Cornell University Cooperative Extension SCNY DAIRY & FIELD CROPS TEAM Dairy Digest

BROOME - CHEMUNG - CORTLAND - ONONDAGA - TIOGA - TOMPKINS

July 2017

Cropping Notes Janice Degni, Area Field Crop Specialist

My, what a cold, wet stressful spring it has been! Spring by its nature, as the beginning of crop season, is a demanding time of year, but it's made so much more stressful as the days available to work get compressed and the calendar page turns. I asked somebody yesterday if any oats got planted this spring since I haven't seen any fields and I know that many delayed planting new seedings in order to get corn planting started. Being in late June, I would recommend establishing seeding in early August since mid-summer is not ideal for new seedings. On top of not being able to get fields planted you have some whispering in your ear or flailing their arms – the hay is maturing, it's time to harvest and you have to decide, plan and manage switching operation to harvest haycrop. As I write this in mid-June, most farms have completed or nearly completed corn and soybean planting and many have completed first cutting for the dairy cows. Later cut grasses are being targeted to youngstock and dry cows. Yields should help rebuild forage inventories. The rain has definitely supported yield.

I've been alerted to a hodgepodge of pests and plant damage from the expected to the unusual

Cold Stress and Injury. It has been interesting on the troubleshooting front. The delayed cool temperatures, with the last week of May and first two weeks of June running about 10^0 below normal have caused slow growth in corn. Cases of cold damage and slow nutrient uptake which appears as off color in corn either yellowing, striping or purpling were not uncommon.



Purple Corn

The"DeKalb Corn Diagnostic Guide" describes the effects of cold but not freezing temperature stress.

"Cool nights and warm days promote above ground plant growth at the expense of root development. This leads to increased demand by the above ground tissues for more nutrients than the roots can deliver. The result can be shortterm deficiency symptoms until the root system becomes more developed."

There have been reports of hail. A localized storm that damaged fields south of Little York in Cortland County shredded alfalfa stands waiting for harvest and destroyed 2-3 leaf corn plants.



Whole Plant V\$ & Growth Stage V4



Hail damage can be devastating. Fortunately for these young plants the growing point is protected below ground until the V4-V5 stage. The corn will recover but not without some penalty to yield considering all the plant tissue that has to be regenerated. Corn is most susceptible to hail damage during pollination and grain fill but yield will be impacted at other stages. *Continued on Page 8*

Hail Shredded Corn

Hail Damaged Alfalfa

Photograph & Report any crop injury, weather or pest, to your local FSA Office



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We put knowledge to work in pursuit of economic vitality, ecological sustainability, and social well-being. We bring local experience and research-based solutions together, helping our families and our community thrive in a rapidly changing world.

Building Strong and Vibrant New York Communities

"Diversity and Inclusion are a part of Cornell University's heritage. We are a recognized employer and educator valuing AA/EEO, Protected Veterans, and Individuals with Disabilities."



The United States Department of Agriculture's National Agricultural Statistics Service conducts the Census of Agriculture just once every five years, and it's that time again. Currently, the census is the only complete count of U.S. farms and ranches and the people who operate them. It includes even the smallest plots of land – rural or urban – growing fruits, vegetables, or raising food animals, if \$1,000 or more of such products were raised and sold, or normally would have been sold, during the census year.

This December, the 2017 Census of Agriculture will be mailed to more than three million U.S. farmers. Your support in promoting the census is critical to its success. Over the next few months, please help us remind producers of the importance of their responses. It is through the census that they can show the nation the value and importance of agriculture.

NASS is encouraging new farmers to sign up to be counted. We're asking any farm operator who thinks they may not already be on our list or who has not previously received an agricultural survey or census questionnaire from us to go to our website and sign up to get a Census of Agriculture questionnaire. We're asking them to click the "Make Sure You Are Counted" button at this Ag Census website.



https://www.agcensus.usda.gov/

South Central NY Dairy & Field Crops Digest

Conventional Soybean Weed Control Revisited Mike Hunter, Field Crop Specialist, CCE North Country Regional Ag Team

Glyphosate resistant (Roundup Ready) soybeans made postemergence weed control relatively easy with a single application. Recently, there have been a renewed interest in conventional soybean weed control options. Many of these soybean growers haven't planted conventional soybeans in well over a decade and the younger soybean growers have never planted conventional soybeans.

Regardless of a growers' reason to plant conventional soybeans, preemergence weed control programs are almost a necessity for growing conventional soybeans. It is extremely difficult to rely on a total postemergence conventional soybean following herbicides: Dimetric DF, Lorox, FirstRate or Python weed control program. We have limited options for controlling broadleaf weeds with conventional soybean herbicides. It is imperative that we start out with a preemergence herbicide before or at time of planting and then be ready to apply a postemergence application to any weeds that escape. Timing of conventional postemergence soybean herbicides is critical because they won't kill big weeds.

Here are some suggested conventional preemergence soybean herbicide programs to consider. These suggestions are based on the assumption that the herbicide will be applied before the soybean and weeds have emerged. The soil residual herbicides are to be used at the full labeled rate based on weed species and pressure. Some of the products application rates are determined by soil type, pH and organic matter content. If sufficient rainfall is received soon after the preemergece herbicide is applied we should expect reasonably good weed control with the following herbicide programs.

For situations where nutsedge, annual grass and broadleaf weeds are a problem, consider tank mixing S-metolachlor (Dual Magnum, Dual II Magnum, Cinch) with Python WDG. If common ragweed is a problem the addition of Dimetric DF (metribuzin (the old Sencor or Lexone)) will improve control. Another option would be to use S-metolachlor and Lorox DF. Keep in mind that Lorox DF is weak on velvetleaf.

FirstRate can be used both preemrgence and postemergence in soybeans. It controls most annual broadleaf weeds except eastern black nightshade and only suppression of annual grasses when used preemergence. For annual grass and black nightshade control tank mix FirstRate with either Smetalochlor, Outlook or Warrant.

Prowl, Sonalan HFP and Treflan are dintroanaline herbicides used for the control of annual grasses and most broadleaf weeds except for common ragweed and black nightshade. These are the products referred to as the "yellows". They are basically interchangeable expect Sonalan HFP and Treflan must be applied pre plant incorporated into the soil. These herbicides can be mixed with S-metolachlor for improved annual grass and black nightshade control. For common ragweed control include Dimetric DF in the tank mix. Python WDG is a soil applied broadleaf herbicide that can also be tank mixed with any of the dinitroanaline soybean herbicides for annual grass and broadleaf weed control.

Pursuit will control many annual grass and broadleaf weeds in soybeans. It is usually tank mixed with either S-metolachlor, Outlook, Prowl or Treflan to broaden control of certain annual weeds. OpTill PRO is a Sharpen plus Pursuit premix with Outlook. OpTill PRO will control many annual grass and broadleaf weeds.

Valor SX or Rowel can be used for preemergence control of annual broadleaf weeds and suppression of annual grasses. For additional grass control include Prowl in the tank mix. For additional broadleaf weed control include one of the WDG.

A well planned, total preemergence herbicide program is the foundation for growing conventional soybeans. While the success of these programs are dependent on sufficient rainfall to move the herbicide into the soil, our spring rainfall patterns are usually adequate to accomplish this. Try to avoid the temptation to

skimp on herbicide rates to save money because rescue weed control options are limited. Always read and follow label directions prior to using any herbicide. If you



have additional questions feel free to contact me anytime at (315)788-8450 or meh27@cornell.edu.

NEW YORK SOIL HEALTH TRAILER JUNE & JULY 2017 EVENTS

- June 30th Grassstravaganza @ Alfred State
- July 6th Cortland County Jr. Fair
- July 29th Southern Tier Stocker Conference
- July 30th Sundaes on the Farm Tioga County

For more information, contact Abbie Teeter at 607.391.2660

facebook.com/nysoilhealthtrailer/

PERENNIAL FORAGE Joe Lawrence, Cornell PRO-DAIRY

In a recent farm visit, the farmer had just purchased a nice new discbine. On the day I was there, he and the equipment dealer were replacing the shoes on the cutter bar with thicker ones. This farm has predominately grass forages and the farmer recognized that this new machine was cutting much shorter than his former haybine, and he knew this was not good for the grass.

This topic has been written about several times over the last decade, but warrants a refresher. Recommended cutting height is not a "one size fits all" scenario. Consider the crop species, field conditions, ash content of the harvested forage, time of year and age of the stand. As this scenario demonstrates, new machines may not be set up appropriately for your forage stands.

The prevalence of discbines over the last few decades allows a closer cut to the ground (if you choose) without as much risk of costly damage that often occurred with traditional sicklebar mowers. This makes it very tempting to lower the cutting height a few inches to get extra yield.

Research from Miner Institute indicates that up to $\frac{1}{2}$ ton DM/ season (three cuttings) can be gained by lower cutting height from 4 inches down to 2 inches, without a sacrifice of quality.

So if increased yield is the benefit, what are the issues? From a mowing standpoint, there is a risk of scalping an uneven field and increasing the ash content (amount of dirt and debris) in the forage. Tom Kilcer, Advanced Ag Systems refers to this as "minimum-till haylage." Nutritionists indicate that the presence of ash in forages is becoming a chronic problem on many dairies. It has been reported that a 2 percent increase in ash (from 9 to 11 percent) can reduce milk by 1.9 lbs/cow/day (Sniffen, Fencrest, LLC.). That is certainly significant.

In addition to the connection between cutting height and ash content, improperly set up rakes can add to this issues as well. While rakes need to be able to pick up all the hay, they are often set closer to the ground than needed.

Alfalfa

- Manage cutting height based on field conditions, time of year and considerations for ash content in forage.
- Consider higher cutting height in fall to help capture and retain snow cover

Grass

- A minimum of 3-4 inches stubble is critical
- Grass stands are even more sensitive in the seeding year
- The loss in grass stand productivity from cutting too low far outweighs any yield boost you might get from harvesting a few extra inches in that one cutting Mixed Stands
- In mixed stands cutting height could actually be used as a management tool for stand composition by choosing a cutting height that either favors grass or alfalfa

Crop species is a critical factor in determining an appropriate cutting height. Because alfalfa generates new shoots from the crown of the plant after each cutting, it can generally tolerate a very low cutting height. Conversely, a low cutting height on grass can be very detrimental. Grasses have to re-grow from the stubble left in the field. Therefore, if grasses are cut too short, the plant is robbed of the energy reserves it needs to regrow.

In research conducted at Miner Institute, the effect of cutting height on orchardgrass and reeds canarygrass was measured in a greenhouse experiment. This work showed that first year reeds canarygrass was completely killed at a 2 inch cutting height. The orchardgrass did regrow, but at a much slower rate. The 2-inch orchardgrass required 38 days to reach a height of 16 inches. In contrast, at the 4 inch cutting height, both grasses responded quickly after cutting and measured16 inches of regrowth in just 21 days. \blacklozenge



Robot Farm Tours Thursday, July 20, 2017

10am-12pmLisleview Farm2143 River St., Lisle1-3pmHilltop Divine Dairy

Hilltop Divine Dairy 6026 Dawson Rd., Cortland

For more information or to register, call Alison Parrott at 607.391.2671

South Central NY Dairy & Field Crops Digest

Delayed Planting Effects on Corn Yield: A Historical Perspective Peter Thomison & Allen Geyer, Ohio State University Extension

According to the USDA/NASS (<u>https://www.nass.usda.gov/</u> <u>Statistics_by_State/Ohio/Publications/</u>

<u>Crop Progress & Condition/2017/cw2117oh.pdf</u>), for the week ending May 21, corn was 73 percent planted, which was 24 percent ahead of last year and the same as the five-year average. However, at this time, it is unknown what percent of the earlier planted corn has been or will be replanted due to excessive soil moisture, freezing temperatures and frosts, fungal seed decay and seedling rots, and soil crusting. Some field agronomists estimate that as much as 40% or more of the corn planted in late April has been or will be replanted in parts of Ohio.

Long term research by universities and seed companies across the Corn Belt gives us a pretty good idea of planting date effects on relative yield potential. The recommended time for planting corn in northern Ohio is April 15 to May 10 and in southern Ohio, April 10 to May 10. In the central Corn Belt, estimated yield loss per day with delayed planting varies from about 0.3% per day early in May to about 1% per day by the end of May (Nielgan 2017). These yield losses can be

end of May (Nielsen, 2017). These yield losses can be attributed to a number of factors including a shorter growing season, greater disease and insect pressure and higher risk of hot, dry conditions during pollination.

Given these planting date effects, do yield losses associated with late plantings translate into lower statewide yields? Not necessarily. Let's consider some previous growing seasons that were characterized by a "late start" and what impact this had on crop production. For the purposes of this discussion I'll consider "late start" years as those in which 40% or more of the corn acreage was not planted by May 20. Since 1980, there have been significant planting delays associated

Table 1. Performance of Ohio's "Late" Planted Corn

	% of Crop Planted					
Year	May 20	Мау 30	50% Planting Date	Yield (Bu/A)	Avg. Yield of Previous 5 Years	Departure from Yield Trend (Bu/A)
1981	30	55	May 26	96	108	-10
1983	45	65	May 22	80	109	-29
1989	22	40	June 4	118	116	0
1995	60	77	May 19	121	122	-6
1996	10	54	June 1	111	122	-17
2002	22	58	May 28	89	138	-48
2008	50	66	May 20	131	153	-14
2009	42	95	May 22	171	149	24
2011	10	19	June 5	153	153	2
2014	50	85	May 20	176	156	20
2016	50	84	May 20	159	155	0

shows the percentage of corn acreage planted by May 20 and May 30, the 50% planting date (the date by which 50% of the corn acreage was planted), yield, the state average yield for the previous five years, and the departure from the yield trend in each of those years. Of these eleven years, the greatest delays in crop planting occurred in 2011 when only 19% of the corn acreage was planted by May 30. In five of the eleven years (1981, 1983, 1996, 2002, and 2008) average state yields were markedly lower than the state average yield of the previous five years (In six of the eleven years, average yields were five bushels per acre or more below the yield trend line for Ohio). In one of these years, 2002, the average corn yield dropped to 89 bushels per acre (nearly comparable to the record low of 86 bushels per acre for the major drought year of 1988). However, in six of the eleven years, yields were similar or higher than the statewide average yield of the previous five years, and in one of these years, 2014, a record high corn yield, 176 per acre, was achieved.



with wet spring weather in eleven years -1981, 1983, 1989,

1995, 1996, 2002, 2008, 2009, 2011, 2014 and 2016. Table 1



50% Planting Date

This comparison of statewide average corn yields from past years indicates that lower grain yields are not a certainty with late plantings. While delayed planting may cause yield loss relative to early planting, planting date is just one of many factors that influence corn yield. Figure 1 shows grain yields associated with dates by which 50% of the corn acreage was planted in Ohio from 1980 to 2016 and it does not suggest a strong relationship between planting date and yield. There are other factors that are of greater importance than planting date in determining grain yield. Weather conditions (rainfall and temperature) in July and August are probably the most important yield determining factors. Favorable weather conditions subsequent to planting may result in late planted crops producing above average yields as was case in 2009 and 2014. However, if late planted crops experience severe moisture stress during pollination and grainfill, then crop yields may be significantly lower than average, with 2002 being the most notable example. \times

Data Source: National Agricultural Statistics Service USDA/NASS (<u>http://www.nass.usda.gov/</u>) South Central NY Dairy & Field Crops Digest

Effects of Flooding or Ponding on Corn Prior to Tasseling R.L. (Bob) Nielsen, Agronomy Dept., Purdue University

ntense rainfall events (technically referred to as "toad stranglers" or "goose drownders") flood low-lying corn fields and create ponding (standing water) in poorly drained areas (depressions, compacted soil) within other fields. Other areas within fields, while technically not flooded or ponded, often remain saturated for lengthy periods of time. Recurrent heavy rainfall events, like Indiana has experienced throughout May 2017, simply "add insult to injury" by rewetting, re-ponding, and re-flooding the same areas of the fields.

What are the prospects for recently submerged corn fields or plants simply enduring days and days of saturated soils? The flippant answer is that suffering crops will survive until they die.

What I mean to say is that no one can tell you with certainty the day after the storm whether a ponded area of a corn field will survive or whether there will be long-term yield consequences until enough time has gone by such that you can assess the actual recovery of the damaged plants. We can, however, talk about the factors that increase or decrease the risks of severe damage or death to flooded soils.

Plants that are completely submerged are at higher risk than those that are partially submerged.

- Plants that are only partially submerged may • continue to photosynthesize, albeit at limited rates.
- The longer an area remains ponded, the higher the risk of plant death.
 - Most agronomists believe that young corn can survive up to about 4 days of outright ponding if temperatures are relatively cool (mid-70's F or cooler); fewer days if temperatures are warm (mid-70's F or warmer).
 - Soil oxygen is depleted within about 48 hours of soil saturation. Without oxygen, the plants cannot perform critical life sustaining functions; e.g. nutrient and water uptake is impaired and root growth is inhibited (Wiebold, 2013).

Even when surface water subsides quickly, the likelihood of dense surface crusts forming as the soil dries increases the risk of emergence failure for recently planted crops.

- Be prepared with a rotary hoe to break up the crust and aid emergence.
- The greater the deposition of mud or old crop residues on plants as the water subsides, the greater the stress on the plants due to reduced photosynthesis.
 - Ironically, such situations would benefit from another rainfall event to wash the mud deposits from the leaves.
- Mud and crud that cakes the leaves and stalks encourage subsequent development of fungal and bacterial diseases in damaged plant tissue. In particular, bacterial ear rot can develop when flood waters rise up to or above the developing ears of corn plants (Nielsen, 2003).

- Corn younger than about V6 (six fully exposed leaf collars) is more susceptible to ponding damage than is corn older than V6.
 - This is partly because young plants are more easily submerged than older taller plants and partly because the corn plant's growing point remains below ground until about V6. The health of the growing point can be assessed initially by splitting stalks and visually examining the lower portion of the stem (Nielsen, 2008a). Within 3 to 5 days after water drains from the ponded area, look for the appearance of fresh leaves from the whorls of the plants.

Extended periods of saturated soils AFTER the surface water subsides will take their toll on the overall vigor of the crop.

- Some root death will occur and new root growth will be stunted until the soil dries to acceptable moisture contents. As a result, plants may be subject to greater injury during a subsequently dry summer due to their restricted root systems.
- Nutrients like nitrogen are rapidly remobilized from lower leaves to upper, newer leaves; resulting in a rapid development of orange or yellow lower leaves.
- Because root function in saturated soils deteriorates, less photosynthate is utilized by the root system and more accumulates in the upper plant parts. The higher concentration of photosynthate in the stems and leaves often results in dramatic purpling of those aboveground plant parts (Nielsen, 2012).
- Damage to the root system today will predispose the crop to the development of root and stalk rots later by virtue of the photosynthetic stress imposed by the limited root system during the important grain filling period following pollination. Monitor affected fields later in August and early September for the possible development of stalk rots and modify harvesttiming strategies accordingly.
- Concomitant (I found a new word in the dictionary!) with the direct stress of saturated soils on a corn crop, flooding and ponding can cause significant losses of soil nitrogen (N) from either denitrification of nitrate-N in heavier soils or leaching of nitrate-N in coarser soils.
 - Significant loss of soil N will cause nitrogen deficiencies and possible additional yield loss.
 - On the other hand, if the corn dies in the ponded areas it probably does not matter how much nitrogen you've lost.
- Lengthy periods of wet soil conditions favor the development of seedling blight diseases in young corn seedlings, especially those caused by Pythium fungi (Sweets, 2014). Continued next page

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Continued from previous page

- Fungicidal seed treatments effectively protect the seed and seedling for only about 3 weeks after planting. After that, especially if seedling development has been delayed by cold or excessive soil moisture, the risk of infection increases quickly. Fields that looked acceptable one week can be devastated by seedling blight by the next week if conditions are favorable for the disease and seedling development has not yet reached about V3 to V4.
- Poorly drained areas of fields are most at risk for the development of these diseases and so will also be risky for potential replant operations.
- The risk of diseases like common smut and crazy top also increases when soils are saturated or plants are submerged and temperatures are cool (<u>Pataky and Snetselaar, 2006; Jackson-Ziems, 2014, APS, 2015</u>).
 - The fungus that causes crazy top depends on saturated soil conditions to infect corn seedlings.
 - The common smut fungal organism is ubiquitous in soils and can infect young corn plants through tissue damaged by floodwaters. There is limited hybrid resistance to either of these two diseases and predicting damage is difficult until later in the growing season.

- Wind damage to corn during severe storms results in either stalk breakage (aka "green snap") or root lodging (plants uprooted and laying nearly flat to the ground).The risk of permanent damage is greater during late vegetative development and less with younger plants.
 - The yield effect of "green snap" damage depends on the percentage of field affected and whether the stalk breakage occurs above or below the ear, but is usually serious regardless. Obviously, stalk breakage below the ear results in zero yield for that plant. Stalk breakage above the ear results in significant yield loss due to the loss of upper canopy photosynthesis capacity for that plant.
 - Root lodged corn will recover or straighten up to varying degrees depending on the growth stage of the crop. Generally, younger corn has a greater ability to straighten up with minimal "goose-necking" than older corn. Yield effects of root lodging depend on whether soil moisture remains adequate for root regeneration, the severity of root damage due to the uprooting nature of root lodging, and the degree of "goose-necking" that develops and its effect on the harvestability of the crop. ❖

Fusarium head blight commentary Dr. Gary Bergstrom, Field Crop Plant Pathologist, CU

The risk of Fusarium head blight and DON contamination is moderate to severe for winter wheat flowering in much of New York at this time. General rains are expected again on Sunday. The triazole products Caramba and Prosaro are the most effective fungicides for suppression of FHB and DON contamination when applied at flowering (emergence of anthers on heads).

There is an application window of approximately 7 days from the beginning of flowering in which reasonable FHB suppression can be expected. A flowering application of triazole fungicide should be based on Fusarium head blight (FHB) risk as well as the risks of powdery mildew, rusts, and fungal leaf blotches in the upper canopy based on scouting of individual fields. Each has been observed in certain fields. Consider especially the regional risk

Receive FHB Alerts by Cell Phone:

I will be providing weekly New York commentaries on FHB risk through June. You can subscribe to receive FHB Alerts directly to your Cell Phone

(<u>http://scabusa.org/fhb_alert.php</u>). You can select to receive alerts as 1) Text Message Alerts, 2)

Email Alerts, or 3) both Text and Email Alerts. To receive alerts for New York, select the Northern Soft Winter Wheat option which provides alerts for MI, NY, WI and VT.



Fusarium Head blight of Wheat Photo Dr. Gary Bergstrom, Cornell University

of stripe rust as it is beginning to be observed in diverse areas of western New York and we continue to have conducive conditions for stripe rust infection. Fungicide products containing strobilurins should not be applied to headed wheat or barley as they may result in increased levels of DON in grain. Check the Fusarium Risk Assessment Tool (<u>http://www.wheatscab.psu.edu/</u>) and your local weather forecast frequently as your winter wheat crop approaches heading and flowering.

Winter malting barley fields are at grain filling stages now and beyond the timing for foliar fungicide application. Spring malting barley fields are mostly at tillering stages now. \Box

Field loss from cutworm.

Cutworm is an unpredictable, occasional pest that can cause a lot of damage, seemingly overnight. [Insert picture] Feeding by the youngest caterpillars can go unnoticed for a couple of weeks and then as they near their last stage of growth, or instar, they become voracious



feeders and capable of eating through plant stems – cutting the plants. Treatment needs to be evaluated. If an area of the field is infested a localized and perimeter spray can be used as well as for any movement to a nearby field. What should be avoided is a revenge spray in cases where the damage is discovered after the caterpillars have basically completed their

life cycle meaning they are done feeding and nearing pupation. There is no gain from spraying only additional cost. Once the moths emerge they will disperse. If the population has been thinned substantially as shown in the picture replanting is the only *He* remedy.



Attacks on Alfalfa

Alfalfa pests have been a bit unusual, beginning with severe alfalfa weevil feeding. Apparently the cooler temperatures caused slower growth of both plant and pest

Heavy Alfalfa Weevil Feeding Damage

allowing the weevils to get the upper hand and severely damage the alfalfa foliage. Elson Shields, our State Extension entomologist surmises that the natural enemies of alfalfa weevil are low this year following last year's drought which would be a factor in the higher than normal feeding damage. A farm called to have me check fields with no regrowth after 2 weeks. We found the young larvae, worms, eating the new buds as they emerged. An evaluation of the stage of development has to be made to evaluate the effectiveness of an insecticide spray.



An OMAFRA blog explains, "Occasionally, if weevil populations are high on a late first-cut, surviving larvae will feed on the re-growth as quickly as it develops. Such feeding can eliminate alfalfa re-growth which may lead to a loss of the stand. On severe infestations, monitor weevil activity on stubble regrowth for 5 to 7 days. The characteristic symptom is the alfalfa plant does not "green up" due to larvae and newly hatched adults feeding on the developing crown buds. The presence of 2 or more active larvae per crown, or 4 to 8 larvae per square foot indicates a need to spray the stubble with insecticide." <u>http://</u>fieldcropnews.com/2013/05/alfalfa-weevil/

Wilting and dying alfalfa in mid-May

I was called to look at a stand that was thinning with many wilting and dying plants in a formerly thick stand of alfalfa. Wilting alfalfa could be caused by several different diseases. As we dug plants to evaluate crown and root health we discovered white grubs buried at a shallow depth in the soil. When we scraped the soil surface we could find as many as 6 grubs/square foot. Grubs can be a problem after a long term sod with lots of grass so it was a little unusual to find



Dead Crowns

them in the alfalfa. The stand was more than 5 years old but was still predominantly alfalfa. White grubs are the young of

scarab beetles like June bug and Japanese beetles. The grubs feed on the plants of the roots. Since we found different sizes of grubs; Elson Shields, our State Extension Entomologist, determined that these were the young of our native June beetles which develop slowly, living and feeding in the soil for several years before they emerge as adult beetles. The farm was in the midst of hay



White Grubs

harvest when the grubs were found. The recommendation was to harvest 1st cutting then plant corn in the field. It was recommended that the corn seed be protected with a high rate of seed treatment. Surviving grubs would have sod roots to feed on and the later planting date and plenty of soil moisture would allow the corn to get off to a quick start, germinating after a few days and growing fairly quickly which would give it chance to outgrow the damage caused by feeding grubs. A second level of defense and insurance would be adding a soil insecticide like Force, in a Tband.

I am available to help troubleshoot and diagnose any problems; pest, nutritional or environmental, that you discover in your growing crops. Sometimes it's possible to diagnose long distance with the help of digital photos. Please feel free to contact me. If you have any serious crop injury from weather or pest events, I recommend that you document with pictures and report the conditions to your local FSA office and of course your crop insurance agent if that applies. ∞

Grazing Residue Height Matters Jessica A. Williamson, Ph.D., Forage Specialist, Penn State Ext.

Now that spring is upon us and pastures across the state have grown to an adequate height to begin grazing, it is important to remember to keep an eye on residue heights to eliminate over-grazing and the problems that occur as a result.

Any grazier knows that pasture management is as much of an art as it is a science. Skilled and seasoned graziers understand how important it is to keep a close eye on pastures as livestock are grazing, and often a drive-by evaluation of a pasture is not good enough to fully see what is going on out there – it requires us to get out of the truck and get our boots on the ground, walking the field to evaluate the current status. Often over-grazed pastures can appear to have more residue – or stubble – than they actually have when driving by or viewing from a vehicle window.

In the spring when conditions are favorable for coolseason perennial pasture growth (the most common type of pasture in Pennsylvania), it can seem simple to graze and get regrowth of forages after the animals have been rotated to a new paddock in a rotational grazing system. However, as the growing season progresses and the temperature becomes warmer and cool season forage growth slows, grazing management becomes even more critical if adequate pasture regrowth is desired.

Typically, a grazing residue height of 3-4" in cool season perennial grasses is recommended. During the peak growing season, graziers can easily graze more towards the 3" mark and still get adequate pasture regrowth if animals are removed from the paddock and pasture is allowed time to regrow – typically for 21-28 days. However, as the summer encroaches and temperatures rise, forage growth will slow and often times precipitation slows – and in some years, stops! It is important to remember that what is above the soil in terms of stubble height is reflected below the soil with root depth and mass. In other words, if the grass is grazed to a 1.5" stubble, there will likely only be 1.5" of root mass and depth below the soil surface. This isn't an adequate root system for forages to seek water availability during times of stress – high heat and water deficiency. Therefore, it is recommended that during those times of water deficit and high temperatures, a grazing residue height of 4-4.5" would be ideal, allowing the forage to have an adequate root system to seek out the nutrients necessary for regrowth during times of stress.

In the fall, as the seasons change and the temperature begins to once again cool, pasture regrowth of cool season perennials will jump once again. However, the plants are preparing to go dormant for the winter months. It is critical, once again, to not graze too close to the soil surface for that final grazing in the fall before winter. Research has shown that the higher the residue or stubble height in the fall, the sooner the pasture is able to be grazed in the spring and the more biomass is available the following grazing season.

So keep a grazing stick behind your truck seat and get out there and measure the pasture residue height. When it gets down to 3", make sure that livestock are being rotated to a pasture with at least 6-8" of forage growth and allow the previously grazed pasture adequate time to regrow. ×



2016 Dairy Profit Monitor Trends

A <u>2016 Dairy Profit Monitor report</u> has been released. Included are 120 farms that used the <u>Dairy Profit Monitor</u>, with 76 farms that entered at least eight months of data. Trend graphs were prepared for 12 months of primary measures.

Highlights include:

- Pounds of components per cow per day averaged 5.75 lbs per cow per day, with the low point in late summer, due to heat stress.
- The highest farms are close to, and are hitting, the 7 lbs per cow per day mark.
- Milk price took a positive swing towards the end of the year, creating a jump in Net Milk Income over Feed Cost numbers (actual milk price).
- Net Milk Income over Total Lactating Feed Costs jumped \$1.50 from beginning to year-end.
- Net Milk Income over Total Feed Costs on a fixed price basis jumped \$0.25.

Over the 12 month period, positive changes in feeding management programs on farms resulted from high quality corn silage harvested in 2015 and close attention to income over feed costs.



Four Common Dairy Business Oversights Using QuickBooks[™] Robert C. Goodling, Dairy Assoc., Penn State Ext.

Tips to help you get the most out of your financial records.

Like any record keeping system, the quality and usefulness of the information you get out depends on attention to detail as data is entered and reports are designed.

The Penn State Extension Dairy Team is nearing completion of its second offering for 2015 of the Using QuickBooks to Manage Your Farm Business online course. During these sessions, there were several underutilized features and common oversights among participants, regardless of business type, size, or location. The following are four of the more common issues and how to address them to help simplify your financial records process.

Generating Appropriate Reports

Financial management software, like QuickBooks, has the ability to generate reports using either accounting method: cash-based or accrual-based. Though accrual-based is the preferred method, many agricultural businesses still use cashbased accounting principles, and their data is entered to satisfy that need. To ensure accuracy in generated reports, they should be based on the method of data entry. For example, just because an accrual-based balance sheet is available to generate does not mean it is accurate.

Fix It:

First, know which method of data entry the business is using. Then, set the QuickBooks report default preferences to that method (*Edit->Preferences->*Select *Reports and Graphs* on the left menu, and then click on the *Company Preference Tab*; be sure the summary reports basis reflects the appropriate accounting method). Remember, some pre-defined reports in QuickBooks are set to cash or accrual and are not impacted by this preference.

Entering Bills and then Writing Checks

Knowing the accounts payable (and receivable) of the business is vital given today's market swings and tight margins. Even for cash-based reporting, it is important to know what is in queue to come in and leave, and how that will impact cash flow in the short term and long term. Too often, new QuickBooks users will start by entering bills, but then overlook an important step. Instead of using the *Pay Bills* feature within the system, they will go into the check register and write the check out. Doing so prevents a linkage between the bill and payment, thus the accounts payable value will grow, even though payments are made.

A similar situation can occur with the accounts receivable and invoices or sales receipts. Not only will you need to receive payment on invoices, but depending on your preferences in QuickBooks, the money from these transactions will be held in undeposited funds until you go into the system to deposit them to the appropriate account.

Fix It:

If the error has occurred, you'll need to remove the checks/ deposits and re-enter them against the appropriate bills or invoices through pay bills or receive payments. Some prefer to deposit directly to their accounts instead of using undeposited

funds. To do this, uncheck the Use Undeposited Funds Company Preference from the Payments Preference in QuickBooks (Edit->Preferences->Select Payments on the left menu, and then click on the Company Preference Tab). To prevent these mistakes from happening in the future, use the zoom feature on a Balance Sheet report and examine the accounts receivable and payable regularly to ensure transactions have been processed.

"Unbalanced" Balance Sheet

Loans and their accompanying assets are another area that can impact a business' financial reporting success. Many farms are still doing cash-based accounting, and as such, may not realize that within financial management software, like QuickBooks, both structures are needed to accurately maintain balance sheet reports. Too often, only 1 of the structures, typically the loan, exists in the chart of accounts, without the companion asset. This causes the generated balance sheet to be inaccurate.

Fix It:

When adding loans to QuickBooks, be sure the appropriate asset is also created. Also include an interest expense account to track interest expense for the loan. Be sure when entering loan payments that the appropriate split between principal payment (that goes toward the loan) and the interest (which is an expense) are recorded.

Cluttered Chart of Accounts

The chart of accounts is the infrastructure to any financial management software. It provides the categories across various types of accounts (banking, assets, income, expenses, etc.). QuickBooks allows for numerous levels of accounts in the chart of accounts. For example, we could have an expense category for Direct Crop Expenses, and then sub-accounts for seed, fertilizer, chemical, and custom hire. If we wanted to know those direct expenses for corn and soybeans, we could add a corn and soybean sub-account under each of the previous 4 sub-accounts, thus growing our chart of accounts. This presents a reporting challenge then to summarize them by commodity because they are in individual accounts.

Fix It:

QuickBooks has a classifying feature called classes. The class is a label that can be added to any transaction, and it allows for quick summarizing of data in various reports. Class labels are a preference that may need to be turned on (*Edit->Preferences* ->Select Accounting on the left menu, and then click on the Company Preference Tab; be sure the class tracking is checked). Be sure that your class list contains the general enterprises of the business, as well as an overhead class to capture those costs that go across enterprises.

Summary

Managing the finances of today's dairy businesses takes dedication and time. Today's tough fiscal environment has driven the need for more accurate and regular reporting of the current status of the business. When using financial management software systems, such as QuickBooks, it is important to remember what accounting methods are being used, generate appropriate reports, and be sure the structure of the data meets the function needed by the dairy business. *****

List of Pro-Dairy's Thursday Dairy Webinars:

Pro-Dairy also has webinars on various topics uploaded to their resources website. Most videos are approximately 45 minutes long and can be found at: <u>https://prodairy.cals.cornell.edu/production-management/</u><u>dairy-webinars</u>. Topics with uploaded videos include:

- Managing Transition Cows During Heat Stress
- New Milk Analysis Technologies to Monitor Management and Improve Herd Performance
- Crop Insurance Options for Corn Silage
- Robotic Milking Systems-Effective use of reports to monitor milk quality and maintenance
- Proposing Change within Your Business
- Voluntary Wait Period Study Findings
- Creating the Perfect Dining Experience
- Baby It's Cold Outside! Winter Calf Care
- Bedding and Bulk Tanks What to do with that Information?
- Using Test Day Data to Manage Udder Health and Milk Quality
- Update on Ration Phosphorus and Reproduction
- Applied Dairy Immunology and Vaccination Protocol Management
- Valuing Farmland Proximity methods for valuing proximity in farmland purchasing decisions
- Heifer nutrition and economics What the new edition of the Cornell Net Carbohydrate and Protein System tells us
- Shredlage What have we learned
- Hot topics in transition cow nutrition
- Clinical mastitis treatment decisions and using pathogen ID



Resources for Spanish-speaking Employees:

Pro-Dairy has put together several videos in Spanish for managers to use to help train Spanish-speaking employees. Videos are generally a half hour long and cover basic principles for employees working with dairy cattle. The entire list of videos can be found by following the link below. <u>https://prodairy.cals.cornell.edu/production-management/dairy-webinars/spanish-webinars</u>

- Implement Effective Protocols for First Postpartum Al Service in Dairy Cattle Implementando Protocolos Efectivos de Manejo del Primer Servicio Postparto en Vacas de Leche.
- **Reproductive Physiology of Dairy Cattle: what is important to know for reproductive management.** *Fisiología Reproductiva del Ganado Lechero: que es importante saber para el manejo reproductivo.*
- What is happening with the cow and calf during parturition and when should you ask for help. Que está pasando con la vaca y el becerro durante el parto, y cuando debe pedir ayuda.
- Basic physiology of how milk is produced. Manejo de Vacas Lecheras.
- Second and subsequent AI service management: effective programs combining pregnancy diagnosis and resynchronization of estrus and ovulation. (video coming soon)
 Estrategias de manejo para segundo y subsiguiente servicio: programas efectivos combinando diagnóstico de preñez y resincronización del estro y la ovulación.



In addition to Cornell's resources, the University of Wisconsin has a website dedicated to resources for Spanish-speaking employees, including factsheets on mastitis, on-farm culture resources, milk quality posters, presentations, and also research articles in Spanish. The website can be found at <u>http://milkquality.wisc.edu/en-espanol/</u>.

Cornell University Cooperative Extension SCNY DAIRY & FIELD CROPS TEAM

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CALENDAR OF EVENTS

Jun 29	Multi-Species Pasture Walk - McRey Farm, 3599 State Route 26, south of Whitney Point 6-8pm McRey Farm, 3599 State Route 26, south of Whitney Point. Topics: Establishing the farm, Building grazing infrastructure, Multi-Species grazing & marketing, Pasture management, pasture species, Role & use of soil and forage testing, Accessing cost-share programs with SWCD & NRCS. Cost \$5/2 Members same farm, To register call Jen Atkinson at 607.391.2662 or email jma358@cornell.edu				
Jun 30	Grasstravaganza - Central Dining Hall in the Allegany Room, Alfred State College 8am-3pm "Show Me the Money: Grazing Strategies for Farm Profitability" Guest Speakers: Russ Wilson, Wilson Land & Cattle Co. & Dave Hartman, Lycoming County Penn State Extension				
Jul 13	Aurora Farm Field DayDEC/CCA Credits OfferedMusgrave Research Farm, 1256 Poplar Ridge Rd., Aurora. Topics: Comparison of corn-soybean under conventional and organic management; Decision Agriculture: Managing Nitrogen and Yiel Sorgum Utilizing Drone NDVI Imaging; Updates for Soil Health Assessment and Adapt-N nitrog Roadmap for True Integrated Weed Management in the Age of Digital Agriculture; Corn Breedin Biological control of corn rootworm larvae with entomopathogenic nematodes; Double Crop Rotz Cereals and Corn Silage or Forage Sorghum; Integrated management of diseases and mycotoxins Event. Pre-register online at https://fieldcrops.cals.cornell.edu/content/field-day-registration	9am-3pm -wheat/red clover rotation d in Corn and Forage gen management tools; A g & Disease Resistance; ations with Winter in malting barley. Free			
Jul 20	Robot Farm Tours, Lisleview Farm & Hilltop Divine Dairy 10am-3pm 10am-12pm Lisleview Farm, 2143 River St., Lisle, 12-1pm Lunch Break and travel to next farm on your own, 1-3pm Hilltop Divine Dairy, 6026 Dawson Rd., Cortland For more information or to register, call Alison Parrott at 607.391.2671				
Jul 12 (Tentative)	Cow Comfort & Facilities Tour w/ Animal Handling Workshop, Preble Hill Farm, 6993 W. Bennett Hollow Rd. Watch for our Upcoming Events Mailer for More Details				
Aug 2 (Tentative)	Heifer Barn Tour - Carey Farm, Lick St., Groton Watch for our Upcoming Events Mailer for More Details				
Aug 8-10	Empire Farm Days, 2973 State Route 414, Seneca Falls, NY 13148				
Aug 23	Farm Safety and OSHA Workshop, Volles Farm, Presenters: Karl Czymmek, PRO-DAIRY and Keith Gillette & Michael Cappelli, NYSDOL Topics: OSHA Updates and Summary of Farm Safety Audits by DOL	10am-2:30pm			