

NORTHWEST NEW YORK DAIRY, LIVESTOCK & FIELD CROPS TEAM

### Forage Quality & First Cutting

By: Jodi Letham

nowing when the right time for 1<sup>st</sup> cutting chopping of hav crops can be a challenge. Harvest is not linked to a certain calendar date but instead is dependent on growing degree day accumulation (heat) and soil moisture. Now is the time to check your winter triticale's growth stage. Triticale should be harvested at Feeke's 9-flag leaf stage for optimal quality. At this stage the collar of the flag leaf will be visible. Many fields across the region are just entering Feeke's stage 8. At stage 8 the flag leaf is just emerging from the top of the plant. Fields will need to be closely monitored over the next 2 weeks to ensure harvest occurs at the right time. Mike Stanyard put together a short video showing the optimal time for triticale harvest and how to determine Feeke's stage 9, https:// vimeo.com/129684323



MAY



Harvesting hay at the proper growth stage will also ensure high quality feed and hopefully

can reduce the amount of grain supplemented in the feed ration. A guide and chart have been provided to help you determine proper timing to obtain the highest quality forage.

Measuring the height of alfalfa has been proven to be the best indicator of harvest time for your local climatic



Photo source: Mike Stanyard

conditions and individual fields. Predicting percentages of mixed stands can be difficult and a high percentage of people tend to overestimate the amount of alfalfa in the stand.

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VOLUME 26, ISSUE

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Ag Focus Cornell Cooperative Extension of

**Genesee**•Livingston•Monroe Niagara•Ontario•Orleans•Seneca Wayne•Wyoming•Yates

Ag Focus is published Monthly by the NWNY Team of CCE / PRO-ĎAIRY

**Contributing Editors:** Jerry Bertoldo - Libby Eiholzer Nancy Glazier - John Hanchar Joan Sinclair Petzen - Mike Stanyard

Layout/Design: Cathy Wallace

Postmaster Send Address Changes: NWNY Team—Cathy Wallace 420 E. Main Street, Batavia, NY 14020

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By law and purpose, Cooperative Extension is dedicated to serving the people on a non-discriminatory basis.

#### **Mission Statement**

The NWNY Dairy, Livestock & Field Crops team will provide lifelong education to the people of the agricultural community to assist them in achieving their goals. Through education programs & opportunities, the NWNY Team seeks to build producers' capacities to:

- Enhance the profitability of their business
- Practice environmental stewardship
- Enhance employee & family well-being in a safe work environment
- Provide safe, healthful agricultural products
- Provide leadership for enhancing relationships between agricultural sector, neighbors & the general public.

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#### Continued from page 1

Sampling and weighing the grass and alfalfa samples can help determine the mix percentage and train your eye to estimate hay mix percentage with more accuracy. Dr. Cherney of Cornell has developed an accurate system to assist in your percentage prediction at <u>http://www.forages.org/index.php/tools-</u> grassman. Click on the grass, alfalfa-grass, or the alfalfa estimator to initiate prediction. You will be asked to enter in alfalfa height, percent grass, NDF target, and weather (normal, hot, cool) and the system will tell you how many days until your field, under your conditions, will be at peak quality for harvest.

To help give the producer an idea of when to harvest first cutting, I will be out measuring alfalfa height to predict Neutral Detergent Fiber (NDF) for alfalfa, alfalfa-grass mixtures and grass stands in several fields across the 10 counties. Field locations will reflect the diversity of heat, elevation and soil moisture in the area.

Here are helpful numbers when using alfalfa and grass height as an indicator of NDF content:

Percentage Stand	Alfalfa Height	NDF Goal	What to do:
100% Grass Stand	13" tall	50% NDF	Start to cut Grass Stands
50% Grass - 50% Alfalfa	23" tall	44% NDF	Cut your Mixed Stands
100% Alfalfa	30" tall	40% NDF	Cut Alfalfa Stands



### **Upcoming Webinars:**

#### "On-Farm Feed Diagnostics"

May 8, 1:00 - 2:00 p.m. *Presented by:* Mike Hutjens, University of Illinois http://hoards.com/flex-309-Webinars.html

#### Annual Northeast Dairy Farm Summary

May 11, 11:00 a.m. - 12:00 p.m. *Presented by:* Chris Laughton, Farm Credit East https://www.farmcrediteast.com/knowledgeexchange/Webinars





### **Agricultural Podcasts: Something New to Listen To**

By: Libby Eiholzer

**P** odcasts have truly revolutionized digital media over the past few years. They're similar to radio talk shows in that they are made up of exclusively audio content, but instead of being played on the air at a certain time, they are stored on the internet for on-demand listening. Also, they are not regulated by the FCC, so they can be produced basically by anyone with a recording device. There are literally hundreds of thousands of podcasts available on every imaginable topic: true crime (such as the hit podcast *Serial*), travel, sports, politics, hunting, food, you name it. And yes, even agriculture! They're great for people who spend long hours in a car or on a tractor and want something engaging and educational to listen to.

While you can listen to a podcast directly from the podcast's website, it's preferable to download and save it to a portable device (like a smartphone or tablet) so that you can listen on the go. If you have an Apple product, all you have to do is click on the "Podcasts" app. If you have an Android device, you



will have to download a podcast app, such as Stitcher, Pocket Casts, Google Play Music. Podcast apps are basically libraries full of podcasts. You can

search for a specific podcast or one on a topic you're interested in, see lists of trending podcasts, and subscribe to podcasts that you like. By subscribing, you can opt to have new episodes downloaded to your phone automatically, so when they are released (usually every week) you'll be ready to listen.

Here are just a few agricultural podcasts to get you started. Most are produced by agricultural media companies or University or Extension programs.

**AgriTalk-** a daily national conversation about the latest issues impacting agriculture

**Consumer Ag Connection-** bridging the gap between agriculture and consumers

**UW Milk Quality**a daily national conversation about the latest issues impacting agriculture

DairyToday-weeklyreportsdevoted to the dairyindustry



**Purdue Dairy Digest-** tackling timely topics of interest to the dairy community

**Dairy Moosings-** MSU Extension educators provide research based education

**Beef Pros-** interesting people, places, and topics related to the beef business

**Future of Agriculture-** agriculture, agribusiness and the innovations needed to feed 9 billion by 2050

**Farming Today-** BBC radio's weekly agricultural news

**U.S. Farm Report**- a weekly roundup of news relating to agriculture



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# Commitment to Quality and Service

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- PLUS Access to the Latest Technology in the Feed Nutrition Business -

See our great prices on Carhart Jackets and clothing to keep you warm this winter!

![](_page_4_Picture_6.jpeg)

### Coccidiosis in Cattle - Part 3

By: Jerry Bertoldo, DVM

In the previous parts of this series we discussed the clinical signs, diagnosis and control of coccidiosis in young stock operations. This part will present the specific treatments and products available for treatment and prevention. It is important to work with your attending veterinarian to devise a plan for either case. The new Veterinary Feed Directive (VFD) has direct impact on what antibiotic can be fed along with a coccidia control agent. No VFD is required to feed any of the coccidia control agents by themselves. Remember as well, if you are responding to only clinical cases, you are missing 95% of affected animals in need of cocci control.

# What are the products available for control of coccidiosis?

Coccidia control products are divided by their mode of action - coccidiostatic or coccidiocidal. *Static* ones do not kill, but only slow, weaken or arrest the life cycle of coccidia. *Cidal* ones have the ability to outright kill. It is important to note <u>that neither mode</u> <u>of action assures that all organisms are affected at all</u> <u>stages of the life cycle.</u> This means that it is impossible to totally eliminate all coccidia within the intestinal tract. Total elimination is not necessary, nor desired. Exposure is required for resistance to be achieved.

Products are further classified based on strategy of use. They can be preventative or therapeutic.

#### SULFONAMIDES (SULFAS)

• Sulfas have been used for many years as a treatment for coccidiosis particularly in poultry and small ruminants. These have a *static* effect on coccidia. Resistance is reported to be fairly common, however.

NOTE: Sulfa boluses do not require a VFD order or prescription; soluble sulfa powders or liquids for use in water now require a prescription. Sulfas added to feed require a VFD order.

• Sulfas reduce the formation of folic acid (a B vitamin) by the coccidia, a necessary

micronutrient for growth. Coccidia thus experience a serious reduction in growth and possible death. Animal cells use preformed folic acid present in the diet and are not affected adversely by sulfas.

• Aureo-S/AS 700 Crumbles<sup>™</sup>(sulfamethazine and Aureomycin) have been widely used to prevent or control respiratory infections, but have not been effective at controlling low to moderate challenges from coccidia. The high level of intake required and the loss of appetite in cases of severe coccidiosis make Aureo-S use impractical in these situations.

NOTE: Under the new VFD rules this product can no longer be legally fed to dairy heifers for any reason.

• Albon<sup>TM</sup>(sulfadimethoxine) boluses and powder have been effectively used in severe cases when directly administered orally to clinical animals.

#### AMPROLIUM (CORID<sup>TM</sup>)

- Amprolium is a *cidal* product used both as a preventative and therapeutic. Corid<sup>TM</sup> is the most commonly used brand. It is available in liquid, soluble powder and crumbles. The product is never included in manufactured (Type C) feed products.
- Amprolium is an antagonist to thiamine (vitamin B-1). Thiamine is required by coccidia for growth and development at a rate 10 times that of animal cells. Without sufficient levels, coccidia die. The safety factor for mammals is 8 times treatment levels.
- Amprolium resistance is reportedly high, however, effectiveness of the product reported from the field appears to be unchanged over the years.
- Amprolium may be used for 5 days in a row at treatment levels (twice the preventative rate) as early as two weeks of age and repeated in 15-20 days in high early exposure situations. It can be fed in the crumbles form from near weaning at

treatment levels for 5 days *before* stress related coccidiosis breaks are expected. If used in water preparations, amprolium may be used in addition to feeding ionophores and Deccox<sup>™</sup> present in the grain.

Note: Amprolium is not labeled to be used in combination with any in-the-feed antibiotic.

• Amprolium crumbles are effective in treating breaks in older calves that are still eating fairly well.

#### **<u>OUINOLONES (DECCOXTM)</u>**

- Deccox<sup>TM</sup> (decoquinate) is a *static* compound used as a preventative. It has only one point of interaction within the life cycle of coccidia. It is absorbed into the cells lining the gut where the reproductive phases of coccidia take place.
- Deccox<sup>TM</sup> disrupts the energy transport system of coccidia reducing growth and reproduction, but not killing the organism. The advertised rationale has been to allow the immune system to "see" the organism whole, alive and in significant numbers while rendering it harmless. Resistance has been reported.
- It is extremely important that effective control levels are maintained on a *daily* basis. A short-term absence of Deccox<sup>TM</sup> in the feed allows the "arrested" coccidia to rupture out of the host cells. Explosive episodes of clinical coccidiosis can result depending on the level of previous exposure to infective oocysts. This is a common scenario when switching from Deccox<sup>TM</sup> to one of the ionophores –Rumensin<sup>TM</sup> and Bovatec<sup>TM</sup> particularly around weaning.
- Fecal examinations performed in the early stages of these Deccox<sup>TM</sup> "breaks" will be *negative*.
- Decoquinate can be manufactured with milk replacers and starter grains. In the form of a powder, Deccox-M<sup>TM</sup> can be hand mixed with milk replacer or whole milk.

Note: Deccox can be legally fed in combination in the feed with Chlortetracycline (Aureomycin Crumbles<sup>TM</sup>)

#### IONOPHORES (BOVATEC<sup>TM</sup> & RUMENSIN<sup>TM</sup>)

- Ionophores are *cidal* compounds generally used in prevention. They have three points of control on coccidia during its life cycle, all during the extracellular phase or when the organism is released into the rumen of the gut.
- Ionophores disturb the electrolyte vs. water balance within the coccidia causing them to swell and burst. Resistance is possible, but unusual.
- On a milligram per milligram basis, Rumensin<sup>™</sup> (monensin) is about 30 to 50% more potent than Bovatec<sup>™</sup>(lasalocid) for coccidial control.
- Ionophores are particularly toxic to horses and other equidae. Rumensin<sup>TM</sup> is more toxic than Bovatec<sup>TM</sup> in these species.
- Bovatec<sup>TM</sup> is approved for inclusion in milk replacers. Rumensin<sup>TM</sup> is not. Both can be routinely used in starter, transition and grower feeds as growth promoters as well as a coccidial control agent. They should be continuously fed at least until coccidial control is deemed unnecessary.
- Crossing over from one to the other does not appear to cause any break in control or create any adverse reactions. Lapses of a few days in treatment (either suboptimal or complete) do not result in explosive clinical disease. Ionophore toxicity has been reported in young pre-weaned calves where inclusion rates have accidentally exceeded safe limits.
- Ionophores are almost exclusively blended at manufacture in retail feed products. This is the most economical means of inclusion. One exception is a product containing Bovatec<sup>TM</sup>, vitamins and minerals called Calf Pro<sup>TM</sup>. It is a liquid designed to add to milk or milk replacer for the first three to four weeks of a calf's life until medicated starter intake is sufficient for coccidia control.

Note: Under the new VFD rules it appears that the combined use of Rumensin or Bovatec in the feed with chlortetracycline is not legal. Check with your veterinarian.

![](_page_7_Picture_0.jpeg)

# Protect Your Corn Yield with Gowan Branded Post-Emergence Herbicides!

![](_page_7_Picture_2.jpeg)

### New Online Resource for Weed Management Assistance

By: Mike Stanyard

The Integrated Weed Management Resource Center is a new online tool, maintained in part by Penn State Extension weed specialists, to find weed management information, ask questions, and read timely articles on weed management news.

Penn State Extension weed science specialists have teamed up with specialists at 14 other universities and the USDA-Agricultural Research Service (ARS) to create an online hub for resources relating to integrated management of problem weeds. The inspiration behind this project was to provide a single place to find readily accessible online information on numerous weed management topics. While there are plenty of great resources out there to help growers answer their weed management questions, they are not always that easy to find. The website, called the Integrated Weed Management Resource Center, features a Question and Answer forum, weekly articles on weed management news, and a clearinghouse of resources on numerous weeds and weed management topics from numerous states including Pennsylvania.

On the Weed Management Questions forum, questions that readers submit to the site are read by extension weed science specialists at Penn State and many other universities, who then write back with an answer and instructions on where to find further information. Questions can be written on any topic relating to weed management in crops.

Weekly news articles are written based on leading issues and research developments currently being discussed around the country. Readers can subscribe to get email notifications whenever new articles are posted. A wide range of weed management information and resources can be found on the site relating to herbicide resistance management, integrated weed management strategies, and weed speciesspecific management recommendations according to agricultural region.

The website is maintained by Annie Klodd, Penn State Extension Associate in Weed Science, with collaboration from other weed specialists on the project. It is funded by a grant from the USDA-ARS to address herbicide resistant weed management. For additional information, please visit the website.

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![](_page_8_Picture_8.jpeg)

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![](_page_8_Picture_12.jpeg)

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### Free \*\*\* Tire Recycling \*\*\* Free

![](_page_9_Picture_1.jpeg)

Have scrap or old tires lying around that are taking up space in your yard and looking unsightly? These tires seem harmless, right? Tires left lying

around in the elements can create health and environmental hazards. Tires are perfect for mosquito breeding due to the fact that they hold water for long periods of time.

These mosquitos can carry illnesses that can be detrimental to your health. Scrap tires can also be a fire hazard; once ignited, a large pile of tires can burn for days, weeks, or even months giving off black smutty smoke which releases toxic emissions. Melting rubber from tire fires also produces pyrolytic oil which can cause problems in delicate aquatic ecosystems and ground water on your property.

With that being said, if you have any waste tires lying around your property or home,

![](_page_9_Picture_7.jpeg)

Genesee County has a solution for getting rid of these **pesky hunks of rubber**. Genesee County SWCD will be hosting a tire recycling event in the early summer of 2017. If you are interested in recycling your waste tires call and register with the staff and get rid of your tires for **FREE**. All you have to do is bring them to the event, even if they are still on a rim.

Call 585-343-2362 for more information!

![](_page_9_Picture_10.jpeg)

![](_page_10_Picture_0.jpeg)

# **The Ideal Freestall?**

By: Timothy X. Terry

Regional Strategic Planning Specialist, Harvest NY

I'm often asked what is the best stall surface for I maximizing cow comfort. To be honest, the best stall I've seen for maximum cow comfort and overall health is to have no stall at all. When properly managed the compost bedded pack seems to be second to none for letting cows get in, lie down, rest, rise, and exit for milking or feeding. I have seen many lame, "granny" cows come out of freestalls and gain a new lease on life. Moreover, heat detection is frequently easier because the animals will express more vigorous heats with the improved footing and softer landing surface. However, most farms have made significant investments in freestall barns and to retrofit for a compost bedded pack is impractical and/ or impossible, but it doesn't mean they have to sacrifice cow comfort

#### The Gold Standard

The deep bedded sand freestall is still the "Gold Standard." Numerous research studies have shown cows prefer it and perform better on it. As a bedding material sand is second to none – it yields, but then supports the animal when she lies down, it provides good footing within the stall as well as traction in the alley, and being inorganic it doesn't support bacterial growth.

But is a sand bedded stall really better than a mattress? In a study conducted by the University of Wisconsin – Madison, researchers compared twelve freestall herds – six with deep bedded sand stalls (SAND) and six with rubber crumb mattresses (MAT) – for stall usage and cow activity based on lameness scores. (1= no problems, 3= arched back, head bob when walking).

Stall usage was similar across all locomotion scores for sand bedded herds, but decreased as locomotion scores increased in the mattress bedded stalls. This tends to indicate that cows on mattresses found it more difficult to recline and/or rise, or were more uncomfortable in the stall. This is important because the most productive time in a lactating cow's day is when she is lying down. Furthermore, the more she stays off her feet the faster she will heal. Which is probably why herds on sand bedded freestalls tend to have lower locomotion scores and higher productivity.

#### The Problem

Unfortunately, as a waste product, sand laden manure is problematic. Without the appropriately designed infrastructure sand can fill manure channels, tanks, and lagoons. It wreaks havoc on pumps and spreaders, and reduces the service life of almost everything with which it comes in contact. Like the compost bedded pack, retrofitting a waste handling system to accommodate sand bedding is usually cost prohibitive, if not altogether impossible.

So if a full retrofit is not possible what are the options? I saw many possibilities at the recent NY Farm Show in Syracuse. There were a number of rubber grids that claimed they could reduce sand use by as much as 70%. So if you could tolerate a little sand in your system or are looking to reduce your overall sand usage this might be an option for you.

However, if you are locked in, or committed to, some sort of organic bedding (sawdust, chopped hay/straw, etc.) there are other options. There are new rubber mats that make use of newer materials that are more like a memory foam than traditional rubber. Even the waterbed mattresses are using these foams as a subbase under the waterbed. The promotional materials state that these compare favorably to, or better than, sand freestalls.

But what if the current mats or mattresses are still in good shape? Is there something that can be done with these rather than shelling out \$175 - \$225 per stall for new mats or mattresses? Fortunately, yes, especially if the entire stall surface is not concreted. By temporarily removing the mattresses, excavating 2-3 inches of stall surface beyond the curb, and reinstalling the mattresses and cover you have the beginnings of a Pack-Mat. All that remains is to add another 2"- 4" of bedding over the mattress cover. This minimum amount of bedding is necessary to maintain the same resilient cushioning as a deep bedded sand stall. For example, in a subsequent study by the same Univ. of Wisconsin researchers, 59 cows in four different herds with either a crumb rubber mattress (MAT) or *recessed* crumb rubber mattress and 2" of bedding (PACK) were monitored for activity and stall usage based on lameness scores. As evidenced by Figure 1, lying times on the Pack-Mat were similar across the lameness scores. In this particular study sand was the bedding of choice. However, I would think sawdust or chopped hay / straw might work just as well, although a very clean and bright chopped straw might be just a bit slippery. (Some ag lime mixed with the straw may improve this situation.)

![](_page_12_Figure_1.jpeg)

*Figure 1- Cow Activity vs. Lameness Score on Mattress or Pack-Mat Bedded Freestalls - Cook, N.B., et al. J. Dairy Sci. 91:12 ppg. 4673-4678.* 

If you find that the bedding usage is too high you could add a bedding keeper / retainer to the back of the stall. This is usually a 3" PVC pipe or pressure treated 4x4 (with rounded corners) bolted onto the curb. There are others that bolt to the outside of the curb. Just keep in mind that the alley scraper has to be able to rub against the curb without tearing out the retainer. Another choice may be to take a used 12" wide conveyor belt, fold it in half lengthwise, and secure it to the top of the curb just behind the mattress cleat. (Fig. 2) You should end up with a tear -drop shaped pillow that doesn't hang out into the alley, holds back the bedding but allows for easy mechanical removal, and collapses as the cow lies down. One caveat here: make sure there are NO wires protruding from the folded belt. Most belts are

![](_page_12_Figure_4.jpeg)

Figure 2 - Pack Mat w/Optional Rubber Belt Bedding Retainer.

now reinforced with synthetic fibers, however, there may still be some old wire reinforced belts hanging out in the shop or silo room. So choose wisely!

Lastly, none of these systems will work very well with insufficient bedding. Make sure there is at least 2", preferably 4", of bedding on the stall and that it is uniformly distributed across the surface – no ruts!

![](_page_12_Picture_8.jpeg)

![](_page_13_Picture_0.jpeg)

![](_page_13_Picture_2.jpeg)

# SUCCESSFUL REPRODUCTIVE MANAGEMENT FORUM

A few of the leading reproductive herds in the Northeast will share how they achieve outstanding reproductive results through a roundtable discussion. Key takeaways will include how adherence to protocols and overall consistency lead to reproductive success.

#### Wesley Smith - Herd Manager (both sites)

#### Fairvue Farms, Woodstock, CT

Running over 30% preg rate for the year. Four of the last 5 are over 40%. Fairvue is now branching out to include providing ET recips as part of the repro plan.

#### Joey Kwilos - Reproduction Manager (both sites)

Phillips Family Farm., North Collins, NY

Average 21 day preg rate of 35% with a high of 43% and a low of 29%. Consistently one of the premier Repro herds in the area.

#### Scott Yetter - Reproduction Manager (Canandaigua only)

**Cornell University Dairy Research Center, Harford, NY** Scott is a former AI technician and has a unique story as the herd is running a very high preg rate despite cows being used for research.

#### Lyman Rudgers - owner (Warsaw only)

#### Rudgers Registered Jerseys, Attica, NY

High Production and High Repro Herd. A finalist in last year's DCRC Awards Program.

![](_page_13_Picture_16.jpeg)

Friday, May 19 CCE-Ontario Co. 480 N. Main Street Canandaigua

-- and --

Saturday, May 20 CCE-Wyoming Co. 36 Center St., Suite B Warsaw

> 7:00 - 9:00 pm (both days)

No cost to register Ice cream sundae bar

### **RSVP by May 15**

To register, contact: Dave Keller 913-242-0549 dave.keller@parnell.com

# May's "Most Wanted" Insect Pests

#### By: Mike Stanyard

I t was a long winter but our resident insect pests are waking up and becoming active. We also have a couple of uninvited guests (black cutworm and armyworm) that have come up from the south. As crops are going into the ground, emerging and growing in May, many pests could be dining on your field crops. Below is a list of the culprits you should be wary of and what their feeding damage looks like. May is a very important month to get out in your fields, scout, identify, and manage insect pests before they become a serious problem! We will be providing additional timely scouting information on these insects in our weekly Crop Alert email as the season progresses.

#### Alfalfa: Alfalfa Weevil

- Larvae emerge in late April
- Look for shot-hole feeding in upper leaves
- Threshold: 40% of plants have feeding injury

#### Oats and Wheat: Cereal Leaf Beetle

- Black slimy slug-like larvae
- Strip green tissue off leaves
- Threshold: 3 or more eggs + larvae per stem

#### **Corn: Black Cutworm**

- Eggs laid in April on grasses and weeds
- Larvae cut corn plants up to V6 stage
- Threshold: 5% of plants cut

#### Corn & Soybeans: Seedcorn Maggot

- Look for uneven emergence, stunting
- Small maggots feed on large seeds
- Controlled with insecticide seed treatments

#### Soybeans: Slugs

- Look for holes in leaves, slime trail
- More prominent in no-till
- Can be controlled with tillage and baits

#### Soybeans: Soybean Aphid

- First found around mid-May
- Look on newest emerging trifoliate
- Threshold: 250 per plant

#### Wheat: Common Armyworm

- Eggs laid in winter grains late April/May
- Young larvae feed on lower leaves
- Tip: Look for blackbird activity in field

![](_page_14_Picture_31.jpeg)

## Ask Extension...

Is it cost effective improving the pH of my pastures?

#### By: Nancy Glazier

I was asked a question at a pasture walk last fall about pastures and fertility - specifically pH - and have been mulling it over since then. The beef producer asked if the return on investment (in this case pounds of beef) would pay for the needed lime.

The farm had been a run-down, neglected, dairy and had not been farmed in many years. Soil tests were taken as part of a nutrient management plan on crop fields and pastures. Six of the 15 fields were in need of liming, of which, five are pastures. Some have improved grasses and legumes and some are native; see the table. Fertilizer has been applied to improved pastures. The soils are silt loams, silty clay loams, and fine sandy loams with a mix of high lime and low lime subsoils. Drainage is variable with some artificial drainage.

I reached out to Jerry Cherney with this question. He stated that pH range for maximum yield potential of cool season grasses is roughly 5.6 to 6.6. Actual yield will depend on available nitrogen. Clovers have a pH range for maximum potential yield of about 6.0 to 6.6, birdsfoot trefoil is more adapted to low pH with the optimum between 6 and 7. Individual grass or clover species will vary up to about 0.2 pH units from this range, for maximum yield. It is not just a matter of cost of lime vs. increase pounds of beef/ acre as the pH will continue to decline over time if no lime is added, gradually decreasing yield. Lime is typically considered the most cost effective soil amendment that can be used, if the soil is acidic.

Jerry suggested inputting the soil type and the species in the pasture using the species selection tool on <u>www.forages.org</u> to get an approximation of the yield increase from an increased pH. That was a bit challenging since I don't have the species in each field. I made some gross assumptions.

So, is it cost effective? The short answer is yes, but an immediate return. In the short term, it will be a significant investment to apply the lime at the recommended rates to the fields needing it. I would

![](_page_15_Figure_8.jpeg)

This graph shows how nutrient availability is impacted by pH. Photo source: extension.org

not recommend applying more than 2 tons/acre at one time, particularly on pastures. First year lime costs with application could be over 33,800, (~32/ton plus ~11/acre). Second year costs would be reduced. Yearly amendments need to be applied to continue the fertility improvements. The number of cows could increase due to yield bump that may not occur until next growing season. Return on investment of increasing cow numbers may not be realized for at least a year or two. If a 1,400 lb. cow raises a 600 lb. calf, an additional 6 tons of DM would be needed. Price of feeder calves would impact the price of the calf; that adds another variable that won't be included here!

Soil improvements need to be considered for the long term. Lime will increase nutrient availability. Soil testing will need to continue to monitor pH and fertility improvements. Selecting grass and legume species based on pH is critical for each pasture. With optimum pH, legumes planted with grasses can add nitrogen to reduce purchased fertilizer. These can be added by frost seeding in the future.

Tillage would be the ideal option on some of the pastures. This would incorporate the lime instead of relying on precipitation to work the lime into the soils. If a row crop were planted for a year, lime could be applied spring and fall.

This is a brief overview of a real situation with many assumptions that may be applicable to others, and is food for thought.

Field	Acres	Soil Type	Crop	рН	Lime, t/a	Total lime, t	Year 1	Year 2
1	8	Odessa	GRT	5.9	4	32	16	16
2	8.5	Lamson	PNT	5.7	2	17	17	
3	14.3	Lamson	OAT	5.4	5	72	36	36
4	8.7	Odessa	CGT	6.5	0			
5	12	Schoharie	AGT	6.7	0			
6	10	Schoharie	BGT	5.3	6.5	65	20	20
7	8.3	Odessa	PNT	6.4	0			
8	5.3	Odessa	PGT	6.3	0			
9	27.2	Lamson	PNT	6.1	0			
10	7.5	Rhinebeck	PLT	6.7	0			
11	12.4	Rhinebeck	PLT	5.9	1	12	12	
12	2.9	Lamson	PGT	6.3	2	6		
13	23.6	Schoharie	PNT	6.3	0			
14	40.9	Odessa	PNT	6.9	0			
15	6.2	Odessa	PNT	7.1	0			
	195.8					204	101	72
Crop codes: GRT: improved grasses; PNT: native pastures;				Lime		\$43	\$43	
CGT: clover-grasses; PGT: improved grasses pasture					Total/year		\$4,349	\$3,085

![](_page_16_Picture_1.jpeg)

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### Landowners & Farmers Partnering for Clean Water in the Great Lakes

#### By: Joan Sinclair Petzen

**Goal:** To expand the use of conservation practices that improve soil health and reduce run-off on leased farmland in the Great Lakes region.

**Project:** This three-year project launched in January 2017 to develop a model for the Great Lakes region increases the use of conservation practices to improve soil health and reduce run-off from leased farmland. Specifically, the project seeks to help women non-operating landowners who rent out their land—and the farmers who lease farmland from them—to increase the use of conservation practices on this land. The project focuses on these women landowners because they now own a significant portion of leased farmland.

The pilot program will:

- 1) Launch a communication campaign to improve awareness of the importance of leased land for agriculture and protecting water quality
- 2) Create a toolkit of informational materials. Uniquely, the project is also working with USDA Natural Resources Conservation Service (NRCS) to test its new Resource Stewardship Evaluation Tool, which compares existing land management with stewardship thresholds for soil management, water quality and quantity, air quality and habitat health
- Empower women landowners and farmers to develop stronger relationships that accelerate the adoption of conservation practices
- 4) Engage the agricultural retailer community in providing support and encouragement
- 5) Engage and train state and local agency and NGO staff to start forming supporting infrastructures that expand outreach and education

**Location:** Ohio: Portage and Toussaint River Basins (the main focus is Wood & Ottawa counties) New York: Genesee River Basin

**Partners:** American Farmland Trust (project lead), Utah State University, The IPM Institute of North America, Agren, Cornell Cooperative Extension (New York) and Wood County Soil and Water Conservation District (Ohio).

**Funding**: The Great Lakes Protection Fund provides primary financial support. NRCS gives additional support in the form of training and the time of conservation district personnel and NRCS state personnel who use the new NRCS Resource Stewardship Tool with women non-operating landowners and farmers.

If you would like more information about the project or you would like to share information about women landowners who we should invite to Learning Circles, please contact Joan Sinclair Petzen at: 585-786-2251.

![](_page_17_Picture_15.jpeg)

## CAFO Permit Update

he NYS Department Environmental of Conservation (DEC) has updated the State Pollutant Discharge Elimination System General Permits for confined animal feeding operations (CAFOs). Large livestock operations in New York State are required to maintain coverage under one of two CAFO General Permits. Under the CAFO implement best management program, farms practices to limit the potential for pollutant discharge on their farmsteads and cropland. DEC, under the guidance of the Environmental Protection Agency, periodically reviews these General Permits to update and fine tune their impact.

Farms will have to enroll in the new CAFO permits by July 24, 2017. The new permit has some significant changes. A few highlights are:

- A ban on manure application "when soils are saturated (frozen or fluid) or at a rate that exceeds the saturation capacity of that field at the time of application."
- Implementation of "Wet Weather Standard Operating Procedures" for farms with ECL CAFO permit coverage
- The opportunity for public input on the Annual Nutrient Management Plans for farms enrolled in the CWA CAFO permit.

Through the CAFO permit program, farm operators have worked with private consultants, soil and water conservation districts (SWCD), the Natural

![](_page_18_Picture_7.jpeg)

Resources Conservation Service (NRCS), and DEC to mitigate their impact on surface and ground water in New York State. The permits and practices are constantly evolving with new technologies and advancements in agriculture. Cost share funding may be available for farms to adapt to the new CAFO permits through NRCS and SWCD programming.

More information on the NYS CAFO General Permits can be found online at: <u>http://</u>www.dec.ny.gov/permits/6285.html

![](_page_18_Picture_10.jpeg)

Cooperative Extension Association of Livingston NWNY Dairy, Livestock & Field Crops Team 3 Murray Hill Drive Mount Morris, NY 14510

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### MAY 2017

Save the Date...

- 19 Successful Reproductive Management Forum, 7:00 9:00 p.m., CCE-Ontario County, 480 N. Main Street, Canandaigua. No cost to register. <u>RSVP by: May 15</u>. To register contact: Dave Keller at: 913-242-0549 or dave.kellar@parnell.com. See page 14 for more information.
- 20 Successful Reproductive Management Forum, 7:00 9:00 p.m., CCE-Wyoming County, 36 Center Street, Suite B, Warsaw. No cost to register. <u>RSVP by: May 15</u>. To register contact: Dave Keller at: 913-242-0549 or dave.kellar@parnell.com. See page 14 for more information.

### JUNE 2017

- 4 *Wyoming County Agri-Palooza*, 12:00 p.m. 4:00 p.m., Southview Farm, 5073 Upper Reservation Road, Castile
- 8 **Small Grains Management Field Day,** 9:30 a.m. 12:00 p.m., Musgrave Research Farm, 1256 Poplar Ridge Road, Aurora. For more information: <u>https://fieldcrops.cals.cornell.edu/news-events/</u>, DEC & CCA credits will be requested.

### JULY 2017

- 6 **Seed Growers Field Day,** 9:00 a.m. 12:00 p.m., NYSIP Foundation Seed Barn, For more information contact: Margaret Smith at 607-255-1654 or mes25@cornell.edu, DEC & CCA credits will be requested.
- 11-15 Yates County Fair, 2370 Old 14A, Penn Yan. For more information: www.yatescountyfair.org
- 13 *Aurora Farm Field Day*, 9:45 a.m. 3:00 p.m., Musgrave Research Farm, 1256 Poplar Ridge Road, Aurora. DEC & CCA credits will be requested. For more information contact: Jenn Thomas-Murphy at: 607-255-2177 or jnt3@cornell.edu
- 17-22 Genesee County Fair, 5056 East Main Street Road, Batavia. For more information: www.gcfair.com
- 18-22 Livingston County Hemlock Fair, 7370 Fair Street, Hemlock. For more information: www.hemlockfair.org
- 19-22 Seneca County Fair, 100 Swift Street, Waterloo. For more information: www.senecacountyfairyny.com
- 24-29 Orleans County 4-H Fair, 12690 State Route 31, Albion. For more information: www.orleans4-hfair.com
- 26-30 Ontario County Fair, 2820 County Road #10, Canandaigua. For more information: www.ontariocountyfair.org

![](_page_19_Picture_20.jpeg)

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