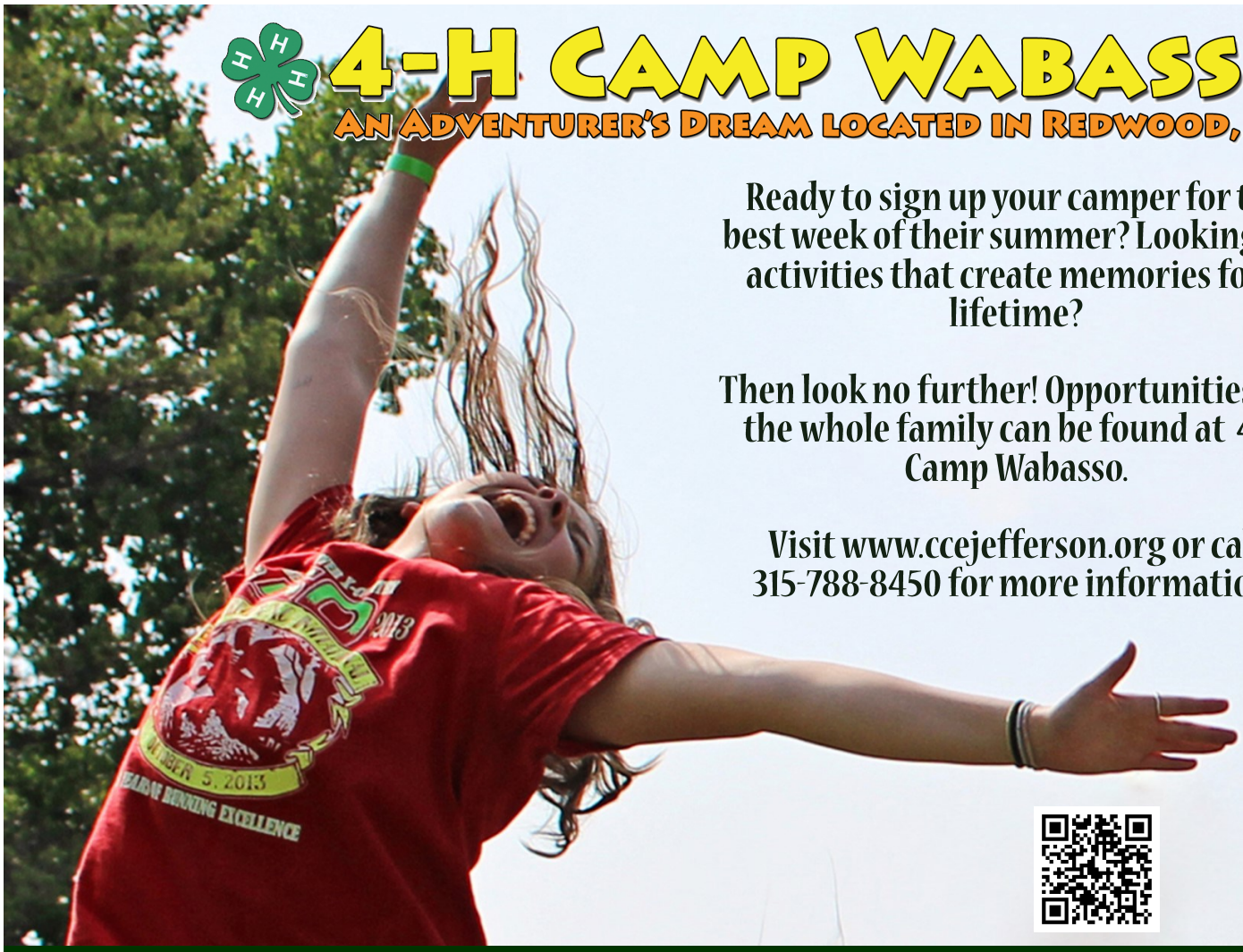
Of course, with cows or springing heifers, the organisms in the muddy water can cause mastitis. Coliform organisms are usually involved. This is an opportunity for Prototheca to also cause mastitis. There is not a cure for Prototheca and these cows would need to be culled out from the herd. To protect cows against mastitis, clean their teats thoroughly before milking. After sanitizing the teat ends, dry them carefully with a clean towel before applying the milking unit. Milk the cows carefully. If possible, allow the cows to lie down in a relatively dry, clean place.

Please contact your veterinarian with any concerns of flood-related diseases and your cattle.

Reference: The Disaster Handbook 1998 National Edition, Institute of Food and Agricultural Sciences, Univ. of Florida

4-H Camp Wabasso

An Adventurer's Dream located in Redwood, NY



Ready to sign up your camper for the best week of their summer? Looking for activities that create memories for a lifetime?

Then look no further! Opportunities for the whole family can be found at 4-H Camp Wabasso.

Visit www.ccejefferson.org or call 315-788-8450 for more information.

Cloverbud Camp
Two-day, one-night camp for youth ages 6-8 to get their first taste of the camp experience.

Cloverbud Plus Camp
Two days not enough? This camp adds another day and night for youth ages 6-8.

Residential Camp
Summer Camp at its best! Youth ages 8-16 enjoy a week-long adventure in the outdoors.

Traditional Day Camp
Day camp for youth ages 8-16 offers all the camp activities without staying overnight.

Cloverbud Camp Ages 6-8
- o Cloverbud (June 25-26)

Boys Cloverbud Plus Ages 6-8
- o Week 2A (July 5-7)
- o Week 2B (July 8-10)
- o Week 6A (August 2-4)
- o Week 6B (August 5-7)

Girls Cloverbud Plus Ages 6-8
- o Week 1A (June 28-30)
- o Week 1B (July 1-3)
- o Week 3A (July 12-14)
- o Week 3B (July 15-17)
- o Week 5A (July 26-28)
- o Week 5B (July 29-31)

Residential and Traditional Day Camp Ages 8-16
- o Week 1 (June 28-July 3)
- o Week 2 (July 5-10)
- o Week 3 (July 12-17)
- o Week 5 (July 26-31)
- o Week 6 (August 2-7)

Makers and Stone Age Day Camps
(traditional day camp with specialized activities)
- o Week 7 (August 10-14)

Also Available: Family Weekend, Gone to the Dogs Weekend, and Youth Fishing Workshop.
We would be honored to give you a tour of camp during our Open House on Saturday, June 6.

Costs vary depending on the camp choice, but scholarships are available!
Contact us at 315-788-8450 or visit www.ccejefferson.org for more information.
Don't let this opportunity pass you by!

Looking Back on 2014 on the Dairy Farm, Through Numbers

By Peggy Murray, Cornell Cooperative Extension of Lewis County

The Dairy Industry takes some time at the end of every year to reflect on their financial health. How did they do with their business compared to last year? How did they do compared to other dairy businesses? Every year one way to find this out is to do benchmarking. The Dairy Farm Business Summary is a free benchmarking tool that allows dairy farms to do just that. It allows farms to make decisions for their business, set future goals and analysis their financial situation.

The following is a preliminary income and receipt for farms in New York State. As you move ahead in 2015, check to see how you measure up.

RECEIPTS AND EXPENSES PER COW AND PER HUNDREDWEIGHT
Same 37 New York Dairy Farms with Fewer Than 560 Cows, 2013 and Preliminary 2014

	2013		2014	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average number of cows	262		269	
Cwt. of milk sold		63,212		64,222
ACCRUAL OPERATING RECEIPTS				
Milk	$5,233	$21.68	$6,110	$25.58
Dairy cattle	327	1.35	423	1.77
Dairy calves	45	0.18	80	0.34
Other livestock	17	0.07	27	0.11
Crops	170	0.70	186	0.78
Miscellaneous receipts	160	0.66	106	0.45
Total Operating Receipts	$5,951	$24.66	$6,933	$29.03
ACCRUAL OPERATING EXPENSES				
Hired labor	$ 640	$ 2.65	$ 673	$ 2.82
Dairy grain & concentrate	1,694	7.02	1,726	7.23
Dairy roughage	138	0.57	101	0.42
Nondairy feed	0	0.00	0	0.00
Professional nutritional services	0	0.00	1	0.00
Machine hire, rent & lease	195	0.81	223	0.93
Machine repair & vehicle expense	239	0.99	266	1.11
Fuel, oil & grease	222	0.92	226	0.94
Replacement livestock	66	0.27	63	0.26
Breeding	57	0.24	60	0.25
Veterinary & medicine	154	0.64	144	0.60
Milk marketing	214	0.89	218	0.91
Bedding	99	0.41	99	0.41
Milking supplies	92	0.38	85	0.36
Cattle lease	0	0.00	0	0.00
Custom boarding	69	0.29	60	0.25
BST expense	18	0.07	22	0.09
Livestock professional fees	24	0.10	21	0.09
Other livestock expense	34	0.14	46	0.19
Fertilizer & lime	148	0.61	137	0.58
Seeds & plants	110	0.45	112	0.47
Spray & other crop expense	65	0.27	71	0.30
Crop professional fees	9	0.04	10	0.04
Land, building & fence repair	73	0.30	90	0.38
Taxes	67	0.28	70	0.29
Real estate rent & lease	62	0.26	61	0.25
Insurance	46	0.19	56	0.24
Utilities	107	0.44	114	0.48
Interest paid	99	0.41	90	0.38
Other professional fees	23	0.10	26	0.11
Miscellaneous	23	0.09	29	0.12
Total Operating Expenses	$4,786	$19.83	$4,900	$20.51
Expansion livestock	16	0.07	23	0.10
Extraordinary expense	1	0.01	3	0.01
Machinery depreciation	246	1.02	262	1.10
Real estate depreciation	144	0.60	156	0.65
Total Expenses	$5,193	$21.53	$5,344	$22.37
Net Farm Income Without Appreciation	$ 758	$ 3.14	$1,589	$ 6.65

Classifieds

For Farmers only: To place a free classified advertisement in *CCE's Ag Classifieds*, please fill out this form and mail to: **Lori Robinson** at **Cornell Cooperative Extension of Jefferson County, 203 North Hamilton Street, Watertown, NY, 13601**. Or, you may email your ad to **Lori Robinson** at **lmr92@cornell.edu**. Please provide all information requested below. Unless specified, your ad will run one time only, in the next monthly publication. Additional ads may be written on another sheet of paper. Please limit each ad to 25 words or less and include your contact info. **Deadline for submitting ad(s) is the second Monday of the month for the following month's publication**.

NAME:_____ FARM NAME: _____

ADDRESS: _____ CITY: _____ ZIP: _____

PHONE: _____ AD SECTION:_____ MONTH(S) TO RUN AD: _____

AD: _____

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AD: _____

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Cornell Cooperative Extension Associations of Jefferson and Lewis Counties reserve the right to reject any advertisement deemed unsuitable for our publication.
Cornell Cooperative Extension Associations of Jefferson and Lewis Counties do not endorse any advertised product or business. We are providing an informational service only.

Crops/Seed/Hay

FOR SALE: Horse oats-recleaned aged whole white oats. 40 lb. bag, $6.00. Call 315-654-2405.

FOR SALE: Forage oats-spring white, recleaned. 95% germination. 38 lb. test wt., $7.50/bu. Call 315-654-2405 .

FOR SALE: Got Fruit? Now taking orders for premium locally grown grape, blueberry, currant, strawberry, raspberry, and rhubarb plants. Free plant guide/pricelist. Call 315-767-5202.

FOR SALE: 550 tons corn silage for sale in 10' bags. $30.00 per ton high starch, high NDF digestibility hybrids. Kernal processed and bagged over a 2-day period. Call 315-777-2304.

FOR SALE: 1st cutting grass hay bales; 5x5 round bales for $35 each; 35 lb. square bale for $2.50 each. Pickup in Harrisville. Call 315-543-2668.

FOR SALE: Good quality hay made right for dairy, beef, or horses. Early June 1 cutting hay, baler rotocut processed, 12% protein wrapped, weigh 900-1000 lbs. 2nd and 3rd cut grass balage baler rotocut processed and wrapped, weigh 1400-1700 lbs. 1250 bales total. Can load out and deliver for fee in Jefferson/Lewis counties. Call 315-777-2304.

FOR SALE: 1st cutting grass hay-4x5; 60 bales stored inside-$20 each; 200 bales stored outside-$15 each; delivery for fee from Alexandria Bay. Call 315-775-3244.

FOR SALE: Home Grown Vegetable Plants for Sale. Tomatoes, squash, broccoli, cabbage, hot & sweet peppers, pumpkins, tomatillos, herbs, and more. Woodruffs, Main Street, Copenhagen. Call 315-688-4219

Farm Machinery, Equipment, and Supplies

FOR SALE: 24-ft. Patz conveyor, R-22 Copeland compressor, 550 gallon universal bulk tank, 2-in. DeLaval pipeline with vacuum pump, 16-ft. Vandale silo unloader. Call 315-778-9271

FOR SALE: (2) Patz counter-clockwise gutter cleaners, steel cow grates, swing steel stations. Call 315-778-9271.

How to Advertise in CCE's Ag Classifieds

Farmers: Advertising in *CCE's Ag Classifieds* is **FREE** for farmers. To place an advertisement, fill out the "For Farmers only" form in this publication or email to Lori Robinson at **lmr92@cornell.edu** by the second Monday of the month before you want your ad to appear. Publication is the first week of every month.

Fine Print: To qualify for free advertising, you must meet all of the following criteria:

- You must own, rent, or be employed on a farm.
- Your farm must be actively engaged in the production of agricultural commodities, such as milk, meat, eggs, produce, animal by-products, or feed, etc.
- Your goods must relate to farming.

Anyone wishing to purchase a larger display ad in the newsletter, should call Kris Panowicz at (315) 376-5270 for more information. (All income generated from the sale of ads goes to publication and mailing costs).

CCE of Jefferson and Lewis Counties reserve the right to reject any advertisement deemed unsuitable for our publication.

CCE of Jefferson and Lewis Counties do not endorse any advertised product or business—we are providing an informational service only.

This workshop focuses on the business aspects of the firewood industry in utilizing low grade trees in rural and urban forests to produce firewood. National professionals will lead the discussions on:

- the firewood industry associations that promote and support businesses in the firewood industry,
- equipment options to process trees into firewood products,
- recent firewood drying studies conducted at SUNY Syracuse,
- options for dry kilns suitable for drying firewood,
- wood stove design and emission issues,
- insect problems and quarantines, and
- business success ideas for firewood processors and buyers.

The workshop will have a group of firewood processors and wrapping equipment on site that will be giving demonstrations of converting logs into split firewood.

Registration forms and a workshop brochure can be found at the NCSU website at http://outreach.cnr.ncsu.edu/ncwood/web_pages/firewood_workshop_2015.php. Harry Watt, Wood Products Specialist, North Carolina State University is the contact person for this workshop, phone 704-880-5034, email at harry_watt@ncsu.edu. The Wood Education and Resource Center at Princeton, WV is the workshop sponsor.

Lewis County Ag Digest
PO Box 72, Outer Stowe Street
Lowville, NY 13367
315-376-5270

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The Extension Office will be closed on May 25, 2015 in observance of Memorial Day

Calendar of Upcoming Events

DATE	PROGRAM	CONTACT
Thursday, May 7 9:00 a.m.-3:30 p.m.	**National Firewood Workshop** *See page 23 for more information.*	**Harry Watt,** NC State University 704-880-5035 or *harry_watt@ncsu.edu*
Saturday, May 16 10:00 a.m.-12:00 p.m.	**Annual Master Gardener Plant Sale** *See page 23 for more information.*	**Sue Gwise**, CCE Jefferson 315-788-8450
Starts Saturday, May 30 8:00 a.m. - 2:00 p.m.	***Lowville Farmers Market*** Forest Park Pavilion, Lewis County Fairgrounds, Bostwick Street, Lowville.	**Chris Bush** 315-783-8642

The Northern New York Dairy Academy Class has concluded. Twenty-five young adults from across the State and Vermont and New Hampshire completed the three part program over the last four months. We would like to thank our sponsors and presenters for making a contribution to this program.