Cornell Cooperative Extension | Northwest NY Dairy, Livestock and Field Crops Program

AG FOCUS

Mastitis: To treat or not to treat?

Culture-based mastitis treatment. *by Margaret Quaassdorff*

...culture-based treatment protocols will increase your chance of using an effective antibiotic that will quickly cure the mastitis, bring the cow back to health, and put the milk back in the tank.

Photo source: Libby Eiholzer

Mastitis is one of the most costly and common diseases that challenges our dairy operations. Some estimates put incidence of mastitis at 20% of a herd on a monthly basis. Obviously, our goal is to prevent mastitis from occurring at all. It is in our best interest, as dairy producers, to encourage and maintain the health of our cows through proper herd management, clean and comfortable facilities, and appropriate nutrition. Nevertheless, when faced with emerging cases, performing on-farm milk cultures, or sending samples to a lab with rapid turnaround time, is key to understanding which mastitis pathogen your cows are battling. Once the pathogen is identified, milk labs and veterinarians can help you develop culture-based treatment protocols for the best plan of action. This will increase your chance of using an effective antibiotic that will quickly cure the mastitis, bring the cow back to health, and put the milk back in the tank. Antibiotic treatment should be targeted at gram-positive bacteria (Lago et al., 2011). Incorrect antibiotic use can lead to prolonged sickness, treatment time, and milk withhold. This results in economic loss in premium opportunities, decreased milk production, increased discarded milk, labor, and a slow culling process for animals that will not cure (due to the meat withhold of some common lactating cow antibiotic treatments.)

So, you have detected the mastitis early, and your milk-culture results indicate that you are dealing with a Klebsiella or E. coli case (gram-negative); neither of which respond very well to traditional intramammary antibiotic treatment. What else might you do? New trends of increased supportive therapy for the treatment of mild to moderate cases of clinical mastitis in lactating dairy cows are worth considering. Supportive therapy may include drenching cows with electrolytes, rumen probiotics and yeast additives, with the addition of providing fluid therapy via IV to maintain hydration. Working with your vet to incorporate appropriate pain and inflammation reducers (Suojala et al, 2013), as well as making sure affected cows are milked out, can help increase welfare and promote recovery (Radostits et al., 2007; Suojala et al., 2010.)

With this approach, timing is important. When faced with an environmental pathogen, dairies that are looking for signs of mastitis and intervening quickly, can see a positive response with supportive therapy after a few days. For cows that respond, quality milk could be added back into the bulk tank days and milkings earlier than what a traditional milk withhold would allow. Dairies have also reported the benefits of having a reduced or no “treated pen” and a lower risk of treated cows going into the tank. Cows may also benefit from avoiding the stress of having to be relocated to a new treated pen with a new social structure during an already immunosuppressed time. Labor in the parlor may also be reduced, yet it could be increased elsewhere, making sure cows receive supportive therapy as needed. Recognize that severe cases may not respond to, or cure, after supportive fluid therapy (or antibiotics.) However, we can appreciate that a cow not treated with antibiotics is still a candidate for culling without the 2-4 day drug withhold that is required with common antibiotic choices. Dairy farmers in our region are trying some of these techniques now. Peer-reviewed studies are catching up. Stay tuned for updates.

A partnership between Cornell University and the CCE Associations in these ten counties:
Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Seneca, Wayne, Wyoming & Yates

Postmaster: Send Address Changes: NWNY Team, Attn: Linda Risewick, 420 East Main St., Batavia, NY 14020
Direct all inquiries on advertising space/rates to: Linda Risewick at 585-343-3040 x138 or lr532@cornell.edu

Margaret Quaassdorff
Dairy Management
Genesee County
585.343.3040 x 133 (office)
585.405.2567 (cell)
maq27@cornell.edu

Libby Eiholzer
Bilingual Dairy Management
Ontario County
607.793.4847 (cell)
585.394.0377 (fax)
geg24@cornell.edu

Nancy Glazier
Small Farms, Livestock
Yates County
315.536.5123 (office)
585.315.7746 (cell)
nig3@cornell.edu

John Hanchar
Farm Business
Livingston County
585.991.5438 (office)
585.233.9249 (cell)
jjh6@cornell.edu

Jodi Putman
Field Crops & Soils
Livingston County
585.991.5437 (office)
585.208.8209 (cell)
jll347@cornell.edu

Ali Nafchi
Precision Ag
Genesee County
585.313.6197 (cell)
amn93@cornell.edu

Joan Sinclair Petzen
Farm Business Management
Wyoming County
585.786.2251 (office)
716.378.5267 (cell)
jsp10@cornell.edu

Mike Stanyard
Field Crops & IPM
Wayne County
315.331.8415 x 123 (office)
585.764.8452 (cell)
mjs88@cornell.edu

To simplify information, brand names of products may be used in this publication. No endorsement is intended, nor is criticism implied of similar products not named.

Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Changes occur constantly & human errors are still possible. These recommendations are not a substitute for pesticide labeling. Please read the label before applying pesticides.

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

Linda Risewick
Administrative Assistant
Genesee County
585.343.3040 x138 (office)
lr532@cornell.edu

For more information about our program, visit us at:
nwnyteam.cce.cornell.edu

like us on facebook

Top 5 Human Resource Management Tools

by Libby Eiholzer

How well do you communicate with your employees? I am not just talking about whether or not you have bridged a communication gap. How well do you truly communicate on a day-to-day basis about all the things necessary to keep your employees and cows happy?

Both written and spoken communication ensure that everyone is on the same page, employees are completing tasks correctly, and ultimately, that the farm is running smoothly. Human Resource Management is a strategic approach to managing people, which, of course, includes lots of deliberate communication. Listed below, in no particular order, are five human resource management tools that I think every farm should have in place. (Can't check any off the list yet? Just pick one to start chipping away on.)

1. **A System for Onboarding Employees**- How do you get a new employee up to speed? Often times, we throw the new employee in the milking parlor and have whoever is working train them. A better approach is to have a plan! Onboarding includes not only job training, but also completing employment paperwork, familiarizing the employee with the farm's mission, organization, and facilities, discussing pay and benefits, safety considerations, and more. The goal of onboarding is not just to train a new employee to do a task, but to set the employee up to succeed in the long run. Investing time early on shows the employee that you care and goes a long way towards preventing misunderstandings. Preparing a checklist for yourself will help you make sure you get everything done.
2. **A System for Keeping in Touch**- After spending a considerable amount of time getting a new employee trained and up to speed, it can be easy for a manager to direct their attention elsewhere. However, it is important to stay in touch, encourage the employee to ask questions, and provide them with feedback on their job performance. If this is something you have a hard time remembering to do regularly, set a reminder on your phone, or set aside 10 minutes at the beginning and end of each day to chat with employees.
3. **Job Description-** A job description details an employee's major responsibilities and explains the work schedule, work relationships, pay and benefits, and required experience for all the positions on your farm. These documents

(Continued on page 4)

FOCUS POINTS...

...inside this issue

1 Mastitis: To Treat or Not to Treat?

3 Top 5 Human Resource Management Tools

5 Spring Herbicide Updates

6 Summer Heat Abatement

7 Forage Shortages: Odds for Success, Not Disaster!

11 Keep Your Small Ruminant Pastures Clean

16 2019 NYS and County Fair Dates

(Continued from page 3)

can be particularly helpful when hiring new employees, but are also great to help avoid disputes between employees about who is responsible for what.

4. **Standard Operating Procedures**- While the job description outlines all the tasks an employee is responsible for, the standard operating procedure (SOP) breaks one task down into steps. While some can be stored in a notebook for reference, others should be laminated and posted in the work area so that they can be referred to regularly. They are helpful for training new employees and preventing protocol drift. Include pictures where appropriate.
5. **Employee Handbook**- This one can be a bear! If you are not quite ready to take the plunge at a full employee handbook, consider, at minimum, a "Code of Conduct" or "How we do things around here" document. This is a place for you to explain what you expect of your employees- from showing up on time, to using the time clock, to dressing appropriately for work. It is much easier to enforce workplace behaviors when all the managers have taken the time to agree on what is acceptable and put it down on paper.

Feel free to reach out to Libby with questions, comments, or for suggestions on getting started developing your own human resource management documents.

Spring Herbicide Updates *by Mike Stanyard*

New Paraquat Certified Applicator Training Now Required

Paraquat is one of the most widely used herbicides in the U.S. for the control of weeds in many agricultural and non-agricultural settings. *The EPA has recently made changes to the paraquat labels requiring paraquat specific training and restricting the use of paraquat to certified applicators only.* Any applicator who will be applying Gramoxone® SL 2.0 or a generic paraquat this season must review the new paraquat applicator requirements to make sure they are in compliance. If an applicator is using a paraquat herbicide with the new updated label they must complete a mandatory on-line training program once every three years. If the current label of the paraquat product being used does not have this requirement, training will not be required. To take the paraquat training module visit https://bit.ly/2UnnKmJ. The module will take about 45 minutes, and once completed, a certificate of completion can be printed out for your records.

Herbicides on Wheat

Most of our wheat is still tillering but Feekes Stage 6 (first node above ground) is not far away. Once we hit this stage, plants are more susceptible to herbicide injury and some products are no longer labeled. A good picture review of all the Feekes growth stages can be found here, https://www.extension.purdue.edu/extmedia/ID/ID-422.pdf.

- **Osprey®** can be applied up until Feekes Stage 6 (jointing) for roughstalk bluegrass control or cheat grass suppression.
- Applications of **2,4-D, Banvel®, Clarity®, MCPA** can be risky after Feekes Stage 6 and is not recommended. Some labels allow up until Feekes Stage 9 (Boot Stage) but the risk gradually increases from Feekes 6 to 9.
- **Harmony® Extra** is best applied when weeds are small and must be applied before the flag leaf is visible. It is the best product for chickweed, wild garlic and chamomile control.
- **Huskie®** is newly labeled 24(c) for marestail (horseweed) control (1-4") in wheat up until flag leaf emergence. This is an important product for ALS and glyphosate resistant biotypes.
- **Axial® XL** is labeled for the control of some annual grasses in wheat. Axial can be applied from the 2-leaf stage to pre-boot stage. It is labeled for foxtail (giant, green and yellow), volunteer and wild oats, annual ryegrass, barnyard grass and canarygrass. THIS PRODUCT IS NOT LABELED FOR OATS!!!

Spring Burndown and Pre-Programs for Marestail in Soybeans

At this year's Soybean & Small Grains Congresses, we had Dr. Mark Loux from Ohio State review with us some of his best programs for marestail control in soybeans. He stressed the importance of fall herbicide applications because fall emerged plants are harder to control in the spring. However, if you did not fall spray, here is what he recommended for a spring burndown program:

- Glyphosate + Sharpen® + 2,4-D + metribuzin
- Gramoxone® (4 pt) + 2,4-D + metribuzin
- Glyphosate + dicamba (Xtend® soybeans)
- Glyphosate + Sharpen® + dicamba (Xtend® soybeans)
- Glufosinate + Sharpen® + metribuzin
- Glufosinate + 2,4-D + metribuzin

*Metribuzin rates – 0.3 to 0.5 lb ai/A

Dr. Loux also mentioned that residual control in a pre-emergence program was crucial if no post control was available (RR or non-GMO corn was planted.) A combination of two non-ALS products would be best, Flumioxazin (Valor®) + metribuzin, or metribuzin + higher rates of Sharpen.

There are a couple of post-applied programs that are very effective on marestail. These include LibertyLink® (glufosinate), Xtend® (dicamba - Engenia®, XtendiMax® and FeXapan®) and the new Enlist™ (2,4-D choline + glufosinate). For additional marestail management information, visit the Take Action on Weeds site, https://iwilltakeaction.com/weed/horseweed.

Winter annual weeds in winter wheat.

Marestail in soybeans.

Summer Heat Abatement *by Timothy X. Terry,* Farm Strategic Planning Specialist

The following is a re-cycle of an article I wrote in 2015. Based on the phone calls and emails I have been receiving, the subject bears revisiting.

As I begin writing this in early April I am looking out my office window as yet another coating of the white stuff is falling and at such a rate that I can barely see beyond the parking lot. Will it ever end!? So it seems kind of strange to be talking about heat abatement strategies when for the last six months we have seen crippling snowstorms (a Snow-vember to remember), weeks of immobilizing, single-digit (or less) temperatures, and keeping the barn thawed and driveway plowed was the order of the day – all day.

However, the sun will climb higher in the sky, the temperatures will rise, the snow will melt, and our flocks and herds will be experiencing some heat stress. The symptoms of heat stress usually show up as increased respiratory rate, body temperature, reduced feed intake, as well as reduced productive and reproductive performance. Moreover, the effects of the excessive heat usually come back to haunt us as an increased incidence of lameness about two months after the fact due to extended standing times and rumen acidosis from slug feeding.

Praemonitus praemunitus -which is Latin for "*Forewarned is forearmed*." *We know* it is going to get hot (unless it is the summer of 1816 all over again.) *We know* that dairy cows are going to be crowded into holding areas or close-quartered stall barns at milking time. *We know* a lactating dairy cow will produce upwards of 4,500 BTU's/ hour. So now is the time to begin planning and implementing a strategy to combat heat stress.

Maintain What's Existing – Turn off the proper circuits at the breaker box, and then go over every fan blade, motor, and thermostat. Built up dirt and dust should be removed from the blades and motors with a stiff bristle brush. This will improve efficiency and prolong motor life. On the name plate on the motor, under the heading "Enclosure", you will likely see "**TEFC.**" This stands for "**T**otally **E**nclosed, **F**an **C**ooled," and means that the motor enclosure (housing) is sealed against the elements and is cooled by the air passing over (vs. through) the motor. If the motor is encrusted with dust, dirt, cattle hair, etc., it cannot be cooled by the air passing over it and may lead to premature failure of the bearings, bushings, and/or brushes. Motor and fan mounts should be tightened at this time, too.

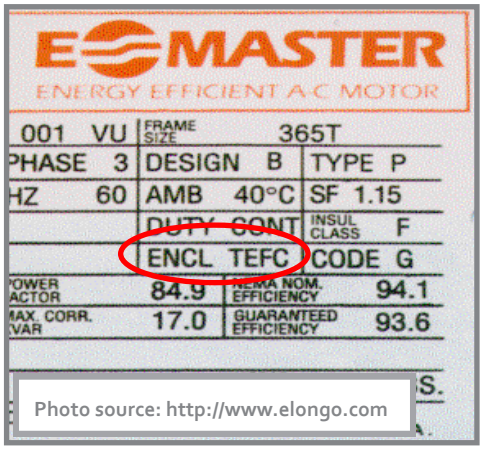


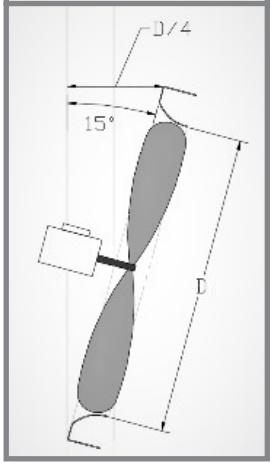
Photo source: http://www.elongo.com

Check each drive belt for the proper tension and replace any that are worn or showing signs of flat spots or fraying. Look over each pulley and drive shaft - tighten all set screws and lubricate all bearings, if applicable. If there is an idler pulley involved, make sure it is adjusted and functioning properly.

Thermostats, especially the sensor coils, need to be clean. Like the motor, if it, too, is encrusted, it will not be as responsive to temperature changes, resulting in excessive heat build-up in the facility before the fans engage. An old toothbrush is great for this. It can get into tight places and loosen any build-up. You may wish to remove the cover and blow out any cobwebs inside. The cans of compressed air you buy for electronics work well here.

Clean the Inlets – You can't ventilate a Coke bottle! In order for there to be an exchange of air, there must be a way for fresh air to get in and stale air to get out. If one or the other is missing or compromised the exchange will not happen. Freestalls usually have large curtain sidewalls, open ends, and an open ridge so ventilation can happen naturally – warm air rises; cooler fresh air replaces it. In tunnel ventilated systems, or stall barns using exhaust fans, the inlets need to be clean and properly sized. I was in an 80-cow tiestall in central NY many years ago in response to a call of a "foggy barn." When I tried to enter the main barn from the milkhouse it was all I could do to open the door. Once inside I noticed four large Vent-O-Matic® fans running full bore on the opposite wall. Further investigation found all windows closed and, what few inlets I could find, were undersized and plugged with chaff. Opening the windows and cutting some strategically placed inlets solved the problem. Similarly, with tube ventilation, make sure the fans are up to snuff and that the tubes are in good shape. If the tube is torn or pinched, the fresh air coming out of the holes will not achieve the designed velocity, and the air will not properly mix or exhaust.

Figure 1.



Placement – Ideally, exhaust fans should be placed on the leeward side (away from prevailing wind) of the building – working with nature instead of against it. Circulation fans should be placed over feed alleys

(Continued on page 7)

Forage Shortages: Odds for Success, Not Disaster!

By Jodi Putman

Are you short on forages? So am I! It is no surprise that we continue to see the lasting effects of the awful weather we experienced last fall. Many farms did not get their last haylage cutting or corn silage off until the ground froze. This is leaving a lot of farms with shortages. The late planted winter forages are not looking good, indicating yields will be down. Winter forage 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 Feekes 9-flag leaf stage for optimal quality. (**Note:** topdressing unseparated manure on tall winter forage is a prescription for disaster. The manure will stay lodged in the forage crowns making unfeedable silage.) http://advancedagsys.com/wp-content/uploads/2018/09/Sept-2018-manure-winter-forage-2.pdf

I recommend you take the time to manage your cool season grasses. With proper fertilization, nitrogen, and sulfur, the stand can take advantage of the cool moist conditions and produce high yields of quality forage that can help your herd sustain milk production. Most farms DO NOT harvest grasses in time. 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. Measuring the height of alfalfa has been proven to be the best indicator of harvest time for your local climatic conditions and individual fields. Predicting percentages of mixed stands can be difficult and a high percentage of people tend to overestimate the amount

Photo source: www.kingsagriseeeds.com

(Continued on page 9)

Summer Heat Abatement

(Continued from page 6)

and stall sections every 20'-24' and at a height that it will not be hit by cattle or equipment – usually about 8' to the bottom of the fan. This may not be possible in stall barns, so, fans should be enclosed by a grille. These fans should be tilted down about 15° from the vertical. You won't need a protractor for this. Just aim the fan at the floor or stall bed directly below the next fan. (See Fig. 1)

In the holding area, maintain the same height as the circulation fans, but tilt the fans down 30° instead of just 15°. Because of the close quarters, however, you will need to provide a minimum of 1,000 cfm of fan capacity per cow (roughly equal to one 36" fan for every 10 cows.)

Just Add Water - If you already have sprinklers or misters the nozzles may require service as well. The hard water frequently found in NYS will leave hard mineral deposits on the nozzles that may eventually plug it, or at least prevent it, from properly atomizing the water droplets. Just like on the crop sprayer, remove the nozzles and open the supply valve to flush the system. (Just don't get feed or stall beds wet.) A dilute acid solution will help remove deposits from the nozzles. Since the nozzles are more than likely to be made of brass, a full strength acid bath may cause pitting, and/or change the size and shape of the orifice. You may use standard dairy acid diluted to 25% or less (3 parts water: 1 part acid.) White vinegar straight from the bottle is usually mild enough, but always use gloves and protective eyewear when handling any of these compounds. A bronze or stainless steel detail brush from the local auto parts store can help remove even the most stubborn deposits. Rinse well and re-install. Don't forget to check the timer, pressure regulator, and line filter, if applicable.

In the holding area the soaker nozzles should be providing 1 gal. per 150 ft^2 per 1 minute cycle – equal to a 25 gal./hour rating. A typical on:off cycle is 1:5 or 2:10. However, this can be varied as the temperature rises and falls.

75 - 82° F once every 15 minutes (1:15)
83 - 87° F once every 10 minutes (1:10)
>87° F once every 5 minutes (1:5)

Water, Water Everywhere – And while we're on the subject, make sure water is available EVERYWHERE – in the barn, out in the pasture, and near the return alley, if possible. If you are using a water jacket or plate pre-cooler, direct the outflowing water to a tank or trough near the parlor exit (being careful not to compromise cow flow.) Cows exiting the parlor may have been away from water for 30-60 minutes and they will really tank up on the stuff that has had the chill taken off of it. Moreover, this slightly warmer water does not seem to have quite the chilling effect on the rumen bugs as water straight out of the plumbing system. Lastly, if the tanks in the barn or out on pasture look more like a failed science experiment than the elixir of life, it is probably time to dump / drain them and scrub them out with a little detergent and plenty of elbow grease.

Cornell Cooperative Extension

Northwest NY Dairy, Livestock and Field Crops Program

Human Resource Management on the Farm

Are you looking for motivation and resources to implement new Human Resource Management practices on your farm?

Join us for one of two sessions in WNY this spring!

Tuesday, May 21, 2019	Wednesday, May 22, 2019
12:00 - 2:00 p.m.	12:00 - 2:00 p.m.
CCE of Ontario County	CCE of Wyoming County
480 North Main St.	36 Center St., Suite B
Canandaigua, NY 14424	Warsaw, NY 14569

At each session, we will discuss:

- What Human Resource Management is, and why it is important on your farm.
- Examples of different Human Resource Management practices and how to implement them.

In addition, you will:

- Complete a self-assessment to determine the areas of highest priority for your farm.
- Hear from several local dairy farmers who have recently implemented new HRM practices on their farms.
- Go home with a plan of action and resources to help you accomplish your HRM goals.

Cost payable at the door: $10/person

Lunch & materials included.

Register by Friday, May 17th by calling or emailing Libby Eiholzer, geg24@cornell.edu, 607-793-4847.

Meetings supported by NYFVI.

NY farm viability INSTITUTE

Forage Shortages: Odds for Success, Not Disaster!

(Continued from page 7)

of alfalfa in the stand. In general we say 100% grass stands should be cut when nearby alfalfa is 14 inches tall to achieve the desired 50% NDF. Producers should begin cutting 50/50 mixed alfalfa and grass stands when nearby alfalfa is 22 inches tall for the desired 44% NDF. Producers should begin cutting 100% alfalfa stands when alfalfa is 28 inches tall for desired 40% NDF. For rapid regrowth, each cutting of grass needs the cutter bar set at four inches. I suggest re-topdressing after first cutting to take advantage of the cool spring/early summer weather and harvest for quality forage in June before the summer heat hits. If summer is cool and wet, the above management steps should remain in place to help give you a tremendous amount of forage from the grass fields. Plain and simple, do not underestimate or overlook grass stands! Timely cuttings and proper fertilization can potentially provide a full feed supply in tough years.

What can you do next? Legume seedings with forage oats. An oat nurse crop will help give you several tons/acre of high quality forage if cut (cutter bar height four inches) at the boot stage in late June. Tom Kilcer has done extensive research over the past several years on emergency forages for an early harvest and, although we believe these crops can play a role, we do not suggest it at this time, mainly because you lose two months of early growing season since all sorghum species need WARM soil with increasing soil temperatures. For most producers, the change and detailed management needed for success with a wet forage, plus the lack of proper planting/harvest equipment, and dealing with a new crop that you have limited experience with, is not an additional risk you want to add on top of a horrible economic time.

Upcoming Webinars

May 13, 2019

"Focusing on Fresh Cow Strategies"

Presented by Mike Hutjens, University of Illinois

https://hoards.com/flex-309-Webinars.html

May 8, 2019 at 5:00 p.m. (EDT)

"*Overcrowding Dairy Cattle: Behavior, Health, and Productive Consequences*"

Presenter: Dr. Rick Grant, President, Miner Institute

https://www.dcwcouncil.org/webinar-series

Previously Recorded Webinars:

OSHA Local Emphasis Program Update for Dairy Farms.

Ag Immigration Law Basics: Immigration Enforcement at the Worksite.

https://www.farmcrediteast.com/knowledge-exchange/Webinars

Keep Your Small Ruminant Pastures Clean *by Nancy Glazier*

There is a plethora of parasites out there that infect sheep and goats – coccidia, flukes, stomach worms and intestinal worms, all with various levels of impact. High infestations can cause weight loss, diarrhea, anemia, even death. This article will provide a brief overview of the barber pole worm, a strongylid nematode.

There are other parasites that infect sheep and goats, but one of the most studied worms is *Haemonchus contortus*, the barber pole worm. It gets its name from the barber pole stripe in females where the ovaries are wrapped around the intestine of the worm to give it the striped appearance. Adults are 1-3 cm in length; a heavy egg-laying female may produce 5,000-10,000 eggs/day. Populations can quickly explode with a generation time of less than three weeks.

Strongyles have a direct life cycle, which means there is no alternative host. The worms spend winters in hypobiosis, a state of suspended development. In springtime, development will resume and eggs in the Morula stage are passed in the feces, where cell division has already begun in the egg. The first stage larvae (L-1) hatch in 1-6 days depending on the temperature and humidity. They will grow and shed their cuticle (exoskeleton) to become L-2 stage. Larvae eat fecal bacteria in these early stages. They leave the feces in the L-3 stage if there has been sufficient rainfall for the larvae to escape, roughly 2" of rain in a month. The larvae keep their cuticle to prevent them from drying out, their mouth parts are covered so they cannot feed in this stage. They may survive at this stage on pasture upwards of 240 days in cool weather, 30-60 days in hot weather. When dew is present they will crawl their way up to 2" on a blade of grass where they are eaten by the small ruminants. When ingested they will then shed their cuticle and grow to L-4 stage. The larvae pierce the abomasum (true stomach) with their lancet. Lambs may lose 1/10 to 1/5 of their blood volume to these parasites. Clinical symptoms include anemia and bottle jaw, fluid that collects under the lower jaw. There will be no diarrhea as with other worms. Diagnosis is often made too late to save the animals.

For control, strategic management is needed. The process to help deal with this is FAMACHA©, a method to keep worm populations manageable. This program was developed by Dr. Francois 'Faffa' Malan, a South African scientist, using a chart to check eyelids for anemia (hence, **FA**ffa **MA**lan **CHA**rt.) This is the first step in diagnosing a heavy infestation, along with body condition scoring. Anemic animals will need immediate deworming.

Deworming resistance has become a major problem. Do not treat the whole herd or flock! This will only leave resistant worm populations. Remember, 20% of animals may have 80% of the parasite populations. Fecal egg counts (FEC) will provide accurate identification and egg counts. This can be done by veterinary clinics and Cornell Animal Diagnosis Center.

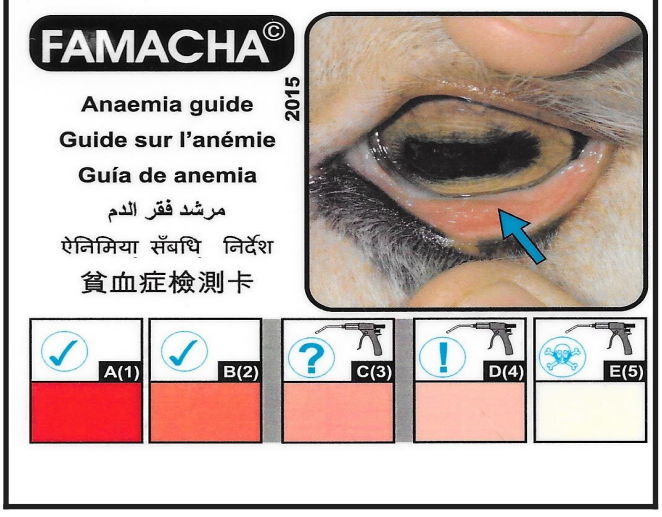
Pasture management is another critical practice. Sheep and goats will need to have limited residency period with an extended pasture rest to avoid ingesting the L-3 larvae. Do not let them graze pastures shorter than 6-8". This could be upwards of 60 days during a wet summer, contrary to good pasture management. Another practice is to graze small ruminants on cattle pastures. Strongyles are species-specific: cattle worms will not infect small ruminants and vice versa.

Genetic selection is an important tool. Select animals that do not develop high parasite populations. Cull those breeding animals with high populations.

Nutrition is important to keep the immune system at peak performance. This includes vitamins and minerals.

Some research work has been done on some other treatment options: grazing birdsfoot trefoil, using boluses of copper oxide particles, commercially available fecal fungus to control larvae in feces, and vaccine development. To learn more about these, plus lots of information about internal parasites in small ruminants, visit http://blogs.cornell.edu/smallruminantparasites/resources-for-farmers-youth/. Classes are occasionally held to provide in-depth training.

FAMACHA© card to aid in decision making. Source: https://bit.ly/2VsVJ9H




Protect Your GMO & Non-GMO Corn Yield with Gowan Branded Post-Emergence Herbicides!
Gowan USA
YUKON® HERBICIDE
• Two different modes-of-action.
• Delivers residual control for later germinating weeds following application.
• Excellent control of: sedges, large and small seeded broadleaf weeds including: bindweed, morning-glory, lambsquarter and many others.
PERMIT® HERBICIDE
• Gold Standard for Nutsedge control.
• Delivers residual control for germinating annual broadleaf weeds.
• Excellent crop safety.
PERMITPLUS® HERBICIDE
• Post Lambsquarter control.
• Controls: Sedges and annual broadleaf weeds.
• Delivers residual control for germinating annual broadleaf weeds.
Yukon®, Permit® and Permit Plus® are registered trademarks of Nissan Chemical Corporation. Always read and follow label directions.
*Yukon, Permit and Permit Plus are registered in NH, MA, RI, CT, NY, NJ, PA, VT, ME.

$$$$$ WE BUY MACK, FREIGHTLINER, PETE, KENWORTH, Etc. TRUCKS and CAT, KOMATSU, CASE, HYUNDAI, IR, Etc. CONSTRUCTION EQUIPMENT for $$$$$

CALEDONIA DIESEL, LLC

2905 Simpson Road • Caledonia, NY 14423

585-538-4395 www.caledoniadiesel.com

OVER 325 TRUCKS AND OVER 150 PIECES OF CONSTRUCTION EQUIPMENT

2007 PETERBILT 357 CAB & CHASSIS; 350 HP Cummins ISM; Allison Auto.; HaulMaax Susp.; 20,000# F/A; 40,000# Full Locking R/A; 22.5 Tires; 235" WB; 18'6" Frame Behind Cab; 150" CT; 190,265 Miles; Stk. #5873 - **$54,500**

2005 PETERBILT 378; 475 HP CAT C15; Jake Brake; 10-Spd. Manual; 206" WB; 12,000# F/A; 46,000# Locking Rears on Chalmers Susp.; Polished Alum. Wheels; Dual Exhaust & Air Cleaners; 736,651 Miles; Stk. #5821 - **$55,000**

2008 MACK GRANITE GU813 WATER TANK TRUCK; 485 HP Mack MP8; 18-Spd.; Tandem Axle; 24.5 Tires (75% Rubber); 236" WB; 20,000# F/A; 46,000# Locking Rears; 4,400 Gal. Water Tank w/Pump; Can Separate Tank From Chassis; 21' Frame Behind Cab; 170" CT; 337,914 Miles; Stk. #5838 - **$53,000**

2007 MACK CT713; 405 HP Mack MP7; Engine Brake; Allison Auto.; 20K Front; 30K Lift; 46K Locking Rears; Double Framed Flatbed w/Moffett Forklift Carrier; 24'x102" Deck w/Ratchet Straps; Flatbed Can Be Removed; 26' Frame Behind Cab (Less 1' For The Muffler); 206" CT; Stk. #5960 - **$57,900**

2005 INTERNATIONAL PAYSTAR 5600 CAB & CHASSIS; 450 HP Cummins ISX; Allison 4500 Auto. Trans.; Engine Brake; Hendrickson Susp.; Tandem Axle; 20,000# F/A; 58,000# R/A; 6.37 Ratio; Double Frame; 23' Frame Behind Cab; 170" CT; 7,477 Hours; 40,903 Miles; Stk. #5625 - **$49,900**

2004 KENWORTH T800; 525 HP CAT 6NZ; 18-Spd. Manual Trans.; Clean Datcab w/220" WB; 46K Full Locking Rears; KW B-Bag Air Ride; 4.11 Ratio; Stk. #5725 - **$58,000**

2008 PETERBILT 367; Daycab; 485 HP Cummins ISX; Allison Auto. Trans.; Tandem Axle; 24.5 Tires; Alum./Steel Wheels; 202" WB; 14,600# F/A; 44,000# Full Locking Rears; Wetline; 109,212 Miles; Stk. #5843 - **$59,900**

2006 INTERNATIONAL 7600; 330 HP Cummins ISM Diesel; 10-Spd.; Color: Red/Black; 22.5 Tires; Steel Wheels; 256" WB; Double Frame Flatbed w/Moffett Forklift Carrier; Stearable Lift Axle; 22' Deck(We Will Separate The Deck); 319,213 Miles; Stk. #5731 - **$37,900**

2003 KENWORTH T800; 475 HP CAT C15 6NZ Turbo; 8LL Manual Trans.; Clean Daycab w/12,800# Front Axle; 46K Rears On KW B-Bag Air Ride; 4.11 Ratio; 186" WB; Wetline; 447,898 Miles; Stk. #5925 - **$53,000**

2007 MACK GRANITE CT713 CAB & CHASSIS; Mack 460 HP; Engine Brake; 18-Spd.; 24.5 Tires; 238" WB; Air Ride; 20,000# F/A; 46,000# Locking R/A; 24.5 Rubber (80%); HD Single Frame; 176" CT; 220" Frame Behind Exhaust; 238" WB; 208,736 Miles; Stk. #5881 - **$46,900**

1999 MACK RD688S DUMP TRUCK; 400 HP Mack E7; Engine Brake; 8LL Trans.; Rubber Block Susp.; Tri-Axle; 19' Steel Body; 20,000# F/A; 46,000# R/A; 22.5 Tires; 248" WB; Spoke Wheels; EXPORT PRICED!!!; 777,148 Miles; Stk. #5902 - **$19,500**

2002 KENWORTH T800B; 410 HP CAT C12; Engine Brake; 8LL Trans.; Tri-Axle; Color: Yellow; 4.88 Ratio; 22.5 Tires; All Steel Wheels; 280" WB; 18,000# F/A; 46,000# Full Locking Rears; w/Fassi F330SE Drywall Crane; 56.6' Boom; (5) Sections; 25' Steel Flatbed; 30' Total Double Frame; 210" CA; 301,153 Miles; Stk. #5744 - **$42,900**

2007 MACK CL733 WATER TANK TRUCK; 460 HP Mack AI; 18-Spd. Manual; Air Ride; Tri-Axle; 5,000 Gal. Steel Tanker; 18,000# F/A; 69,000# Triple Locking Rears; 24.5 Tires; 264" WB; can Separate Tank from Chassis; 26' Frame Behind Cab; 196" Cat To Center Center Drive Axle; Can Be Tandem; 222,543 Miles; Stk. #5879 - **$48,950**

2011 KENWORTH W900B DAYCAB; 600 HP Cummins ISX; 18-Spd.; Engine Brake; Air Ride Susp.; 14,600# F/A; 46,000# Full Locking Rears; 22.5 Tires; 236" WB; Air Slide 5th Wheel; Engine Rebuild @ 176,170 Miles; Service Records Available; 327,006 Miles; Stk. #5238 - **$56,900**

2007 WESTERN STAR 4900SA WINCH TRUCK; Detroit 455 HP; Engine Brake; 10-Spd.; Walking Beam Susp.; 22,000# F/A; 65,000# R/A; 87,000# GVW; 12.00x24 Tires; 315" WB; Tulsa 37,500 lb. Ruffneck Winches; 19' Deck; Pockets For Gin Poles; Tail & Center Rollers; 12.00x24 Off-Road Tires Rear; 24'4" Double Frame Behind Cab; 4-Spd. Aux. Trans.; 194,751 Miles; Stk. #5906 - **$48,500**

2006 INTERNATIONAL 7600; 335 HP Cummins ISM; Allison Auto.; 5.55 Ratio; 22.5 Tires; 220" WB; 20,000# F/A; 46,000# R/A; Double Frame Cab & Chassis w/17' Frame Behind Cab/Muffler; 136" CT; 83,267 Miles; Stk. #5766 - **$39,900**

2005 PETERBILT 357; Quad Axle Dump Truck; 370 HP Cummins ISM; 8LL Trans.; 24.5 Tires; 18,000# F/A; 44,000# Full Locking Rears; 17' Steel Dump Body; Quad Axle w/Heavy Single Frame; (2) 11,000# Steerable Lift Axle; Will Separate Box From Chassis; 22' Chassis Behind Cab; 212" CT; 302,500 Miles; Stk. #5831 - **$48,500**

2005 KENWORTH W900 CAB & CHASSIS; 335 HP CAT C13; 8LL Trans.; Engine Brake; Hendrickson Susp.; 18,000# F/A; 46,000# Full Locking Rears; 4.88 Ratio; 24.5 Tires; 250" WB; Clean, Low Mileage Southern Truck; 106,595 Miles; Stk. #5718 - **$48,900**

2001 PETERBILT 357 WINCH/OIL FIELD TRUCK; 475 HP CAT C15 6NZ Turbo; 8LL Trans.; Tandem Axle; Color: Red; 12.00 x 24 Tires; Spoke Wheels; 390" WB; 40,000# F/A; Double Frame; Twin Steer Rig Up Truck w/75-Ton Braden Winch; 4-Spd. Aux. Trans.; Planetary Drive Rears; 27'6" Deck w/Tail Roller & 30' Gin Poles; 32,963 Miles; Stk. #5780 - **$69,000**

2005 KENWORTH C500B; 550 HP CAT C15; 20,002# F/A; 50,000# R/A; Chalmers Susp.; 4.89 Ratio; 24.5 Tires; 272" WB; Tulsa Ruffneck Winch; 17' x 9' Deck w/Tail-Roller; 21' Frame Behind Cab; 192" CT; 343,792 Miles; Stk. #5911 - **$49,500**

2008 KENWORTH T800 WINCH/OIL FIELD TRUCK; 400 HP CAT C13; Engine Brake; Air Ride Susp.; 38,480# F/A; 46,000# Full Locking Rears; 4.10 Ratio; 333" WB; Twin Steer, Double Frame Truck w/360° Bridge Measurement; Premier Trilex Pump; Pullmaster HL25 Winch; Max-Lift 360 Crane; Will Separate Pump, Winch & Crane From Chassis; 256" CT; 30' Frame Behind Cab; 298,383 Miles; Stk. #5910 - **CALL**

2007 FREIGHTLINER FLD 6x6 FUEL & LUBE TRUCK; 455 HP Detroit 14L; Allison Automatic; Double Frame; Air Compressor; Generator; (8) Oil Storage Tanks w/Reels & Hoses; T-Ride Susp.; 46,000# Full Locking Rears; 290" WB; 37,711 Miles; Stk. #5836 - **$79,500**

2010 INTERNATIONAL 5600i; 425 HP Cummins ISM; Allison Automatic Trans.; 172" WB; Wetline; 20K Front Axle; 58K Rears On Hendrickson Susp.; 12R24.5 Rubber; 226,177 Miles; We Can Stretch This Tractor To Any Length For HD Cab & Chassis; Stk. #5943 - **$47,000**

2005 KENWORTH T800; 475 HP CAT C15; 8LL Trans.; Tandem Axle; 4.30 Ratio; 24.5 Tires; Alum. Wheels; 210" WB; 20,000# F/A; 46,000# Full Locking Rears; Rear Double Frame; w/Braden 75,000 lbs. Winch; Tail Roller; 156" Frame; 134" CT; 574,954 Miles; Stk. #5748 - **$49,750**

$$$$$ WE BUY MACK, FREIGHTLINER, PETE, KENWORTH, Etc. TRUCKS and CAT, KOMATSU, CASE, HYUNDAI, IR, Etc. CONSTRUCTION EQUIPMENT for $$$$$

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

Nonprofit Org.
U.S. POSTAGE
PAID
Permit No. 298
Rochester, NY

Postmaster:
Dated Material
Please Expedite

MAY 2019

4 **100th Anniversary Gala - Wayne Co CCE,** Come join us as we celebrate 100 years and look forward to the next 100 years! Watch your mail for more information soon. BBQ and Band will be there! http://ccewayne.org/.

4 **Celebrate Spring! Livingston County and Ag Society Fair,** Livingston County Fairgrounds, 319 Leicester Street, Caledonia. *http://livingstoncountyfair.org/*.

18 **Pastured Poultry Seminar,** 8:00 a.m. - 5:00 p.m., HLW Acres, 1727 Exchange Street Road, Attica 14011. The main speaker this year is **Eli Reiff** of Mifflinburg, Pennsylvania. Eli raises broilers, turkeys, sheep, and beef, all on pasture. Topics to be covered will include the **pasture**, **feed and nutrition**, **marketing**, **costs**, and much more. $25 per person, pre-registration by May 10. Lunch is included, 585-591-0795.

21 **Human Resource Management on the Farm,** 12:00-2:00 p.m., CCE Ontario, 480 N. Main St., Canandaigua, $10/pp includes lunch and materials. See page 8 for all the session details and how to register, or visit: https://nwnyteam.cce.cornell.edu/events.php.

22 **Human Resource Management on the Farm,** 12:00-2:00 p.m., CCE Wyoming, 36 Center St., Suite B, Warsaw NY, $10/pp includes lunch and materials. See page 8 for all the session details and how to register, or visit: https://nwnyteam.cce.cornell.edu/events.php.

2019 FAIR DATES

Jul 9-13, - Yates Co.	**Jul 31-Aug 4, - Niagara Co.**
Jul 13-20, - Genesee Co.	**Aug 2-3, - Livingston Co.**
Jul 17-20, - Seneca Co.	**Aug 2-4, Monroe Co.**
Jul 22-27, - Orleans Co.	**Aug 10-17, Wyoming Co.**
Jul 23-27, - Ontario Co.	**Aug 12-17, Wayne Co.**

Aug 21 - Sep 2, - New York State Fair, Syracuse