Cornell Cooperative Extension's
Lewis County Ag Digest

Volume 21 Issue 6 June 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 DeLaval 9 Lives Cream Separator compliments of DeLaval Direct-NY (see their ad on page 19)!*** Need another hint? Visit our website at http://blogs.cornell.edu/ccelewis for another angle. See page 5 for contest details and last month's winner.

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Cornell University Cooperative Extension Lewis County

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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,

Please contact the Cornell Cooperative Extension of Lewis County office if you have any special needs or are unable to pay.

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Helping You Put Knowledge to Work

Glyphosate Herbicide: Sorting Out the Choices

By: Mike Hunter, Cornell Cooperative Extension of Jefferson and Lewis Counties

Most everybody knows that glyphosate is the active ingredient in Roundup herbicide. We are faced with a long list of glyphosate choices and not all of these products are created equally. Hopefully, the following information will help you sort out the choices and make your buying decision easier.

In order to fairly compare the glyphosate products, you need to look at more than just price per gallon. You need to base your comparison on concentration, surfactant, and the labeled uses for the product. One may also want to consider the company's warranty or field support in the event that the product does not work properly.

What is the rate comparison? This is not as easy as it sounds. The amount of active ingredient per gallon *cannot* be used to compare glyphosate products. This goes against what we learned in the pesticide applicator training classes. Here is the reasoning behind this statement. Glyphosate products are formulated with salts to help the glyphosate acid (the compound that kills the plant) enter the plant. The pounds of active ingredient (*a.i.*) equals the weight of the salt + weight of the glyphosate acid equivalent (*a.e.*). The different salts have different weights; therefore, the pounds a.i. will vary. We are only interested in comparing the amount of compound that kills the plant or the acid equivalent.

Roundup Original was used for many years and most people are familiar with the use rates. The Roundup Original contained 3 lbs. a.e./gallon and 4 lbs. a.i./gallon, and 32 ounces or 1 quart of Roundup Original was equivalent to 0.75 lbs. a.e./acre. The following table will help you compare the different glyphosate product rates based on a.e./gallon.

Glyphosate Use Rate Comparison Chart	
	0.75 lbs a.e./acre
lbs a.e/gallon	**(or 32 oz. Roundup Original)**
3 lb a.e.	32 oz./acre
3.7 lb a.e.	26 oz./acre
4 lb a.e.	24 oz./acre
4.17 lb a.e.	24 oz./acre
4.5 lb a.e.	22 oz./acre
5 lb a.e.	20 oz./acre

How much, if any, surfactant do you need to add? As with all herbicides, it is important to read each label carefully. The label will indicate whether or not additional surfactant is required. Some glyphosate products come "fully loaded" with surfactant. A few products do not allow additional surfactant to be added when applied alone. Other glyphosate formulations may contain surfactant, *but* additional

surfactant may be added. There are some products that contain no surfactant and it must be added by the applicator. The label is the best source for determining the need for surfactant.

Before you purchase a glyphosate product, make sure that it is labeled for the intended crop. Not all glyphosate labels are the same. The rainfast period or rain-free time required after application will also vary among glyphosate products. The label will indicate the required rain-free period in minutes or hours depending on the selected product.

It is important to understand that all glyphosate products are not created equally. The use rates and surfactant load vary between products and manufacturers. Improper use of these products could result in severe crop injury or poor weed control. Again, the best resource for information about labeled crops, use rates, surfactant use recommendation, and rain-free periods is the herbicide label. If you have any further questions about Roundup and other glyphosate herbicide products, contact your local Cornell Cooperative Extension office.

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 June 4**.**
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 **Bill Burke** of Lowville who correctly guessed it was the farm of Bill and Tony Paluck on the Wynn Road in Constableville. Bill receives a tote bag compliments of CCE-Lewis County.

Crop Vigor Sensing for Variable-Rate Nitrogen

Introduction

Nitrogen (N) is often the most limiting nutrient for optimum corn production in New York. It is needed in large quantities, but because N is unstable, it can quickly be lost to the air through volatilization and denitrification or to groundwater through leaching. In recent years, crop-sensing technologies have been introduced to help fine-tune N management. On-the-go crop sensing combined with variable-rate N application can increase fertilizer N use efficiency (NUE) by providing the specific amount of N needed by the plants as conditions change across the field. In this fact sheet, crop sensors, field applications, and usage and interpretation guidelines will be presented.

Crop Vigor and NDVI Sensors

The NDVI sensors (Figure 1) emit certain wavelengths of light from a light emitting diode (LED), and then they measure the light reflected back to the sensor at the red (R) and near-infrared (NIR) wavelengths. Because crop sensors measure the light that is reflected by plants, they can be used to calculate various indicators of plant vigor. One of the most well known indices is the normalized difference vegetation index (NDVI), which is an indicator of greenness of the crop canopy. Readings range from zero to one; values approaching one indicate more vigorous plants. Sensors can be handheld or machine-mounted (coupled with side-dress equipment). There are several companies that sell or lease NDVI sensors, while others offer custom sensing and application services. Aerial systems (satellites, aircrafts, and unmanned aerial systems) can also measure NDVI, but this fact sheet focuses on in-field methods.

Field Applications

For accurate variable N application, timing of sensing and N side dressing is very important. Crop measurement should be done between growth stages V6 and V10 and depending on various time constraints, many users try to target V6 to V8 crop stages. The plant stage can be determined by counting the number of emerged leaves that have visible leaf collars. For example, a corn plant with eight leaf collars is in the V8 stage.

The positioning of the NDVI sensor is just as important as the crop stage at the time of sensing. The sensor can be *held or mounted 24 to 48 inches directly above the crop canopy*, but 36 inches is optimum to account for varying plant height throughout the field. It should be positioned according to each unique sensor's manual.

Figure 1: Handheld sensor displaying the NDVI value reflected by the plant canopy.

Another important factor for successful use of sensor technology is the establishment of N-rich and zero-N reference strips in each individual field. As a general rule, zero-N reference strips are strips where the starter N rate is kept at or below 30 pounds of N per acre. The N-rich strips should be *established within a week of planting*, and receive at least 20% more N than the crop's expected total N requirement. Ideally, reference strips are at least 400 feet long, positioned in areas of the field that are representative of the entire field (i.e. not in the headlands, wet spots, etc.).

Interpreting NDVI Measurements

The NDVI is calculated using the following equation:

NDVI = (NIR-VIS) / (NIR+ VIS)

where VIS is the amount of visible (typically red or green) light, and NIR is the amount of near-infrared (NIR) light that is reflected by the plant. The NDVI values range from zero to one, where zero indicates low crop vigor, and one indicates high crop vigor, suggesting that the plant had no N deficiency. Sensing of both the zero-N and the N-rich strips gives readings for plants that are N deficient (zero-N strip) and for plants that do not have a shortage of N (N-rich strip). These contrasting treatments provide the best calibration for the algorithms (a series of equations) that convert NDVI measurements into N rate recommendations for a specific field, variety of corn, and time of application.

Algorithms have been developed by various universities and commercial companies (for example, Ohio State University, Oklahoma State University, Virginia Tech, Agri-Food Canada) to provide N application recommendations using the NDVI measurements. The sensor determines the NDVI value, and its associated software converts the measurement to an on-the-go N rate using the algorithms.

Figure 2 shows how most algorithms work. In this example, low NDVI measurements receive little N because little growth response is expected (poor growth due to other reasons than a lack of N, section 1 in Figure 2). As NDVI values increase through the mid-range, N recommendations also increase because a growth response to extra N is likely (section 2). There is a point (point 3) where yield response to N no longer increases with NDVI. After that point, N recommendations decrease with increasing NDVI (section 4), reflecting sufficient N for optimal crop growth.

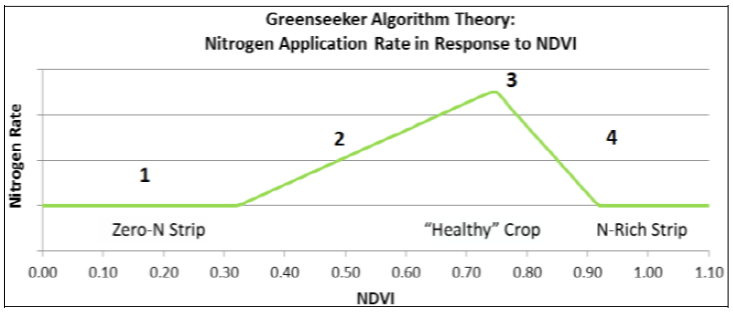

Figure 2: Depiction showing how algorithms convert NDVI values into on-the-go N recommendations (Adapted from GoCorn).

There are numerous factors that can impact the accuracy of an algorithm, including type and variety of crop, soil type, crop height, local weather conditions, and growth stage. To achieve efficient and reliable, sensor-based, on-the-go N recommendations, algorithms that were developed for local soil, field management, and climate should be used. With any algorithm, it is important to test the performance within a given area in order to provide growers with the most accurate N rate recommendations. Therefore work is ongoing to evaluate which algorithms are appropriate to use for corn in New York State.

Summary

New technologies like NDVI sensors can aid in increasing N use efficiency through variable-rate N application within an individual field and throughout the farm. Timing of measurement, positioning of sensors, and use of zero-N and N-rich strips in each field are important to achieve reliable results. Algorithms convert NDVI measurements into on-the-go N application rates while in the field. Algorithms that are based on local conditions will produce the most accurate results. Variable-rate N application allows growers to reduce N losses to the environment and possibly save on N fertilizers and/or increase yield by increasing N use efficiency.

Additional Resources

- GoCorn "10 Steps to GreenSeeker in Corn" http://www.gocorn.net/v2006/Nitrogen/articles/Seeking%20Green%2010%20Steps%20to%20Greenseeker.html

Disclaimer

This fact sheet reflects the current (and past) authors' best effort to interpret a complex body of scientific research, and to translate this into practical management options. Following the guidance provided in this fact sheet does not assure compliance with any applicable law, rule, regulation or standard, or the achievement of particular discharge levels from agricultural land.

For more information

Cornell University Cooperative Extension

Nutrient Management Spear Program
http://nmsp.cals.cornell.edu

Tyler Pardoe, Quirine Ketterings,
Karl Czymmek, Aristotelis Tagarakis, and Bill Verbeten

2014

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The program is coordinated through **Cornell University PRO-DAIRY** and in collaboration with **Cornell University Cooperative Extension**.

For more information, please visit:

- http://prodairy.cals.cornell.edu/dairy-acceleration,
- www.ccejefferson.org, or
- www.ccelewis.org.

You may also contact Cornell Cooperative Extension of Lewis or Jefferson Counties as listed below:

- Peggy Murray—Farm Business Management; 315-376-5270; mlm40@cornell.edu
- Ron Kuck—Dairy & Livestock; 315-788-8450; rak76@cornell.edu

Soybean Vegetative and Generative Growth Stages

By Pawel Wiatrak, Clemson University

Identifying the soybean growth stages is essential for proper management of pests and environmental problems. Generally, the soybean development can be divided into vegetative (V) and reproductive (R) stages. The beginning of each stage starts when at least 50% of the plants are at that stage. Vegetative growth stages start with the soybean emergence and reproductive growth stages start with the first flower.

Note: The growth stages are adapted from the Fehr, W.R., C.E. Caviness, D.T. Burmood, and J.S. Pennington. 1971. Stage of development descriptions for soybeans, *Glycine max* (L.) Merr. Crop Science 11:929-931, and also from 2004 edition of PM 1945 *Soybean Growth and Development* published by Iowa State University Extension, Ames, Iowa 50011.

Vegetative (V) growth stages

The vegetative stages begin with emergence (VE stage) (Table 1). Prior to germination, soybean seed absorbs water equal to approximately 50% of its weight. The elongation of hypocotyl brings the cotyledons out of the soil, which starts the soybean emergence.

After emergence, unifoliolate leaves on the first node unroll in addition to cotyledons and start the VC stage. The following vegetative stages are designed numerically from V1, V2, V3, through V(n), based on the number of nodes with trifoliolate fully developed leaves unrolled. For example, the V1 stage starts with one unrolled fully developed trifoliolate leaf on the second node. The (n) represents the number of the last fully developed trifoliolate leaf. A fully developed trifoliolate leaf is one that has unrolled or unfolded leaflets.

Stage	Description
VE	Plant emergence (depends on temperature and moisture).
VC	Unifoliolate leaves unrolled in addition to cotyledons. One node.
V1	One unrolled trifoliolate leaf. Two nodes.
V2	Two unrolled trifoliolate leaves. Three nodes.
Vn	(n) number of trifoliolate leaves unrolled; (n) + 1 number of nodes

Table 1. Vegetative (V) soybean growth stages.

VE – Emergence.

VC – Unifoliolate leaves unrolled in addition to cotyledons.

V1 – One unrolled fully developed trifoliolate leaf.

V2 – Two unrolled fully developed trifoliolate leaves.

Reproductive (R) growth stages

The reproductive stages in soybeans start when at least one flower is present on the plant (Table 2). These stages describe the development of flower (R1 and R2), pod (R3 and R4), seed (R5 and R6), and maturity (R7 and R8). Vegetative growth continues through some of the reproductive stages. The reproductive growth stages are described in the Table 2 and also shown on images below Table 2.

Stage	Description
R1	Beginning bloom. At least one flower is present on the main stem.
R2	Full bloom. Flowers are found on any of the top two nodes.
R3	Beginning pod. Pods are 3/16 inch long on one of the top four nodes.
R4	Full pod. Pods are 3/4 inch long on one of the top four nodes.
R5	Beginning seed. Seeds are 1/8 inch long on one of the top four nodes.
R6	Full seed. Pods are completely filled by seeds on one of the top four nodes.
R7	Beginning maturity. One mature pod found on the plant.
R8	Full maturity. 95% pods have reached mature pod color.

Table 2. Reproductive (R) soybean growth stages.

R1 – Beginning bloom. At least one flower on the main stem.

R2 – Full bloom. Flowers are found on any of the top two nodes.

R3 – Beginning pod. Pods are at 3/16 inch long on one of the top four nodes.

R4 – Full pod. Pods are at 3/4 inch long on one of the top four nodes.

R5 – Beginning seed. Seeds are at 1/8 inch long on one of the top four nodes.

R6 – Full seed. Pods are completely filled by seeds on one of the top four nodes

Source: http://www.clemson.edu/extension/rowcrops/soybeans/guide/growth_stages.html

app of the MONTH

Morning AgClips Farming News, Harvested Daily

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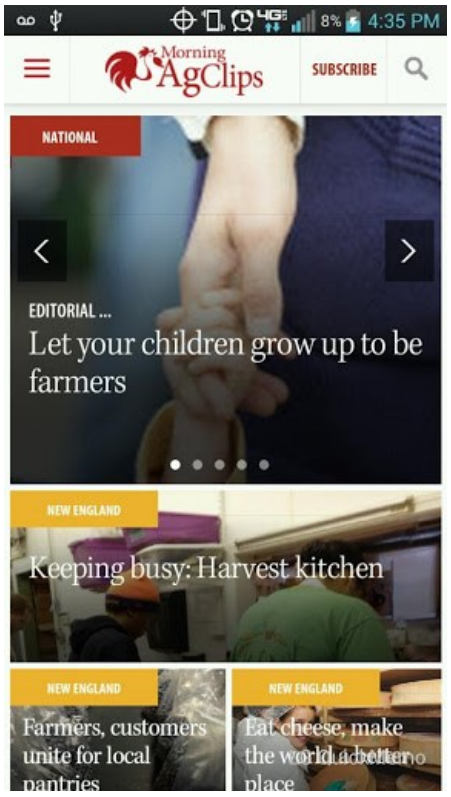

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Ventilation for the Calf Hutches

By Ron Kuck,
Cornell Cooperative Extension of Jefferson County

In last month's newsletter, Dr. Terri Taraska had an article on ventilating the calf barn, but what about those calves outside in hutches? Individual calf hutches are an excellent housing example for all young stock designs because they meet one of our calf housing goals by providing good ventilation. Here in NNY when we think of effects of the weather on calves, we usually only think about the cold stress. However, high summer temperatures, hot sun, and high humidity can cause heat stress in calves and heifers just as in the milking herd.

Calves attempt to maintain a constant body temperature regardless of the outside temperature, and within a certain temperature range—called the thermoneutral zone—(60F – 80F). Calves may be better able to cope than adults with warmer temperatures due to their large surface area relative to their body weight. Lactating dairy cows also produce a lot more heat than calves due to the larger amount of energy consumed and digested.

What are the effects of heat stress on my calves? The energy required to regulate body temperature increases (a maintenance cost) same as in cold weather. Rumen development may be slowed by reduced grain intake, leading to a more difficult transition after weaning. Just as important immunity can be compromised if energy is redirected to cooling functions.

Strategies to Help Calves Beat the Heat

Shade can be provided by solid roofing, 80% shade cloth, or by moving hutches to an area shaded by trees. Providing a pen in front of the hutch or using a tether allows calves more freedom to select their own comfortable environment.

Calf utilizing hutch shade.

Place hutches 4 feet apart with 10 feet between rows to allow air to circulate freely. Don't forget to open vents on hutches. Many calf managers place a block or tire under the back wall to increase air movement through the hutch. Make sure that this remains open as bedding tends to build up inside the hutch.

Hutches elevated with a concrete block.

Offer plenty of water and keep grain fresh. As calves attempt to maintain their body temperature, water is lost through increased respiration and evaporation. Calves will naturally tend to eat less grain during periods of heat stress. Think through the idea of increasing the feeding of milk replacer to maintain energy and growth they would normally get from calf feed.

Consider using sand or some other inorganic bedding as it helps keep calves cooler by absorbing body heat and dissipating it, rather than retaining it. Sand bedding also supports less fly larvae growth, but it is less insulating than straw.

For here in NNY after a very cold winter, the average high temperature for June, July, and August is 78F and the average low is 60F, right in the comfort zone for calves (and humans). *But say you were standing with one foot in the oven and one foot in an ice bucket. According to the percentage people, you should be perfectly comfortable.* (Bobby Bragan, 1963.) Keep an eye on temperatures in early and late summer. Last year between June 1 and August 31 there were only 16 days when the temp for the day was both above 60F and below 80F. Out of 92 days, for only a bit over two weeks, did we not have some sort of hot or cold temperature stress on our calves.

Improving ventilation and decreasing heat stress are both important to calf health and welfare.

A Washington State University trial on calf hutch ventilation showed that elevating one side of the hutch decreased internal hutch temperature and increased ventilation. See more at our website www.ccejefferson or http://extension.wsu.edu/vetextension/Documents/CalfHeatStressTrial%202012.pdf.

Cornell Cooperative Extension Regional Team from Northern NY has been awarded a grant from Northern New York Agricultural Development Program (NNYADP) to evaluate calf housing. The primary goal of this projects to increase awareness of air quality on calf health. Farms from Jefferson and Lewis counties will be participating.

Graded Feeder Sales This Fall

From Livestock Lifestyles June 2015

Through a USDA grant to Cornell University, Cornell Cooperative Extension (CCE) of Jefferson County was able to get two educators certified to grade feeder and finished cattle at a training school in Canandaigua in December. Since then we have given trainings and presentations throughout the North Country and held on-farm clinics to add a practical aspect with live cattle for producers to learn more about the program. Our goal is to have two USDA Graded Sales in the North Country, one in Gouvernuer at the Empire sale barn and one in Lowville at the Northern New York sale barn. Both managers have expressed interest in working with us to accomplish this which will help North Country beef producers get better prices for their feeder cattle at local venues.

This summer clinics will be held to determine interest from producers and to get some ideas on the number of cattle we will have to work with. Protocols for vaccination and preconditioning will be discussed and calf pools will be put together on numbers committed to the program. Advertising and buyer recruitment will be a key component in getting better pricing for the cattle, and when the numbers committed are calculated, along with the timeframe for weaning and preconditioning, we will set the sale dates for the fall. In all probability they will be in November or early December for all calves to have at least 45 days of preconditioning for the sales. We will need participation and input from producers to make this work and welcome all ideas to help achieve our goals.

Dates for the programs will be announced soon for the summer to get ready for fall so get an idea of your calf inventory and the number of head you would like to commit to the sale. Also decide which of the two sale barns is most convenient for you. Together we can improve the profitability of North Country cow-calf operations and get you the best prices for your calves this fall without all the trucking costs to get them to market. For more information contact Ron Kuck at 788-8450 or Mellissa Spence at 376-5270 . CCE of Jefferson and Lewis Counties are dedicated to growing the beef business in the North Country. Join us to make it a reality.

4-H Camp Wabasso

An Adventurer's Dream Located in Redwood, NY

Haven't had time to register your youth for an exciting camp experience? There's still time!!

Great Deal! If you register with a friend who has never been to 4-H Camp Wabasso, you will BOTH receive the Early Bird rates!

Visit ccejefferson.org/4-h-camp-wabasso or give us a call at 315-788-8450 for more information.

We look forward to providing your camper with a great outdoor adventure in 2015.

Register with a Friend today!

Cornell University
Cooperative Extension
Jefferson County

Last Chance to sign up for Youth Fishing Workshop on June 13!

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.

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 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.

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)

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!

Hiring Youth Labor on Your Farm

By Peggy Murray, Cornell Cooperative Extension of Lewis County

School is almost out and with that, high school students are out looking for a summer job. I always get questions on who can work on a farm, what are they allowed to do, and how much do I have to pay them?

Below are some guidelines to help you.

⇒ 12 and 13 year olds are only allowed to work on their parent's or grandparent's farm.

⇒ 14 and 15 year olds need working papers (these are available at the student's school) and have limitations on what they are allowed to do:

They are not allowed to:

- Operate a tractor of more than 20 PTO horsepower or connect an implement or any of its parts to and from such a tractor.
- Operate or assist to operate (including starting, stopping adjusting, feeding, or any other activity involving physical contact associated with the operation) any of the following machines:
  - ◊ corn picker,
  - ◊ grain combine,
  - ◊ hay baler,
  - ◊ feed grinder,
  - ◊ forage blower,
  - ◊ the unloading mechanism of a nongravity-type self-unloading wagon or trailer,
  - ◊ auger conveyer, or
  - ◊ non-walking rotary tiller.

- Work in a yard, pen, or stall occupied by a bull, boar, or stud horse maintained for breeding purposes; a cow with a newborn calf (with umbilical cord still attached).
- Work on a ladder or scaffold at higher than 20 feet.
- Ride on a tractor as a passenger or helper.
- Operate a tractor or packing purposes on a bunk silo.
- Work inside:
  - ◊ any grain storage facility (silo) designed to retain an oxygen-deficient or toxic atmosphere;
  - ◊ an upright silo within two weeks after silage has been added;
  - ◊ a silo when a top unloading device is in the operating position; or
  - ◊ a manure pit.

⇒ 16 and 17 year olds are not required to have working papers and do not have any working stipulations.

Minimum Wage is $8.75/hour and must be paid to all employees with few exceptions.

If you have any questions or concerns about hiring a student please call Peggy Murray at 376-5270 or 788-8450, or go to the US Department of Labor, Child Labor Bulletin 102.

Revised from 2013 Ag newsletter.

Fireside Chat on Managing During a Milk Price Fall

By Wayne A. Knoblauch, Cornell University

We have had dramatic milk price declines many times in recent dairy history. The decline in the mid-1980's, in the early 1990's, and 2009 being the most serious in memory. Some dairy farmers will experience real pain and there could also be some big winners. I am going to focus on the pain component of the price decline.

Significantly lower milk prices and, therefore, dairy farm profits, combined with lower asset values, translating to reduced borrowing capacity, pose a serious threat to the survival of many dairy farms. This current situation is different than those of the recent past in that the total economy is in difficulty. As a result, we may be facing a more prolonged period of low prices.

What should a dairy farmer consider and what actions should be taken in times of very low milk prices? Let's apply our proven management principles and economic theory to this situation. Economic theory tells us that we need to look at the individual farm situation using both a profit and a cash flow analysis. I will start with the profit approach and then discuss cash flow.

PROFIT

NOW: If cash receipts cover cash expenses, then continue to operate the dairy as long as there is some contribution to overhead. Cash expenses include items such as:

- hired labor,
- veterinary fees and medicine,
- utilities,
- Interest, and
- purchased feed.

Farm produced feed/forage is now, in my opinion, a fixed or sunk cost and should not be included as a cost in the ***NOW*** analysis.

If cash receipts don't cover cash costs, then cutting all costs possible without deteriorating the net profit margin, selling unprofitable cows, or making other changes to the cost and revenue stream must be implemented quickly. There is no time to lose to make changes to the business.

PLANTING TIME: We must now include crop production costs as a cash cost in our analysis. To continue in production, the expected milk price over the next year should be such that it will cover all cash costs and generate some contribution to fixed costs. If that is not the result, then the ***NOW*** strategies previously discussed as well as some that may take a bit longer to adopt and reap the benefits, should be adopted if they can be expected to reverse this scenario.

NEXT TWO OR THREE YEARS: To continue in production, the expected milk price will need to cover the cost of production, including the value of operator labor and management. Remember, profitability is the key to long run business survival.

CASH FLOW

NOW: If you <u>are</u> covering cash costs, but can't cash flow from operating, then consider these options:

- refinancing,
- interest only payments,
- sell non-productive assets,
- borrowing, or
- improving the business, etc.

But, only consider improving cash flow if you can expect to have a profitable business after planting time.

If you are <u>not</u> covering cash costs, and can't make changes to correct that situation, then liquidation or eating equity are the options. Eat equity only if there is a promise of significantly better days ahead. Remember, cash flow is the key to short run business survival. *Note*: Eating equity simply means that the net worth or equity of your business goes down as a result of continuing to operate the business.

PLANTING TIME: If you can project to cover cash costs, including those associated with growing crops; then:

- refinancing,
- interest only payments,
- selling non-productive assets, or
- borrowing, etc.

should be considered. But, only consider improving cash flow if you can expect to have a profitable business after planting time and be able to cover scheduled debt payments and provide for family living.

If you are not covering cash costs, and can't make changes to correct that situation, then liquidation or eating equity are the options. Keep in mind that liquidation or partial liquidation and eating equity can have serious long-term consequences for your business.

NEXT TWO OR THREE YEARS: A business must be profitable to be sustainable in the long run. If you cannot project profits over the next years, then you likely will be eating equity. The only exception is if asset values increase dramatically and your strategy is one of waiting to sell assets later at higher prices. However, you are then a speculator, not a business manager.

This crisis will also pass, as have other crises. However, this current crisis will be very painful for many farmers. These trying times will severely stretch and test the management skills of all dairy farmers. **We should not react out of fear, or not react at all.** Rather, we should do a careful analysis of where our business is and where we want it to go. Then do an analysis of the expected impacts of possible changes on both profit and cash flow before taking action.

While difficult, we should also view this as a time to employ our financial management skills. Many professionals are available to help. Cooperative Extension, FarmNet, and consultants as well as others can give assistance, identify alternatives, and provide an objective outside view of available options.

FEBRUARY 2, 2009, REVISED APRIL 27, 2015

New York State Certified Agricultural Districts in Jefferson County

By Hartley Bonisteel Schweitzer, Jefferson County Department of Planning

New York's Agricultural Districts Law, Article 25-AA PDF of the NYS Agriculture and Markets Law, was enacted in 1971 to help keep farmland in agricultural production.

There are two processes at the county level for the addition and review of these districts. Each Certified Agricultural District is required by New York State to undergo an Eight-Year Review to determine if the district still consists of predominantly viable agricultural land. There is also an annual individual inclusions process where agricultural land may be added to an existing certified agricultural district. There are three Agricultural Districts in Jefferson County comprising over 200,000 acres. **This year, Jefferson County is completing both an annual individual inclusion process and an eight-year review of the North Agricultural District.**

The New York State Agricultural Districts Law requires counties to establish an annual 30 day period to allow parcels of predominantly viable agricultural land to be added to existing New York State Certified Agricultural Districts. The Jefferson County Board of Legislators has set **June 1st through June 30th** of each year for this purpose.

Viable agricultural land is land that is actively farmed as well as inactive and non-farm acreage which is highly suitable for agricultural production. A parcel of land is "predominantly" viable if a minimum of 51% of the parcel meets the above definition.

Certified Agricultural Districts are designed to protect agriculture through a combination of landowner incentives and protections that discourage the conversion of farmland to non-agricultural uses, including:

- providing reduced property tax bills for agricultural lands - property owners must apply annually with their local assessor for an agricultural assessment
- providing the framework to limit unreasonable local regulation on accepted agricultural practices
- providing Right to Farm provisions that protect accepted agricultural practices from private nuisance suits
- modifying state agency administrative regulations and procedures to encourage the continuation of agricultural businesses
- modifying the ability to advance public funds to construct facilities that encourage development
- preventing benefit assessments, special ad valorem levies, or other rates and fees on farmland for the finance of improvements such as water, sewer or nonfarm drainage
- modifying the ability of public agencies to acquire farmland through eminent domain

Certified Agricultural Districts primarily benefit owners of land that is farmed. Being part of a Certified Agricultural District does not:

- directly affect the use of land beyond existing requirements, for example, zoning
- directly reduce or increase tax assessments—agricultural landowners can apply to the local tax assessor for an annual agricultural assessment

Eight-Year Reviews

Agricultural districts are reviewed by the County and recertified by the New York State Department of Agriculture and Markets for agricultural viability every eight years. During the review process landowners can elect to have their land remain in the district, remove their land from the district, or add land to the district. Please note that while land can be added to an agricultural district each year through the annual additions process, land can only be removed through the eight-year review process. Landowners who want their land to remain in an agricultural district do not need to take any action during the eight-year review.

The eight-year review of the North District in the Towns of Brownville, Pamelia, LeRay, Lyme, Orleans, Philadelphia, Antwerp, Cape Vincent, Clayton, Theresa and Alexandria is currently underway. Landowners with land currently enrolled in the North District have been mailed a letter informing them of the review, a removal and addition request form, and a farm survey.

The removal and addition request form will identify the parcels that landowners currently have enrolled in the District. **If you would like to remove any of your properties or add properties to the North District, please complete and return the form by June 30, 2015. Requests received after June 30, 2015 will not be considered.** You do not need to return the form if you want your parcels to remain in the District and you are not requesting that land be added to a district. If you own land in the Towns of Brownville, Pamelia, LeRay, Lyme, Orleans, Philadelphia, Antwerp, Cape Vincent, Clayton, Theresa and Alexandria that is not currently enrolled in the North District and would like to add it to the District or you believe you own land in the District but did not receive a form and would like to make changes, please use the removal and addition form available on the Jefferson County Planning Department website.

Landowners with land currently enrolled in the North District will also receive a Farm Survey that is intended to gauge the state of agriculture in the District. Landowners who currently own an agricultural operation within the North District or rent their land to an agricultural operation are asked to

complete and return the survey by **June 30, 2015**. You do not need to complete the survey if you do not farm your land or rent land to an agricultural operation. The results of the survey will be detailed in the Jefferson County Farmland Protection Board's eight-year review report to the Jefferson County Board of Legislators. Responses will not be attributed to landowners by name in the report. If you own an agricultural operation within the North District or rent land to an agricultural operation and did not receive a survey and would like to complete one, please use the survey available on the Jefferson County Department of Planning's Agricultural District webpage.

After the open period ends, the Agriculture and Farmland Protection Board will review the requests and prepare a report that is submitted to the County Board of Legislators for their consideration. The Board will then hold a public hearing to receive feedback on the requested modifications, if any. Once the County Board of Legislators has approved of the changes, the report is finalized and sent to the New York State Department of Agriculture and Markets for recertification of the District. This process typically takes eight to ten months.

For more information contact:
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(315) 785-3144
hbonisteel@co.jefferson.ny.us

Annual Additions

Landowners can request to have their property added to a Certified Agricultural District during Jefferson County's Annual Individual Inclusions open enrollment. The Jefferson County Agriculture and Farmland Protection Board announces that the next annual open enrollment period for the addition of viable agricultural lands into Jefferson County Agricultural Districts will take place from **June 1st through June 30th**. Note that property can only be removed from an Agricultural District during the District's eight-year review.

Agricultural Districts are intended to encourage the continued use of farmland for agricultural production. Enrollment of viable agricultural lands into a State certified Agricultural District provides protection of accepted agricultural practices through New York State Agricultural Districts Law. Viable agricultural land is land highly suitable for, or currently used for, agricultural production.

For more information contact:
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Please join me to congratulate Michael and Rebecca Walseman and their three sons, Mathew, Eric, and Lucas, from Carthage, NY for receiving the 2015 Young Farmer Award.

The Lewis County Young Farmer Award is sponsored by the Lewis County Dairy Industry Building Committee and has been active since 1975. The Lewis County Young Farmer Award is nominated by an agribusiness in the local community. The young farmer is recognized for their level of farm management, dairy herd management, and crop management as well as business and financial management.

Everyone I interview always has a story to tell. This is the Walseman's story. They are currently milking 66 Holstein cows with an average milk production of 71lbs of milk per cow a day with 70 tillable acres. Michael has milked cows all his life and Rebecca received an Associate's Degree in Accounting from Jefferson Community College. Guess who is the expert in the financial management of the business?

In 1941, Vernon Walseman, Mike's grandfather purchased the farm from his uncle. In 1989, Vernon sold the farm to Clinton Walseman, Mike's father, where he raised heifers and made hay. Mike learned his working ethic as a child and followed his father's footsteps. Unfortunately, the barn burned during Mike's childhood years and when Mike wanted to start farming, he needed to find another farm. Mike and Rebecca bought 40 cows and rented Joe Walseman's barn and in two and a half years, he outgrew the facility. Luckily, Bob Crowfoot rented his barn to the Walseman's for a few more years until Mike and Rebecca decided to build their new tie stall facility in 2005. Mike and Rebecca sold their cows in order to pay for their farm. Basically, the payment from the cows paid for the new structure. Mike and Rebecca said it was easier to refinance for more cows than it was to finance to build a new barn. So, that's what they did!

Rebecca said, "It wasn't always easy—at first it was very hard. We didn't start with anything. We had to borrow money for shovels, forks, etc. The first couple of years were really tough to cash flow, so we learned to work with what we had and saved for what we needed. I remember working off the farm to help pay bills and buy groceries; we ate spaghetti and oatmeal often because they were cheap. It took a long time for us to want to eat these foods again—only when we were completely out of food—and ate them as little as possible. The farm bills came first while both of us worked together on the farm." As you can see, Mike and Rebecca sacrificed a lot to be where they are today.

Because the farm sat vacant for so long, the tillable land was overgrown with brush so Mike and Rebecca reclaimed

the land and brush hogged the entire plot of land, making many trips to White's for parts during this time. Of course, this involved a lot of hard work and perseverance. When the barn was being built in 2005, it took 14 feet of fill to allow for the flooding water levels from the Black River. Today, the land is used for hay to feed their heifers and dry cows. In 2007, the house was built and in 2010 they constructed a sick cow area or box stall to the end of the tie stall facility and reconditioned the existing machinery shed. While the tie stall was being built, Mike worked for Hans Vanderveekan and CJ Enterprises. I always said, farmers can do electrical, plumbing, carpentry, mechanics, and let's not forget; dairy husbandry.

The Walseman's buy a TMR from Vanderveekan, and only purchase equipment to replace outdated machinery. Mike and Rebecca said, "Buy machinery only when you can afford it." A neighbor boards some of their heifers for the winter. This allows Mike and Rebecca to focus on the milking herd. They do not hire outside labor and spend their time on the farm raising their energetic, inquisitive boys. In the future, when finances allow, they plan to add 60 feet to the facility to keep all the herd on the farm. Again, this will take another 6 feet of fill to keep above the flooding water levels from the Black River.

As I ended my interview, I asked Mike and Rebecca if they had any words of wisdom for the farmer that wants to milk cows without the land base. Mike and Rebecca said, "What works for us might not work for you. Buying a TMR and buying equipment for forages will not work together, so do one or the other." "Communicate with each other, be patient, and keep the paperwork up to date for financial decisions."

Mike and Rebecca have a great working partnership, as well as a wonderful marriage and family. They communicate about everything that is being done on the farm. They discuss everything as a couple and consult each other before making any decisions. Needless to say, Mike will not purchase any "toys" before talking to Rebecca. With Rebecca's expertise about Quickbooks and Mike's work ethics, success is going to follow them for great accomplishments and happiness in the future.

Congratulations to Mike and Rebecca on a job well done!

Photo caption: Michel and Rebecca Walseman and their sons; Eric, Mathew, and Lucas (sitting from left to right)

Lewis County Agricultural Happenings

Photos by Kylie Schell

The 2015 Lewis County Dairy Court

23 of the 50 dairy princesses were present for the 50th celebration of the Lewis County Dairy Princess Pageant.

2015 Lewis County Young Farmer award was presented to Mike and Rebecca Walseman, Carthage, by Peggy Murray, CCE Lewis County.

2015 Senior Farmer Award was presented to John and Judy Kerelus of Lowville, by Jen Kerelus, President of Lewis County Farm Bureau.

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: _____

_____

AD: _____

_____

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: 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: 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: 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.

FOR SALE: 3 PATZ barn cleaner units, 1 PATZ silio unloader, 20' Vatme. L silio unloader, 1 grain bin, plus 20' silio bands and silio blks. Call 315-777-7631.

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.

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).

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

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Calendar of Upcoming Events

DATE	PROGRAM	CONTACT
Starts Saturday, May 30 8 am - 2 pm	Lowville Farmers' Market Forest Park Pavilion, Lewis County Fairgrounds, Bostwick St. in Lowville	Chris Bush 315-783-8642
Tuesdays, June 16- October 6 Noon-6 pm	Lyons Falls Farmers' Market Riverside Park, Laura St. in Lyons Falls	Gary Mavis 315-348-5167 or *gmavis@twcny.rr.com*
June 25 – October 1 (Thursdays) 11 am – 3 pm	Lewis County General Hospital Farmers' Market Childrens Clinic Parking Lot, Lewis County General Hospital in Lowville	Tina Schell 315-376-5087
July 21-25	195th Lewis County Fair Lewis County Fairgrounds Bostwick St. in Lowville	Visit http://lewiscountyfair.org