Cornell University
Cooperative Extension
NWNY Dairy, Livestock & Field Crops Team

NORTHWEST NEW YORK DAIRY, LIVESTOCK & FIELD CROPS TEAM

Ag Focus

MANAGING DURING LOW MILK PRICES

Dairy Farm Business Summary, NY, 2016

By: Richard Kimmich, Dyson School of Applied Economics & Management Cornell University

For the full text by Richard on this topic, please see <nwnyteam.cce.cornell.edu>. Highlights follow.

Photo source: dairyherd.com

Summary

With another year of low milk prices forecast for 2016, dairy farmers benefit by determining how they will meet cash flow needs. During down price years, cash flow becomes very important in order to survive the low period and to then be able to improve profits once more favorable conditions return.

Step 1, Assessing Future Direction

Think about the business' long term goals. For dairy farms, this is usually determining if the farm end-goal is to continue operation beyond the current owners, beyond the short term. Or, is the farm set to cease operation under the current owners through asset liquidation for retirement, which is expected to occur in the short term? The best strategy depends upon future direction. This article assumes that the farm family looks to continue operations past the short term.

Assess the Expected Financial Situation Using the Operating Costs to Produce a Hundred Weight of Milk

Given the operating costs to produce milk (please refer to <nwnyteam.cce.cornell.edu> for the full article), add family living expenses and principal payments, as these are additional items that need to be covered by cash flow. Preliminary data for 2015

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Ag Focus

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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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(collected from 110 farms) reflect an operation cost to produce milk of $15.67 per hundred weight (cwt). Adding $1.28/cwt for family living and $2.09/cwt for principal payments (the interest portion of payments is considered within the operation cost) yields a total cash cost of $19.04 for 2015.This number reflects the gross milk price required to cover cash needs. Based upon data from the USDA, the net milk price or mailbox price for February 2016 was $15.58/cwt. Given the cash operating cost for the farm of $19.04, reduced by $0.96/cwt for milk marketing costs, yields $18.08/cwt to cover the cash needs for the business. Since the cash operating cost is greater than the net milk price, a farmer would anticipate difficulties meeting cash obligations in a timely manner. What options might a producer consider to help meet cash flow needs?

Managing Cash Flow

Expenses are a first area to address when examining cash flow. What expense items might you reduce without damaging revenue? With 2016 looking much like 2015 in terms of low margins, many farms have little room to reduce expenses further, as most areas of waste were trimmed during the previous year.

Selling non-productive assets, improving the business, refinancing, restructuring debt, interest only payments, borrowing, and contributing non-farm equity are other options to consider when you anticipate difficulty meeting cash obligations in a timely manner. Some options involve working with advisors and vendors outside of the farm business. First, consider what you can do on-farm.

The sale of assets is fairly straight forward; sell non-productive assets such as machinery or cattle that no longer contribute to business revenue. Culling low producing cows is a good way to generate short term cash flow, while also improving the business by focusing resources, such as feed, on higher margin animals. This practice is very short term, but can improve both feed efficiency and herd average. Sale of timber from wooded lands is also a good way to add to cash inflows. Labor efficiency is also an on-farm area to consider.

Other options for improving cash flow mentioned above will require working with advisors, lenders and even vendors. Depending upon the business' debt structure, you may be able to refinance current debt in order to free up some monthly cash flow. Another option to consider with your lender to increase cash inflow is moving to interest only payments for a short period of time. Although lengthening the debt term, it will free up cash resources in order to help cover operating costs.

Using equity to cover short term operating cash flow issues is also an option and will require more thought, as equity is important to your business in the longer term, especially when investing in new technology or expansion. Using the farm's equity to cover operational cash flow issues is most commonly done by borrowing to cover the short falls. Although this can improve your situation in the short term, (i.e., cover your cash flow needs); it can have adverse effects when not used wisely from a strong position.

These are just some options to consider while surviving the down-cycle in milk price. While making decisions, always keep in mind the long term goals of the business and consider how the short term cash flow fix may affect any future plans.

Sprouted Grains for Fodder

By: Nancy Glazier

Photo source: ucanr.edu

Sprouted grains have been consumed by livestock and people for hundreds of years. Livestock systems are more prevalent in arid regions in New Zealand and Australia. Systems have set up utilized in the US during recent drought and dry periods, and times of high grain prices, especially organic grains. They provide a quick, palatable, high-yielding forage in a small space, with little waste and low water consumption. They are attractive for organic operations since they can be grown without pesticides. Quality can remain consistent through the seasons since they are not weather dependent.

Some perceived benefits include improved nutritional quality from increased levels of vitamins and minerals, improved digestibility and nutrient availability. A pound of grain (most often barley) can produce 5-8 lb or more in 6-7 days.

There are drawbacks to these systems. Mold can be a big issue unless everything is clean, including seed. This may lead to loss of feed for the day, so a backup plan is needed. Feeding moldy sprouts may lead to sick or dead animals. It can take a lot of labor to manage the systems, initial capital expenses can be high, and the cost/lb of DM can be high. The high sugar content can lead to rumen acidosis.

Animal Scientist Dr. Kathy Soder with USDA Agricultural Research Service in the Pasture Systems and Watershed Management Research Unit, has recently presented via webinar on the topic, looking at whether these fodder systems are feasible and even economical for US grazing farms.

There are chemical changes that occur when grains are sprouted. Vitamin E, Beta-carotene, biotin and free folic acid concentrations increase by hundreds of percentage points. Using vitamin E as an example, grain has 3.4 mg/lb DM, fodder is 28.4 mg/lb. This amount is still substantially below the daily requirement for a dairy cow of 1000 IU/d or 735,294 mg. Other sources are needed to meet these needs.

Sprouting changes nutrient composition (See table). Crude protein increases slightly due to the decrease in dry matter from respiration during the germination process. This concentrates existing CP. Fiber also increases due to concentration of the nutrients. Sprouting converts starch to sugars, both ethanol and water soluble carbohydrates. Minerals may vary depending on additives in the water (Hafla et al, 2014).

As mentioned above, dry matter decreases in sprouted grains. Feed rations are corrected for balancing on a dry matter basis. Seeds utilize starch as energy during the first week of growth to germinate. Photosynthesis doesn't really begin until the second week, which is after the normal timeframe for harvest. There is a net loss of energy and the fodder does not get to the stage where nutrients accumulate.

	Barley Grain	Sprouted Barley	% Change	Pasture
CP, % DM	12.9	14.7	14	25.5
NDF, % DM	14.4	30.5	112	50
ADF, % DM	5.3	15.5	193	31.6
Starch, % DM	58.1	27.7	-52	1.1
ESC, % DM	2	15.9	695	5.8
WSC, % DM	4	21.1	428	9.9
Ca, % DM	0.05	0.05	0	0.67
P, % DM	0.43	0.49	14	0.51

Hafla et al., 2014

In a Heins, 2015 study, no improvement was found in milk production or milk fat in dairy cows fed 20 lb (AF) of fodder which replaced 6 lb of corn during the grazing season. Fodder-fed cows had a slight (0.09 lb/d) increase in milk protein. Fodder slightly increased Omega-3 (and better O3:O6) but did not improve CLA in milk. MUN was higher in fodder-fed cows (16.5 vs. 13.15 mg/dl). Income over feed costs were similar between the groups. When organic corn price increased by 50%, fodder cows had a \$0.44/cow/d advantage in IOFC. Fodder may pay for itself at very high organic grain prices. All costs must be included when evaluating a system.

Do fodder systems fit some farms? Yes. Some farms strive for self-sufficiency in feed production, regions that are arid or drought-prone, or limited land availability may benefit. In high grain-price times, costs may pencil out more favorably. Some producers are capable of building and installing their own systems to save costs. Any farm system should be evaluated for one's operation to see if it pencils out and meets the farm's goals.

Upcoming Webinars:

Strategies for Nonpregnancy Diagnosis in Dairy Cows

May 9, 1:00 - 2:00 p.m.

Presented by:

Paul Fricke, University of Wisconsin-Madison

http://www.hoards.com/webinars

Technology Tuesday Series: Precision Technology in the Dairy Industry

May 10, 8:30 a.m. - 10:00 a.m.

Presented by:

Mat Haan, Penn State Extension Dairy Team

http://extension.psu.edu/animals/dairy/courses/technology-tuesday-series

New PRO-DAIRY Forage System Specialist

Joe Lawrence has recently joined the PRO-DAIRY team as Forage System Specialist where he will develop an extension program to assist dairy producers with the critical task of providing high quality forages to their dairy herds.

After growing up on a dairy farm in Northern NY Joe received a degree in Agronomy from SUNY Cobleskill. While completing graduate school with the Nutrient Management Spear Program at Cornell he studied the nitrogen needs of first year corn and manure incorporation methods.

Joe worked as a Field Crop Educator for Cornell Cooperative Extension of Lewis County where he took a whole farm approach to working with farms on nutrient and forage management. Following this he worked as a Crop Advisor for three years assisting farms with all aspects crop management.

Joe can be reached at jrl65@cornell.edu or phone contacts, office: 315-376-5275 or mobile: 315-778-4814. Welcome back Joe!

When More IS Better

By: Joe Lawrence, Cornell University PRO-DAIRY
Ron Kuck, CCE - Jefferson County

As harvest season approaches it is a good time to make sure everything is in order to make the season as successful as possible. There are lots of rules and sayings regarding quantity; "too much of a good thing", point of diminishing return, optimum range and the list goes on. Often times in crop production we pay close attention to these rules. We have very good data to show the point of diminishing return on fertilizer applications, seeding rates, forage quality versus yield, etc.

In other cases there are guidelines that offer a minimum value or goal to shoot for but there has yet to be proven that there is a point of diminishing return and sometimes these minimum guidelines give us a false sense of accomplishment. There are a few examples of this relative to forage harvest.

Here we will address bunk silo density. While this is not new information it remains an opportunity for many. Based on research conducted by Curt Ruppel at Cornell in the mid 1990's the benchmark was set that the minimum density for silage should be 14 lbs dry matter (DM)/ cubic foot. At some point in time the word minimum seemed to be lost from this and many began to think about 14 lbs as their goal not just the minimum. As a guideline for achieving this density the rule of thumb of 800 lbs of packing weight per ton of forage per hour was developed, again as a minimum.

In reality we have yet to see a bunk packed too much or any negative outcomes from extra resources committed to packing during silo fill. Silo filling is a very dynamic process and parameters can change from hour to hour. If you set your goal for the minimum of 14 and your assumptions for filling are not accurate the risk of ending up with a density lower than 14 becomes high.

Investing in "packing power" to get the highest density possible assures that even when things are not going exactly as planned you have a better chance of keeping the density at 14 lbs or above. A higher density will improve forage quality, reduce dry matter losses and increase the efficiency of your storage footprint.

Photo source: Libby Eiholzer

The calculations can be done for various storage strategies; bunks with wall, drive over piles, etc. A simple example would be a modest size bunk that is 40'wide by 100' long with 10' sidewalls. This provides 40,000 cubic feet. With a density of 14 lbs DM per cubic feet that would result in a storage capacity of 280 tons of DM and expected DM losses (shrink) of approximately 16.8% (Ruppel, 1992).

Now let's take that same storage space and increase the density by 4 lbs DM to 18 lbs DM per cubic foot. This increases the capacity of your bunk to 360 tons DM, an increase of 80 tons DM or approximately 36%. Additionally, DM losses would be expected to drop by 3.4% to approximately 13.4% (Ruppel, 1992).

Increasing the capacity of your current storage by this amount could eliminate the need for investing capital into more storage space and also reduce the necessity to pile forage above the walls in the case of bunk silos. Staying with the walls alone can drastically cut down on spoilage and improve safety around the feed storage.

Forage Sorghum

By: Tom Kilcer, Advanced Ag Systems

We have been getting a lot of questions from farmers interested in trying BMR forage sorghum. The January letter on Advanced Ag web site (www.advancedagsys.com) went over a number of background details. This letter is the summary of what we learned so far planting BMR forage sorghum (research continues this year).

Photo source: Tom Kilcer

Varieties: Forage sorghum is managed in the north as a one cut crop. It is directly harvested with a corn chopper or an omni-direction corn head. There are BMR's 6, 12, and 18. An agronomically poor BMR 6 will not yield as well as an agronomically superior 12 or 18. If all are equally good agronomics (equal yield), then the BMR 6 will produce more milk than a 12 or its allele 18, based on work by Dr. Grant of Miner Institute. All the BMR's will produce more milk/ton of dry matter than a non BMR. I would suggest only growing non BMR for a cover crop.

A new wrinkle in the choice is the BMR brachytic dwarf forage sorghum. Formerly, BMR sorghums were 11 – 12 ft. tall on a pencil thick stalk. As soon as the grain head started to fill, they fell down. To correct this, a brachytic dwarf gene was developed that has the same number of nodes as a tall variety, but each node is slightly shorter. This produces a plant with all the leaves of tall one but less lodging problems. It still yields very well. The comparison is like a 7 ft. tall basketball player and a 6 ft. tall football linebacker. The shorter linebacker will outweigh the taller basketball player. Thus, the 7.5 to 8.5 ft. tall brachytic dwarf has yields as good as the taller varieties. Make sure it is a brachytic dwarf, not just a dwarf. The latter is just a short plant that doesn't yield as well. There are a number of the tall BMR varieties that can also yield very well. The key with those is to harvest them as soon as the head gets all the way out and starts to fill. It doesn't take much grain fill for it to start falling down.

Photo source: Tom Kilcer

The number one mistake we have made with forage sorghums is planting them too thick. The higher the population, the smaller the stalks. The smaller the stalks, the easier it is to fall over in a wind. As long as it is planted at 8 to less than 10 pounds/acre seed (not 11, 12, 15, etc.) both brachytic and non-brachytic forage sorghums have stood well through to harvest. We suggest utilizing a 5 pound seeding rate for 30 inch rows as the plants are crowded closer together in the row. If you plant higher than suggested populations we have found you have thin stalks that fall over easy, and have a high percentage of rind to pith which – similar to high population corn, can reduce overall plant digestibility. It also doesn't feed into the chopper as well.

It is very important to plant when soil temperature is above 60° F and increasing. If there is a cold rain in the immediate forecast, wait until that passes. This is a crop for warm conditions. IF YOU ARE IN A COLD REGION IT WILL NOT YIELD WELL. In those areas shorter season corn is a better option. At present I don't know how far north/cold that is. It will also not do well in anaerobic conditions as nitrogen is critical for growth.

Along with warming soil, we suggest that you plant ½ to 1 inch deep for our northern areas. This gives rapid emergence because the soil is warmer closer to the surface. It is a drought tolerant crop which seems to sprout on very little moisture.

Make sure your seed dealer supplies you with Concept or similar seed treatment that allows both atrazine and metolachlor. If applied immediately after planting (crop emerges very fast unless a brachytic dwarf), you will usually have excellent weed control. There are some post emergent broadleaf herbicides. There are NO post emergent annual grass herbicides that we know of for the northern states. If annual grasses get a running start, you are screwed (an agronomical technical term). Thus, it is critical that you plant into warm soil for rapid emergence, and apply the pre-emergent herbicide as soon as you pull out of the field with the planter. Those who delayed, regretted it.

Fertilizer is very similar to corn based on our limited research so far. If you had been applying manure the past couple of years to the field, you could go lighter on nitrogen because of its tremendous ability to scavenge the soil with its fine root system.

For taller non brachytic BMR varieties, harvesting at early head fill will have a forage at about 25% dry matter. Chopping at one inch or greater will reduce leachate tremendously. Utilizing a homolactic bacteria, (we suggest no enzymes based on the limited ongoing work we have done so far), we have had excellent fermentation so far. Because it is not mowed and dried, there is little soil contamination to spoil the feed. Sugars at this point are very high which drives rapid, complete fermentation. TDN at that point has run over 60%. Letting the head fill will increase the TDN another 10 points, at the price of it falling over and lodging at about 2-3 feet off of the ground. This is why the breeders developed the brachytic dwarf. It has improved stand ability which allows the head to fill with starch; increasing the total digestible material from each acre. At early soft dough (top kernels are the consistency of cooked oatmeal), the plant will still be standing and dry matter will be about 28 to 30%. The TDN will be over 70% and about 25% of the dry matter is starch. We will discuss harvest details in a later issue this summer.

Alternative Energy Systems

By: Timothy X. Terry

Dairy Strategic Planning Specialist

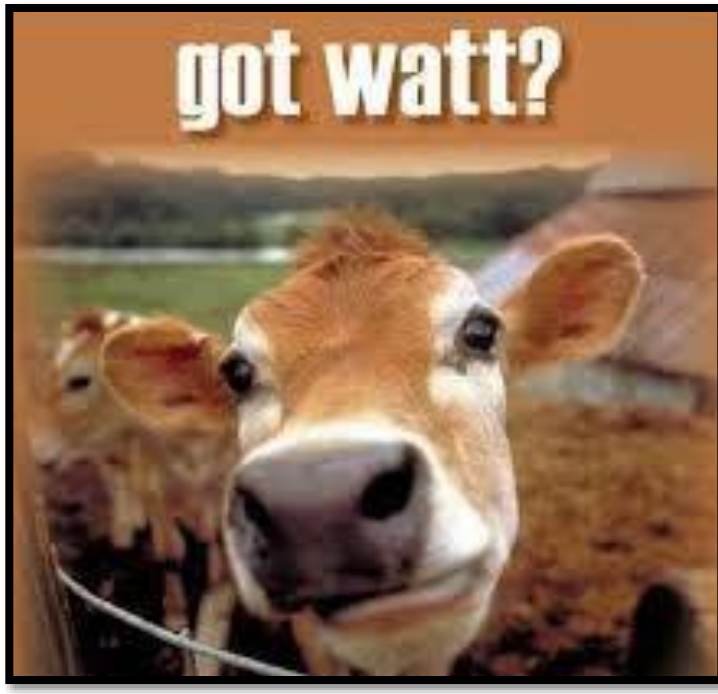


Photo source: Minnesota Project

We've recently had requests for information regarding alternative, on-farm energy systems. Over the next few issues of *Ag Focus* I'll be presenting some basic information and a few links to help get you get started on your own research. Since each company will often have their own unique twist on a system, the goal then is not to make you an expert, but rather, equip you so that you may converse intelligently with them.

Anaerobic Digesters –

Anaerobic digestion is a process through which bacteria break down organic matter—such as manure—without oxygen. As the bacteria "work," they generate biogas. The biogas that is generated is made mostly of methane, the primary component of natural gas. The non-methane components of the biogas are removed so the methane can be used as an energy source. http://www.epa.gov/agstar/learn-about-biogas-recovery#adwork.

This is probably the most obvious of all the alternative energy systems for a livestock farm. You have animals, therefore you also have manure, soiled bedding, waste feed, etc. – all prime raw materials for the production of methane. (See Figure 1)

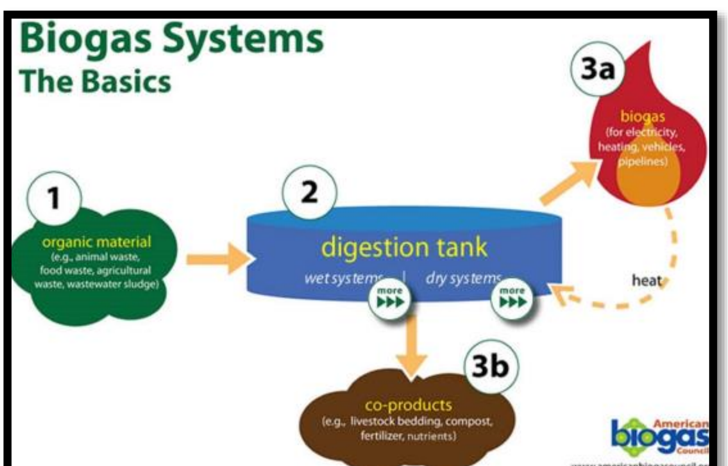


Figure 1 - Basic Biogas Production

Unfortunately, methane by itself and without compression, is not sufficiently energy dense to be used as a mobile fuel like gasoline, diesel, or even biodiesel. Therefore, it is best when coupled with a stationary power unit, sometimes called a co-generator or Combined Heat and Power (CHP) unit.

As the methane gas is burned in a converted engine the engine turns a generator that produces electricity. The electricity then is used on the farm to run milking systems, fans, motors, etc., or is conditioned and sent back out onto the grid.

The electricity sent to the grid may be used to offset electrical consumption in other sites associated with the farm business – residences, shop, etc. – through a process called Net Metering. In rough terms, under net metering the kilowatts returned to the grid are deducted from the kilowatts used by the farm business. This is done on a wholesale basis and is only for energy production. You will still have a delivery charge to cover the cost of maintaining the wires, utility poles, etc. Most states have net metering laws and they vary by state. Each utility may have its own requirements, as well. For more information see: http://www.nyserda.ny.gov/Cleantech-and-Innovation/Power-Generation/Net-Metering-Interconnection

Like all internal combustion (IC) engines significant heat is produced as a by-product. Through the use of heat exchangers and radiators this heat may be captured and used to heat water and/ or buildings, dry laundry, or even dry grain.

Common Types -

There are many different types of digesters from simple landfill wells to extensive municipal waste treatment facilities. However, the four most common ones on Northeast farms are: Complete Mix, Plug Flow, Fixed Film, and covered lagoons.

The Complete Mix digester, as the name implies, involves some mechanical mixing. The solids content usually ranges from 3% to 6% so the mixing helps to suspend the solids. Mixing may be done continuously or only when material is added to the digester. As material – manure, bedding, etc. – is added to the front end of the digester an equal amount is displaced out the back end. The length of time the material is in the digester is called Retention Time. Average retention time in a complete mix digester is 20 – 30 days.

A Plug Flow system is similar, but does not involve mechanical mixing once material is added to the digester. However, there may be some mixing of the material before it is pumped into the digester just to achieve some measure of consistency. Total solids (TS) content is usually between 15% and 20% so materials tend to stay suspended and flow as a "plug" through the digester – hence the name "plug flow". Retention times here are usually in the neighborhood of 15 – 20 days.

A Fixed Film digester is one of the "high rate" digester systems. Retention times average <5 days. It is basically a column (small upright tank) filled with wood chips or lengths of corrugated plastic drain tile bundled vertically. (These are usually the small tanks you see with insulating foam sprayed all over them.) The methane producing bacteria cling to the chips or plastic as a biofilm and digest the manure liquids (1% - 5% TS) as they pass through. Solids can plug this system so some separation has to be done on the front end. Unfortunately, because solids are removed potential methane production is reduced.

Covered lagoons are becoming more prevalent, but quite often this is a function of reducing total precipitation added to the lagoon rather than methane capture.

Overall, these tend to be cost-effective, low maintenance systems. However, because they are not heated like the other three, methane production in these units follows seasonal patterns. In other words, when the outside temperature drops below 65° F methane production is virtually non-existent.

To create such a system, a new or existing lagoon is covered with an impermeable membrane. The edges of the membrane (cover) are anchored in a perimeter ditch and the ditch is then backfilled effectively sealing the vessel. These are frequently two-cell systems: the first cell is covered and the second is open. Manure digestion and storage occurs in the first and the second receives the displaced effluent from the first and holds it until it is land applied. Much of the fertilizer value, particularly phosphorus, remains in the first cell. Unfortunately, this means that about once every 20 years or so the cover will have to be at least partially removed and the sludge cleaned out.

If you're interested in investigating these further, here are a few links that may be of interest:

Anaerobic Digester Fact Sheet: http://articles.extension.org/pages/30307/types-of-anaerobic-digesters

Database of State Incentives for Renewables & Efficiency: http://www.dsireusa.org/ (cost sharing grant programs)

NYSERDA Gas-to-Electricity Program: http://www.nyserda.ny.gov/All-Programs/Programs/Anaerobic-Digester-Gas-to-Electricity-Program

May's "Most Wanted" Insect Pests

By: Mike Stanyard

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

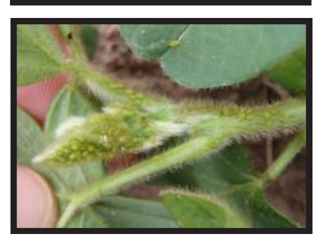
→ Look for uneven emergence, stunting
→ Small maggots feed on large seeds
→ Controlled with insecticide seed treatments


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

Management of Internal Parasites in Sheep & Goats

July 16, 2016

9:00 a.m. - 3:30 p.m.

CCE - Ontario Co., 480 North Main St., Canandaigua

Presented by: Dr.tatiana Stanton, Cornell University

Workshop will teach proper anthelmintic use & hands-on training in using the FAMACHA© Anemia Guide. **PLEASE wear clean clothes & shoes** to the workshop & plan on changing your clothes upon returning to your own farm before doing chores.

The workshop is limited to 25 participants

Fee: $35 pp, includes lunch & FAMACHA© card (one card/family. $20 for additional participants from same farm/family.

To register contact:

Nancy Anderson

(585) 394-3977 x427 or nea8@cornell.edu

The Barn Dilemma – Having Good Air Everywhere!

By: Jerry Bertoldo

Barn ventilation is a complex subject especially in calf housing. Providing quality air at animal level throughout a building is dependent on season, means of moving air, age of the animal, bedding use, stocking density and barn dimensions. Calves are the most sensitive to poor ventilation of all stock on the dairy farm. An immature immune system, often less than ideal nutrition to fuel disease resistance and the ammonia generated from underlying bedding are all culprits in this respiratory risk. Good air balance means you either create less moisture, air borne germs and ammonia or have sufficient change of air when the need is there to get rid of these to avoid the consequences.

Complicating the matter is the fact that calves under 3 weeks of age are quite sensitive to cold *and heat*. Their thermo-neutral zones – the temperature range where they are comfortable and do not need extra energy to maintain normal body temperature – is between 59° and 78°F. The lower end drops towards the freezing point with age. This range does not take into account wind chill or evaporative cooling from wet hair coats or direct sunlight, radiant heat (think hutches) and high humidity common in the summer months. Blowing lots of air over hot calves for cooling and to sweep out stale air is great in the summer, but anything over 1 MPH in the cold of winter is a draft and to be avoided.

Photo source: Jerry Bertoldo

Before ventilation strategies are taken to the drawing board for a new calf barn, some serious thought needs to take place. It is much easier and cheaper to build superior features than retrofit them later on. Here are some questions that need to be answered before the contract is signed.

- How many calves and of what size will need to be housed? *Keep in mind seasonal swings in calving rates and prepare for the surges. The bigger the calf the more manure and urine production.*
- Are you looking to use group pens, individual pens, solid panels or wire? *At calf level air exchange is more of a challenge with solid barriers particularly with wider four row barns.*
- Will the barn be located near any other structures that will reduce natural air flow or contribute to airborne pathogens from older cattle? *Calf barns should be 150 feet from mature cattle barns especially if "downwind".*
- Will you be using an "intensified", high volume program of milk or milk replacer and free choice water? *The waste produced by calves consuming 2-3 gallons of liquid feed per day rather than 2-3 quarts creates dramatically more moisture and ammonia producing potential especially with higher environmental temperatures.*
- How will you address soggy under bedding? *Adding more dry bedding on top of soaked material may keep calves drier, but does not necessarily reduce humidity and ammonia production. People with group housed calves often clean out completely half way between birth and the weaned move. Slotted concrete floors under bedding has been helpful in drawing off liquid waste before it saturates bedding and contributes to poor air quality.*
- Have you considered at calf level, air exchange for all seasons? *Positive pressure tubes are best used during cool to cold weather draft-free ventilation. There needs to be enough of them and situated low enough to push and displace air all the way to the bedding surfaces. Power chimneys are great at pulling air in though curtains, eaves, windows and doorways, but do a poor job at calf level exchange. Standard cooling fans are useful in warmer weather and do help with air exchange, but are not a good idea when it is cold. Curtains even with upper and lower sections can be challenging to manually operate to get a draft-free, across the barn impact and take into account weather changes. Automatic controls based on temperature, humidity and outside wind speed as opposed to just temperature do the best job.*

The old saying of "you are what you eat" applies big time to dairy replacements. Adding "your lung health is what you breathe" might not be a bad addition to that.

Strategies for Nonpregnancy Diagnosis in Dairy Cows

Join us for lunch and discussion at the Wyoming County CCE office while we view this webinar, presented by Paul Fricke from the University of Wisconsin-Madison. Early identification of nonpregnant cows is key to any reproductive program. Paul will discuss the latest data on traditional and emerging methods of nonpregnancy diagnosis and the best ways to incorporate these technologies to improve reproductive performance on your farm. This webinar is sponsored by Hoard's Dairyman and Parnell.

May 9, 2016

12:30 p.m. - 2:00 p.m.

CCE - Wyoming County, 36 Center Street, Warsaw

Lunch will be provided by Parnell

RSVP by May 6th to:

Zach Amey

585-786-2251 x123 or zta3@cornell.edu

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

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JUNE 2016

2 ***Small Grains Management Field Day,*** 9:30 a.m. - 12:00 p.m., Musgrave Research Farm, 1256 Poplar Ridge Road, Aurora. For more information: http://fieldcrops.cals.cornell.edu

5 ***Agri-Palooza,*** Noon - 4:00 p.m., McCormick Farms, Route 78, Bliss, NY.

JULY 2016

7 ***Seed Growers Conference,*** 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

12-16 ***Genesee County Fair,*** 5056 East Main Street Road, Batavia. For more information: www.gcfair.com

12-16 ***Yates County Fair,*** 2370 Old 14A, Penn Yan. For more information: http://www.yatescountyfair.org/

16 ***Management of Internal Parasites in Sheep & Goats,*** 9:00 a.m. - 3:30 p.m., CCE-Ontario County, 480 North Main St., Canandaigua. To register contact: Nancy Anderson, 585-394-3977 x427 or nea8@cornell.edu, see page 17 for more details.

19-23 ***Livingston Co. Hemlock Fair,*** 7370 Fair St., Hemlock. For more information: http://www.hemlockfair.org/

20-23 ***Seneca County Fair,*** 100 Swift Street, Waterloo. For more information: http://www.senecacountyfairny.com/

25-30 ***Orleans County 4-H Fair,*** 12690 State Route 31, Albion. For more information: http://www.orleans4-hfair.com/

26-30 ***Ontario County Fair,*** 2820 County Road 10, Canandaigua. For more information: http://ontariocountyfair.org/