Folks,

I hope this note finds you all well and beginning to move through this new normal that we have been thrust into. I empathize with all families that are caring for loved ones, working through at home learning plans to keep children engaged with school activities and just navigating the outside world. All while working through difficult farm business circumstances. My heart goes out to each and every one of you.

Even though the CNYDLFC team is not conducting face to face meetings currently, we are easily accessible by phone, email and zoom. So, please do not hesitate to contact us. We would love to hear from you!

All the best for continued health.

Nicole
Spring 2020 – Contingency Planning
Joe Lawrence, Dairy Forage Systems Specialist

We face unprecedented certainty in preparing for the 2020 field season. While spring is an exciting time, it is also a time that strains available resources; equipment, labor, hours in a day. This year, the potential for health issues and the resulting impacts on labor availability could further stress these already limited resources. Certainly, making plans to fill unexpected labor needs is a good starting point, but it may be worth thinking about additional contingency plans. This could include some of the same strategies that have been utilized when dealing with narrow windows to achieve tasks related to weather, as we have experienced in recent wet springs.

Safety First
A typical spring season comes with many stresses. Exposure to dangerous situations can increase the mental pressure, and your risk of injury. Follow safe practices around equipment to make the most of your work time. The most important goal this spring is to send all family members and employees home to their families SAFE...EVERYDAY!
- Allow for proper rest time
- Avoid distractions from electronic devices
- Do not take shortcuts
- Keep up on equipment maintenance

Planning and Team Work
(Dealing with Spring Weather Delays)
With your condensed time window (or limited resources) for key field activities this spring, the solution to accomplishing everything on time might come from a different way of thinking.
Consider the 5,000-foot view of the land that you and your neighbors work and think of the inventory of people and equipment potentially available to apply manure, fit fields, plant, harvest, haul, pack bunk, etc. for the collective land-base. Are there opportunities to share equipment and time even where you haven’t done so before? Can you bring in equipment or a custom operator to take care of one activity while you focus on another? Does it make sense to use the four-row planter when a six-row is sitting idle a mile away?

Can you bring in extra help for milking? Do you have any retired neighbors who could lend a hand with field work? Consider gathering with your neighbors (remotely) to strategize and to make sure that the most efficient equipment is fully utilized this year. Remember: you and your neighbors are in the same boat, so you might as well paddle together!

If you currently utilize custom operators, now is a good time to set up a time to meet (remotely) with them and make sure you are on the same page to get tasks accomplished in the time-frame needed.

Make sure that your expectations and goals are clearly defined. They will also be under stress to fit their work into a condensed period and meet their customers’ expectations, so defining expectations and pre-planning how to most efficiently get the work accomplished when the custom operator arrives can go a long way to increase the chances for success.

Consider all safety practices related to social distancing and sanitation with all farm team members and consider extra cautionary steps with new employees or custom labor.

To Disinfect:
Most common EPA-registered household disinfectants will work. Use disinfectants appropriate for the surface. Options include:
- Dilute your household bleach
  - To make a bleach solution, mix:
    - 5 tablespoons (1/3rd cup) bleach per gallon of water – OR –
    - 4 teaspoons bleach per quart of water
  - Follow manufacturer’s instructions for application and proper ventilation. Check to ensure the product is not past its expiration date. Never mix household bleach with ammonia or any other cleanser. Unexpired household bleach will be effective against coronaviruses when properly diluted.

Alcohol Solutions
- Ensure solution has at least 70% alcohol
- Other common EPA-registered household disinfectants
- Products with EPA-approved emerging viral pathogens claims are expected to be effective against COVID-19 based on data for harder to kill viruses. Follow the manufacturer’s instructions for all cleaning and disinfection products (e.g., concentration, application method, and contact time, etc.)

Source: CDC: Clean and Disinfect

Equipment & Labor Sharing: Practice Caution
As referenced above; equipment and labor sharing and custom field services are viable strategies to meet the demands of a crop season, particularly when resources are limited, whether that be a limited weather window, limited labor availability or other stressors.

Continued on page 4...
Supplementation of Pasture-Raised Lambs Increases Animal Performance and Health
Brady Campbell, Program Coordinator, OSU Sheep Team

To capitalize on the niche market of grass-fed lamb products, have you ever considered placing a group of feeder lambs on pasture? The utilization of pastureland and the financial return from grass-fed products makes this type of production system profitable. However, grass-fed lamb production does not come without challenges. According to the USDA, in order for a product to be labeled as grass-fed, the animal must be fed solely forages, with the exclusion of its mother’s milk prior to weaning. From a production standpoint, this can be a difficult as research has shown that lambs finished on pasture take a longer period of time when compared to their counterparts fed grain.

Lambs on pasture also face the challenge of parasitic infection. In an effort to decrease the effects of parasites and increase lamb body weight gain on pasture, producers may choose to supplement lambs while on pasture. However, supplementation of grain or grain by-products is not permitted by the USDA label of grass-fed. However, these lambs could be marketed as pasture-raised or housed on pasture in order to request a premium. Therefore, in using this marketing strategy, producers must choose which supplement is suitable for increasing animal gains while decreasing the effects of parasitism.

Thankfully for us, Felix and colleagues (2012) conducted a series of experiments that outlined which supplements may be most beneficial while grazing lambs on pasture. Over the course of four consecutive years, four experiments using a total of 312 Dorset x Hampshire crossbred lambs were conducted in order to determine the effects of supplementation on the health and performance of grazing lambs. Each year, lambs were grazed approximately for 70 days. In experiments 1 and 2, lambs were placed in one of two treatment groups: 1) lambs grazed on pasture with no supplement (control) or 2) lambs grazed on pasture offered supplement (dried distillers grains with solubles – DDGS) at 2.5% live body weight. In experiment 3, treatment groups 1 and 2 remained the same as previously described with the addition of a third treatment group: 3) lambs grazed on pasture offered supplement (soybean hulls – SBH) at 2.5% live body weight. In experiment 4, treatment groups remained the same, with the adjustment of adding additional phosphorus (P) to the SBH diet to match the P levels found in the DDGS diet. Lamb health was determined by evaluating at FAMACHA© eye scores, packed cell volume (PCV), and fecal egg counts (FEC) whereas performance was based upon average daily gain (ADG). Anthelmintic treatment was based upon PCV, where lambs demonstrating a PCV of 20% or lower received anthelmintic treatment.

In experiment 1, of the non-treated lambs (i.e. lambs, regardless of treatment group, during the grazing period that did not receive and anthelmintic treatment), DDGS lambs had a greater ADG (0.55 lbs./day) as compared to control lambs (0.29 lbs./day). Although not significantly different, yet worthy of noting, DDGS lambs were heavier at the conclusion of the grazing period (91 lbs. vs. 77 lbs.) and had fewer lambs treated with an anthelmintic when compared to control lambs (40.0% vs. 65.6%).

In experiment 2, DDGS lambs were heavier at the conclusion of the grazing period (92 lbs.) as compared to the control lambs (73 lbs.). In addition, DDGS lambs had a greater ADG (0.49 lbs./day) when compared to control lambs (0.22 lbs./day). From a treatment perspective, more than 90% of the control lambs required anthelmintic treatment whereas only 18.7% of DDGS required treatment. In comparing the ADG of both treated and non-treated lambs, DDGS lambs demonstrated greater gains as compared to control lambs (treated: 0.42 lbs./day vs. 0.22 lbs./day; non-treated: 0.50 lbs./day vs. 0.26 lbs./day).

Interestingly, the only differences shown in PCV parameters were seen on day 21 of the grazing period where DDGS lambs demonstrated a greater PCV value compared to control lambs.

Continued on page 5...
There is an entirely new consideration with this strategy in the face of COVID-19. While we may think about field operations and spending the day in a tractor or truck as a natural form of social distancing, we really need to be cognizant of people sharing equipment. Whenever the equipment operator changes, the same recommendations for sanitizing surfaces in your barn or house should be taken.

Think about the hours you spend in the tractor and all the surfaces you touch or breathe on. Try to keep a sanitizing solution in each piece of equipment.

**Forages in Dairy Diets**

As the full impact of the current pandemic is still unknown, and access to a healthy workforce will vary by farm and geographic area, it is important to think about the risk to assuring adequate forages to meet your herd’s needs. As with a year challenged by bad weather, it is helpful to consider both your current diets, and the forage inventory necessary to sustain them, as well as how diets could be modified in the event that forage inventories are compromised by current disruptions.

- Measure current inventories
  - Both total quantity and quantity by quality appropriate for different animal groups.
- Quantity of corn silage and hay crop in your ration
  - Which poses a greater risk if quantities are short?
- Field Operations: Now versus Later
  - There are a number of unknowns regarding what will happen over the coming months but if resources are available now it may be worth considering efforts to secure needed forages earlier rather than later in the event that resources are further limited later.
  - Cover crop
    - Cover crops present an opportunity for high quality forage and their early harvest date presents an opportunity to secure forage sooner.
    - It is also recognized that the timing of their harvest further stresses resources at a busy time of year. This should be taken into consideration when making your plan.
  - Hay Crop
    - There is always an emphasis on proper timing of first cutting and for good reason, it represents a significant percentage of total hay yields and the quality can be very high.

- Multiple cuttings – the need for multiple harvests present multiple opportunities to capture high quality forage; however with the unknowns going into this season, the availability of a full harvest crew for multiple timely cuttings may be at risk.
- Take each opportunity that presents itself to capture high quality forage.

**Tillage**

It is well-proven that crops can be grown very successfully with reduced and no-till practices and reducing the number of tillage passes is not only good for soil health but also saves significant amounts of labor and equipment resources.

There are, however, some cautions to be taken when converting from conventional tillage to reduced or no-till practices. Soil can indeed become addicted to tillage and stopping tillage cold turkey on a field that has been tilled for several years (i.e. a fourth year corn field) can have negative impacts on crop performance.

Considerations for transitioning away from tillage:

- Year of rotation
  - Sod is essentially no-till and provides a good transition point to no-till corn
  - Soybean stubble also offers good seedbed for no-till
- Planter Setup
  - A properly set up planter can successfully place seed into a diverse set of soil conditions but setup is key. For tips on no-till planting see Penn State article: Planter Performance in No-till.
Supplementation of Pasture Raised-Lambs Continued...

In experiment 3, DDGS and SBH supplemented lambs were heavier at the conclusion of the grazing period (90 lbs. and 86 lbs.) when compared to control lambs (70 lbs.). In addition, DDGS lambs had the greatest ADG (0.49 lbs./day), whereas control lambs were the lowest (0.21 lbs./day) and SBH lambs fell intermediate (0.41 lbs./day). From a treatment standpoint, control lambs had the greatest percentage of lambs requiring anthelmintic treatment (81.3%), whereas treatment of SBH and DDGS lambs remained low (31.2% and 9.4%). Furthermore, control lambs required a total of 1.27 treatments per lamb whereas SBH and DDGS lambs required only 1 treatment per lamb. In evaluating health parameters, over the entirety of the grazing period control lambs demonstrated greater FAMACHA© eye scores as compared to SBH and DDGS lambs.

In experiment 4, DDGS and SBH supplemented lambs were heavier at the conclusion of the grazing period (81 lbs. and 77 lbs.) when compared to control lambs (62 lbs.). In addition, DDGS and SBH lambs had a greater ADG (0.50 lbs./day and 45 lbs./day) when compared to control lambs (0.23 lbs./day). The ADG of treated lambs were also greater for DDGS and SBH lambs (0.52 lbs./day and 0.43 lbs./day) as compared to control lambs (0.23 lbs./day).

Overall, this series of experiments has illustrated that supplying supplement to grazing lambs can improve body weight gains on pasture and reduce the need for anthelmintic treatment.

Keep in mind that these supplements were offered at 2.5% live body weight. At this feeding rate, some may argue that you are simply feeding lambs that are housed on pasture. In addition, you must also consider what your end goals are. In using this type of strategy, pastures may not be utilized efficiently. In using this strategy as a means to reduce the use of anthelmintics in pasture raised lamb, you have also excluded yourself from the grass-fed labeled market.

Before implementing this tactic in your operation, be sure to do your research on the cost of each supplement and what type of market you may be able to enter with the unique diet of forage and byproducts. Who knows, you may be the next producer that creates the next niche market label of sustainable lamb.


Contingency Planting continued...

Corn Planting

As with any other year there are some key considerations to establish a successful corn crop.
- Confirm that your planter is properly adjusted for soil conditions
  - Get off the tractor and check seed placement, especially as soil conditions change
  - Increasing planter speed beyond what the planter is designed for is tempting when time is tight but will always come back to haunt you
- Timely planting is important but earlier is not always better
  - “Corn planted in late May under dry soil conditions will consistently out yield corn planted in late April under wet soil conditions.” – Bill Cox, Cornell Professor Emeritus
- Yield: A University of Wisconsin studied showed that 95 percent of maximum yield can still be achieved through late May

§ After late May yield declined by 0.26 tons/acre/day (35 percent DM)
  - Forage Quality: the same study showed that forage quality declines were much more severe after mid-May.

Links used in article (in red) are listed below:
1.) https://ecommons.cornell.edu/bitstream/handle/1813/67007/Response%20to%20Spring%20Conditions.pdf?sequence=2&isAllowed=y
4.) https://ecommons.cornell.edu/bitstream/handle/1813/56108/Dynamic%20Harvest%20Schedules.pdf?sequence=2&isAllowed=y
5.) https://extension.psu.edu/planter-performance-in-no-till
During the first week of December I had the pleasure of spending some time with Dr. Rick Grant, Director of Miner Institute. We participated together in two Cow Comfort Workshop programs for Freestall operations. Rick’s role was to present information on and to discuss Stocking Density, Time Budgets, and Feeding Behavior.

Having read about much of the work he has done on these topics and heard him speak about them at conferences I was not expecting to hear anything I had not heard before. After all, keeping up to speed on research of this type is part of what my role is as a Dairy Specialist for Cornell Cooperative Extension is all about. I know that if producers can separate first calf heifers in their own group you’ll typically see a 10 to 15% increase in milk production from those animals. The competition for stalls, water, and feed at the feed bunk really takes a toll on these younger animals, especially if there is overcrowding in the barn.

One thing Rick touched on caught my attention. He discussed a study done (Rioja-Lang et al., 2012) in Scotland with high genetic merit Holstein cows that looked at feeding behavior and the effect of dominance on subordinate cows. This impact on first calf heifers has long been known, but this study also looked at multiparous cows that had been previously determined to be subordinate.

There are many details involved with this study which cannot be covered here because of space constraints. Suffice to say, much preparation was done to determine and classify these animals with varying degrees of dominance or submissiveness. The final step in this study was providing two different rations at the feed bunk that were equivalent nutritionally, but very different in palatability.

In the trial, available feed bunk space using a feed rail (not headlocks) with high palatability feed was set at 12, 18, 24, and 30 inches. 12 submissive animals had the choice of deciding to eat low palatability feed alone or to eat the high palatability feed near a dominate cow. With 12 inches of space 11 out of 12 submissive cows simply chose to eat the low palatability feed. With 12 inches of bunk space one animal equally chose to eat with a dominate cow and to eat alone over the trial. At the opposite end of the spectrum, when 30 inches of bunk space was available 5 cows still chose to eat low palatability feed alone, 5 chose to eat high palatability feed with a dominate cow, and 2 cows equally chose to eat high or low palatability feed.

The results of this trail begs the question: would more of these submissive cows consume the high palatability feed at 36 inches or perhaps 42 inches? I think what this really tells us is that the feeding behavior of some of these submissive cows is nearly always affected by more dominate animals.

Dr. Rick Grant has spent much effort on time budgets and animal behavior since he has been at Miner Institute. He put forth his own recommendations at our Cow Comfort Workshop.

References:
Rioja-Lang et al., 2012 D.J. Roberts, S.D. Healy, A.B. Lawrence, M.J. Haskell
Dairy cow feeding space requirements assessed in a Y-maze choice test
J. Dairy Sci., 95 (2012), pp. 3954-3960
Do’s and Don’ts for Dairy Farmers When Facing Financial Difficulty

Prepared by: Wayne A. Knoblauch
Professor Dyson School of Applied Economics and Management SC Johnson College of Business College of Agriculture and Life Sciences Cornell University February 2, 2009 Revised April 27, 2015, March 10, 2018

Do’s

1. Complete a production and financial management analysis of your business for 2017. Determine strengths, but most importantly, areas for improvement with an immediate response and improvement in cash flow.

2. Complete a profitability and cash flow projection, for example, partial budget of the expected impacts of any changes made to improve the business.

3. Meet with your lender and share your financial management analysis and cash flow projections. Communicate with your lender often and provide periodic updates regarding your financial situation.

4. Continually review and update cash projections and partial budgets. Cash flow management is the key to surviving difficult economic times.

5. If you have past due balances, meet with suppliers to develop payment arrangements.

6. Effectively utilize farm produced feeds, especially forages.

7. Test all farm-grown forages and feed for nutrient availability. Evaluate the most cost effective commodities to purchase when feeding balanced rations, especially to early lactation cows.

8. Treat disease outbreaks, such as mastitis, before they become worse.

9. Be an astute purchaser of inputs.

10. Examine family living to see if expenses can be reduced.

11. Maintain minimal inventory; cull unprofitable cows, buy feed as needed. If you have extra dairy replacements, consider selling them. When selling animals, remember to consult your tax preparer concerning associated tax liabilities.

12. Sell nonessential capital items, including machinery and equipment, that is not needed to operate the business. Consider selling land not essential to the business, including timber. Remember to consult your tax preparer concerning tax liabilities of a sale.

13. Examine debt for possible benefits of restructuring or alternative financing.

14. Perform tasks in a timely fashion, yet get enough rest. Sleep deprivation can interfere with task performance and judgement.

15. Consider off-farm work by all family members.

16. Communicate current financial situation often with management team/family members. Seek and welcome their suggestions and involve them in key financial decisions.

17. Adopt new technologies only after careful study.

18. Monitor the financial health of those who purchase your farm products. They may also be under severe financial pressure in this economic period.

19. Seek management advice and analysis assistance early from cooperative extension, consultants, FarmNet, and others.

20. Seek personal counseling and advice from close friends, clergy, FarmNet, medical professionals, and others.

21. Routinely test manure for nutrient content. Employ modern soil testing technology to minimize purchased crop nutrients.

22. Evaluate risk management tools such as crop insurance, livestock gross margin, and the margin protection program in order to minimize production and price risk.

23. Evaluate business arrangements with other farms that have potential to reduce costs.

24. Forward contract inputs such as feed, fuel, and other supplies if you can lock in a profit.

25. Obtain price quotes from multiple suppliers for inputs such as feed, fuel, and other necessities.

Don’ts

1. Make decisions that will cause the problem to be worse a week, month, or year down the road.

2. Continue the same practices simply because you’ve always done it that way.

3. Neglect needed accounting tasks because there isn’t time right now.

4. Utilize farm produced feeds so rapidly that they are used up without a replacement plan.

Continued on page 9...
Crown rust is a continuing threat to oat production in New York, and recent epidemics have cast a spotlight on this disease. To better advise growers on crown rust management, we examined the impact of crown rust on oat grain yields and the disease resistance of available and soon to be available varieties.

The fungal pathogen that causes this disease, *Puccinia coronata* var. *avenae*, is widespread in New York and often found on susceptible oat varieties. Characterized by bright-orange, blistering pustules, this disease can be seen from June through August (Figure 1). Once established in a field, disease progresses quickly as the spores of the fungus are dispersed by the wind. The spores are blown to new leaves, different plants and even other fields. Older crown rust lesions develop a black rust spore stage, and these spores can infect the alternate host, common buckthorn, providing early inoculum for oat infections in fields adjacent to infected buckthorn in the following May.

The pathogen requires living plants to survive so it rarely persists through the winter on oat in New York. However, viable crown rust spores from maturing oat crops in states to our south arrive in New York on wind currents each spring to commence annual epidemics. Some overwintering can occur in New York when the fungus moves back and forth between oat and common buckthorn (Figure 2).

Management of crown rust is best achieved through careful selection of an oat variety. Few options exist to combat the disease after plants are in the field. Some fungicides are labelled for crown rust control in New York, and some growers have realized a return on investment from a timely fungicide spray at or prior to panicle emergence. Crown rust significantly impacts the yield of susceptible varieties and in extreme cases may cause crop failure. Even slight visual symptoms around the soft dough growth stage can translate to yield loss (Figure 3). Rust pathogens are known to evolve quickly to overcome resistance, but based on several years of observation we have identified the varieties that currently are most resistant in New York (Table 1).

If you are considering a spring oat planting, choose a variety with proven resistance to current populations of the crown rust fungus in New York.

![Figure 1. Orange-brown uredinial pustules (bearing urediniospores) of crown rust on oat leaves](image1)

![Figure 2. Yellow-orange aecia (bearing aeciospores) of crown rust on buckthorn leaves in May.](image2)

![Figure 3. Effect of crown rust infection on oat yields.](image3)
Late summer forage plantings are at a higher risk for infection since the spores that cause disease will increase and spread throughout the growing season. When these forage plantings are infected, pathogen overwintering on buckthorn can be increased. This contributes to crop epidemics the following year and may speed the breakdown of oat varietal resistance.

Crown rust will continue to threaten oat yields, but you can reduce the spread of this disease by planting resistant varieties and notifying your local Cornell Cooperative Extension Field Crop Specialist or the Cornell Field Crops Pathology Program if you find the pathogen in your fields.

Reference on the complete study:


<table>
<thead>
<tr>
<th>Oat Variety</th>
<th>Crown Rust Susceptibility</th>
<th>Approximate Yield (bu/A)</th>
</tr>
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<tbody>
<tr>
<td>Corral</td>
<td>S</td>
<td>58</td>
</tr>
<tr>
<td>Hidalgo</td>
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<tr>
<td>SD111946*</td>
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Table 1. Crown Rust Susceptibility.
Based on observations across New York from 2015-17, the spring oat varieties listed below were rated susceptible (S), moderately susceptible (MS), moderately resistant (MR) or resistant (R) to crown rust. Planting susceptible varieties involves considerable risk because of potential losses due to crown rust. Choosing one of the more resistant varieties is recommended. Three varieties that may be released soon are marked with an “*”. The approximate yield provided is an average of the estimated yields from small variety trial plots planted in four New York locations each year during 2016 - 2018.

**Do's and Don'ts for Dairy Farmers When Facing Financial Difficulty Continued ...**

5. Reduce purchased feed just to save money.

6. Purchase products that promise to be a cure-all, unless you have hard data and experiences of others to confirm.

7. Make capital investments to reduce tax liability or because “it is a good buy.”

8. Borrow money unless the profitability of the farm is reasonably expected to increase in order to provide for repayment.

9. Neglect the details; cleaning and maintaining equipment, communicating with and managing labor, detecting heats, etc.

10. Use alcohol to excess. Alcohol and other drugs can make a tough situation even worse.

11. Assume a management strategy that worked for one farm will be effective on yours.
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