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

AG FOCUS

Pricing Corn Silage - Fall 2019

by John J. Hanchar

Summary

- Analysis suggests corn silage price depends on corn silage quantities, alfalfa hay price, the price received by farmers for milk, and corn grain price.
- Analysis for NY suggests that estimated corn silage price is most sensitive to corn silage quantities, alfalfa hay price and corn grain price.
- Price estimates combined with understanding of relevant supply and demand factors from an individual farm business owner's perspective can aid decision making regarding corn silage price. Given recently available alfalfa hay and corn grain prices (May through July, 2019, and August 27, 2019, respectively), price analysis for NY suggests an estimated corn silage price of about $45 per ton. The Fall 2018 estimate was about $41 per ton.

Determining Corn Silage Price

A farm business owner can examine how much corn silage he/she would be willing to supply to a market at a given price. Analysis of the farm business' cost structure for corn silage production combined with consideration of other factors help to define the supply relationship. A seller can develop a target based upon the above, but actual market conditions provide no guarantee that a buyer will purchase quantities desired at a price that achieves the producer's target.

Some farm business owners might approach the problem of determining corn silage price from a value in production, or input demand perspective. Amounts of corn grain and corn stover in a ton of corn silage, relevant prices, and corn silage's place in the milk production process are key factors. A buyer can develop a price target based upon the above, but actual market conditions provide no guarantee that a producer will sell the quantity desired at a price that matches the buyer's willingness to pay target.

Although factors in price determination, the two approaches described above in isolation, don't completely determine price and quantity. Supply and demand relationships work simultaneously in markets to determine price and quantity. Empirical price analysis brings supply and demand relationships together to determine price.

Corn Silage Price Analysis

Empirical price analysis suggests that corn silage price is a function of corn silage quantities, alfalfa hay price, the price received by farmers for milk sold, and corn grain price. The ordinary least squares regression model here expresses corn silage price as a linear function of the above variables. The statistical analysis used here is fairly basic. However, readers of the original August 2012 Ag Focus article describing this work, and readers of annual update articles note that the analysis and estimates help farm business owners price corn silage.

Corn Silage Price Estimates – Fall 2019

The ordinary least squares regression model reported in August 2012, updated here to reflect additional data available to date and changes in other underlying factors, produced corn silage price estimates for NY.

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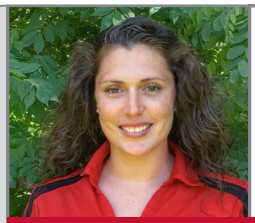

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Pricing Corn Silage - Fall 2019

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Below, estimated corn silage price is a function of alfalfa hay price and corn grain price with other factors (corn silage production and milk price) fixed at expected levels. Expected corn silage quantity is set at 8,365 tons, the average for the period 2007 through 2017.

- estimated corn silage price ($/ton) = -3.1431 + (0.1845 x price of alfalfa hay ($/ton)) + (3.5138 x price of corn for grain ($/bushel))

Suppose

- NY alfalfa hay price is $186 per ton, the three month average of the period May, June, July 2019. (USDA/ NASS. Agricultural Prices. Washington, DC: National Agricultural Statistics Service. July 31 and August 30, 2019 releases),

and

- corn grain price is $3.94 per bushel (Western NY Energy. "Corn Bids." August 27, 2019. Approximate value based upon reported bids for fall 2019.)

Using the estimating equation and the above prices for alfalfa hay and corn grain as expected prices, estimated corn silage price is about $45 per ton. Compare this to last fall's estimate of about $41 per ton. Suppose alfalfa hay price is $179 per ton, the annual average for the period 2007 through 2017, and expected corn grain price is 3.94 dollars per bushel, then estimated corn silage price would be about $44 per ton. Buyers and sellers use an estimate as a base, typically, adjusting for quality and/or costs for harvest, hauling and storage based upon the situation, for example, when pricing standing corn for silage.

Corn silage price estimates combined with understanding of relevant supply and demand factors from the individual farm business owner's perspective, including local conditions, for example, growing conditions, can aid decision making regarding corn silage price.

Inside This Issue

Farming for Modern Needs and Consumers

by Margaret Quaassdorff

In September, Joan Petzen and I toured Indiana with a group of Extension Educators, and had the opportunity to have a conversation with the CEO of Fair Oaks Farms, Gary Corbett. Fair Oaks Farms is the #1 agritourism destination in the Midwest, providing a Dairy Adventure experience that allows guests to tour the farm, watch calves being born, and provides children and adults an interactive experience with a number of virtual reality and hands -on farming exhibits. Fair Oaks Farms milks over 37,000 cows in multiple locations, and it was eye-opening to hear how a large player in the dairy industry rethinks farming for modern needs and consumers.

Relationship with Consumers: "Transparency" is the key word here. The whole idea behind Fair Oaks Farms Dairy Adventure was driven by the need for families to see for themselves the care and effort that farmers put into their animals and land. Corbett explained the importance of showing off a real farm, and that a "model show farm" should not be the goal. When guests go on a tour of the dairy barns, they are seeing the real thing, and though you can only see one farm, the rest of the barns are replicas of the one you drive through. Corbett explained that the guiding principles of Fair Oaks Farms are:

1. Agriculture and environmentalism are compatible.
2. Animal welfare is a top priority and animals are well cared for, and
3. Milk is good for you.

Guests are encouraged to ask questions at any time during their visit and beyond.

Cows give birth in front of guests at "The Dairy Adventure" at Fair Oaks Farms in Indiana.

Environmental Needs and Opportunities for Sustainability: Fair Oaks Farms are well on their way to achieving a zero carbon footprint. Due to their size and output of manure, they have installed methane digesters on their farms, and can now power all of their tractors and trucks using energy recycled on the farm. In the pursuit of lowering feed costs, Corbett explained how Fair Oaks Farms is exploring nutritional uses of duckweed (which grew on some of their ponds) and different algae products. Turning challenges into solutions, and using the resources available to the farm has been a key innovation mindset for Fair Oaks Farms while ever moving towards their goals of farm sustainability.

Size, Scale, and Consumer Trust: Fair Oaks Farms manages 100,000 animals total when including youngstock across all facilities. This makes their farms a large target for activist groups. Corbett shared an interesting insight when he said that Fair Oaks Farms welcomes the opportunity to sit down and talk with the leaders of these groups, to see where true priorities lay. They can both agree that animal welfare is high on the priority list. Corbett recognizes that facility improvement can be costly, as well as staying up to date on best management practices. Working with employees to make sure those welfare protocols are being carried out on the farms each day does take time. He is also sure that dairy farms cannot afford not to improve and give their best effort in these areas. Consumers have legitimate questions, and "the anti-groups" work to pull apart agriculture. Agriculture of all types and sizes should work together to open doors and welcome people to see what goes on. By doing this, and answering questions honestly, we can keep consumers on our side.

When asked how other dairies could get into the agritourism business, Corbett recommended establishing a 501(c)(3) organization so that you may accept outside funding. It takes a certain mass to be able to accomplish certain things, but you have a better chance when agriculture businesses and farms work together. Corbett also mentioned asking opinions of trusted relatives or friends who may be outside of the dairy industry, to help give more accurate representation of the consumer's perspective. This way, we can better predict concerns and

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Farming for Modern Needs and Consumers

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triumphs regarding our businesses' social license.

What I learned from my visit at Fair Oaks Farms was that dairy producers should be mindful of the needs and wants of the modern consumer, and to use that to plan for how to conduct our dairy businesses moving forward. Another strong theme was to work together to accomplish more. I think that this is especially important for our region of NY, where there are many dairies with complementary strengths to each other. A third theme was to think outside the box to use resources that you have to their highest potential. And finally, keep animal and worker welfare central to heart of your dairy. It is the leadership's job to set the tone of the farm. The dairy industry has changed and is changing; have you defined the next vision for your dairy business and steps for the next year; the next three years and beyond?

Joan Petzen and Margaret Quaassdorff enjoy ice cream while experiencing "The Dairy Adventure" at Fair Oaks Farms in Indiana.
Photos courtesy of Margaret Quaassdorff

Upcoming Webinars

October 8, 2019 - 8:30am (EST)
Cow Activity Monitor Systems: Research Update
Mat Haan, Penn State
https://extension.psu.edu/technology-tuesdays

October 14, 2019 - Noon (CST)
"Employee training impacts on animal welfare"
Robert Hagevoort, New Mexico University
https://hoards.com/flex-309-Webinars.html

October 28, 2019 - 1:00pm (EST)
The hidden cost of too many heifers in tough times
Michael Lunak, Penn State
https://extension.psu.edu/dairy-management-mondays

Striving for Mediocrity? by Timothy X. Terry, Harvest NY

"Nobody is special and everyone gets a participation award." To anyone who has had recent contact with an elementary school curriculum, or a summer soccer program, this is an all too familiar mantra. While this may temporarily spare the feelings of a select few, it is counterproductive at inspiring others to greater achievement. Understandably, "if everyone gets the same why should I put forth extra effort?" But as Bill Gates has said, "This (mantra) doesn't bear the slightest resemblance to ANYTHING in real life."

In real life there are winners and losers, and there are teams that succeed and there are teams that…uh… umm… are…umm…they're a team. Fortunately, mediocrity doesn't have to be *your* destiny. There are four leadership practices you can implement that will promote higher performance. These are presented here in a specific order as each is a stepping stone to the next.

1. Consequences of truth. On any agricultural enterprise there are likely a number of teams, or crews, and they are often engaged in a specific pursuit – calf crew, barn crew, milkers, field crew, greenhouse, etc. On smaller farms the player rosters are often the same on various teams just in a different order. Your job as manager/owner/operator is to make sure everyone knows their job and understands its importance – why they are doing what they do. Mediocrity can often be a symptom of a broken feedback loop from a person's performance and the consequences of poor performance.

In real life there are winners and losers, and there are teams that succeed… Fortunately, mediocrity doesn't have to be *your* destiny.

A sure cure for this is to have the offender walk a mile in the next person's shoes. This connects them with the results – experiences, feelings, impacts – of good and bad performance. (I often wonder how the design of automobiles would change if engineers and designers had to spend at least one summer working in a repair garage.) It's very important to keep the lines of communication open. Dialog must be simple and constructive. Avoid accusations and negative confrontations.

2. Be SMART about it. Mediocrity can also be an indication of unestablished, undefined, or unattainable goals. Conversely, meaningful objectives will make poor performance painfully obvious. Often, the only way you can successfully shift someone in a positive direction is if they can feel some measure of discomfort in their present situation (see also #1).

As it relates to goals, SMART is an acronym for:

S – specific - what are we trying to do
M – measurable – how many or how much
A – attainable / achievable - enough said
R – Rewarding – has value, otherwise why do it
T – Timed - a dream with a deadline
(All you *Managing for Success* graduates can probably recite this in your sleep.)

3. Apply peer pressure. As counterintuitive as it may seem, mediocrity can be a result of strong supervision. (What!??) Surprisingly, it seems to be a function of accountability. Research has shown that:

- on the weakest teams there is no accountability
- on mediocre teams the team leader or supervisor is the source of accountability – may often be expressed as micro-managing
- on superior teams the members manage, support, and coach one another. Remember the high performing insurance team in *Management and Mythology* (Ag Focus 3/19)? One of the most notable characteristics of this team was their high esprit de corps.

There is no way any team leader can be everything to every team member – even on a family operation. After helping everyone to understand what it is they do and why they are doing it, your job then becomes one of fostering a culture of peer accountability. You've achieved this when everyone can immediately and respectfully confront anyone when issues arise provided they are in the best interest of the team's goals. Frequent shared reviews can help build this culture. These don't have to be long or formal, but they do have to be regular (weekly, bi-weekly, monthly).

4. Step up and speak up. High performance comes from high expectations, unfortunately, neither is the default setting for humans. Essentially you are calling everyone to a place of potential stress. How you handle the uncomfortable situations that arise sets the tenor for the team as well as their regard for you. How will you handle directives from upper management that are difficult to meet

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"Farm Focused" Sexual Harassment Prevention Training by Richard Stup, Cornell University

A team of Cornell Cooperative Extension educators recently adapted New York State's model sexual harassment prevention training materials to be more relevant to the farm workplace. NY State DOL reviewed these materials to be sure they meet the content requirements and now they are ready for release. You will find both a presentation that teaches about sexual harassment and set of case studies that illustrate it in more detail. The presentation and case studies are available in English and Spanish and in PowerPoint or video format. You can use the PowerPoints as visual aids if you choose to do the presentation and review the case studies yourself. Or, you can show the video recordings of the presentation and case studies to train your farm employees.

We developed a comprehensive farm sexual harassment prevention resource page on the Cornell Agricultural Workforce Development website. The site contains a step-by-step guide to help a farm business meet New York's requirements for employer sexual harassment prevention policies and training. Find the new resources under Step 5 at:
https://agworkforce.cals.cornell.edu/regulations/sexual-harassment-prevention/

A few reminders as you prepare for the training:

1. Treat it seriously. You could have someone in your workforce experiencing harassment right now.
2. Customize your policy for your farm and put it in place before you do the training.
3. Customize the "Sexual Harassment Prevention Poster/Notice" and distribute copies to your employees at the training.
4. Be sure that you include an interactive portion such as a question and answer session, or brief feedback survey with your employees. You can pause the videos to create opportunities for interactive questions and discussion.
5. Document your training activities.
6. **All New York employers are required to complete the training each year with all employees. The due date for this first time is October 9, 2019!**

Please reach out to Libby Eiholzer, 607-793-4847 or geg24@cornell.edu with any questions about the new sexual harassment prevention law and how to implement training on your farm .

Striving for Mediocrity?

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or are at odds with other goals? What will you do about the under achiever in your midst? Failure to act may cost you the respect of your team, not to mention any progress you've made toward high performance.

Applying similar principles, Major Greg (Pappy) Boyington took a rag-tag group of screwballs and misfits destined for the brig and turned them into the "terrors of the South Pacific" (VMF 214 – Black Sheep Squadron). Imagine the profound shift in performance and workplace satisfaction you could see in your team(s) by implanting these four practices.

Process and Vision Matter by Joan Sinclair Petzen

In early September, I took a couple of days for professional improvement and traveled with extension colleagues from across the nation to visit farms throughout Indiana. Our itinerary included some unique and very well-run operations. But whether their product was Hampshire sheep, Wagyu beef, milk and agri-tourism, commercial cow-calf, pigs and grain, eggs or running a livestock auction, one theme that resonated with me is the attention paid to processes, details and balance in the business. Each of these farms shared the mindful way they operate and the reason for their combination of enterprises. Let me share some examples from our travels.

The Rosenbaum Family in Campbell operates a 300 head cow-calf operation and produces grain. They mindfully have chosen to split their herd into spring and fall calving. This gives them a chance to market feeders twice a year. They also plan their calving workload to fit between peak seasons for their grain operations. Spring calves are dropped in February and March before crop work begins and fall calves arrive in August and September before harvest begins in earnest. They plan pasture management activities like weed control around their peak cropping seasons. To provide adequate pasture in the late summer when their fescue pasture is stressed, they included some sorghum for grazing into their rotation rather than supplementing with baled hay. The Rosenbaums add value to their calf crops by following a strict 45 day pre-conditioning and vaccination protocol so their feeders are familiar with the feeds they will encounter in the feedlot and have an immunity to fight disease they may encounter. This add 20 cents per pound to the value of their feeders.

At Rose Acres egg laying business, the largest family owned egg producer in the United States, we learned how their visionary leader regularly challenges their team to implement creative solutions to business challenges. Their business employs 2500 people in ten different states. But throughout the business locations, they are striving to penetrate the egg market within 200 miles, a day's truck trip, of each location. The business employs a team of three nutritionists to fashion rations that control the size and nutritional attributes of the eggs through the ration fed. One person, who strictly focuses on the commodities markets, is contracting with local grain producers to minimize transportation costs associated with their grain purchases. They are also turning their chicken litter into fertilizer products marketed through some of the large consumer retailers.

David Beard, together with his father Jerry and five employees beyond family operate a business with three primary enterprises. Contract hog production, grain production and custom manure application are the core aspects of the business. The contract hog business finishes two groups of 15,000 hogs each year. The manure from the hogs provides the bulk of the nutrients needed for their grain operation. Their custom manure application business provides another stream of income and allows them to maximize the use of their investment and innovation in drag-line equipment for manure handling. Throughout our visit David emphasized the balance among their enterprises, for example, right now adding another hog house would require them to develop relationships with neighbors who weren't very interested in hog manure to be able handle the added manure in an environmentally responsible manner. They also add value to their manure application business by providing detailed application data to the certified crop advisors working with the farms that hire them. The combination of innovation and balance are critical to the success of their business.

Each of these successful farms have a razor shape focus. They are led by successful owners who are continuously evaluating and innovating to improve their bottom line. Their daily operations are propelled by attention to detailed processes each employee, manager or owner uses to keep their aspect of the business operating efficiently and effectively.

Beards build their own booster pumps allowing them pump manure up to five miles for drag-line application. Photo Courtesy of Joan Sinclair Petzen

Register for Our Online Courses, Block One Webinars Start Soon!

Our program offers more than 20 **online courses** to help farmers improve their technical and business skills covering a range of topics any farmer needs to succeed. Courses are offered with tiered pricing from $199 – $299, based on household size and income to make access to the courses more affordable and equitable for everyone. Registration is now open for all courses, with live webinar content starting at the end of September for our first block of courses:

BF 101: Starting at Square One

So you're thinking about starting a farm, but feeling overwhelmed by all the decisions? This course was designed to assist new and aspiring farmers in taking the first steps in thinking through farm start-up (whether you already have land access or not).

BF 150: Farm Woodlot Management

Whether monetizing the effects of silvopasture, learning the logistics of cutting for fire-wood, tapping for maple syrup, or venturing into mushroom production, this online course will give you the tools necessary to tap into the potential profit of your woodlot.

BF 204: QuickBooks for Farmers

Are you a beginning farmer? Or are you a current farmer with the desire to switch to an online accounting system? Then our quick guide to QuickBooks is for you. Learn the software's basic features, such as sales tax, inventory, invoicing, adjustments, and year-end procedures.

Join our online courses and learn from experienced farmers and extension educators, who guide students through about six-weeks of weekly live webinars, videos, and resources. Browse all of our **course offerings** on our website, https://smallfarms.cornell.edu/ and register now.

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Forage Management Online Course

(October 25 - December 14, 2019)

This course will begin with agronomic factors that influence forage quality and follow key strategies for harvest, preservation and feedout of quality feed. It will be valuable for decision makers and key employees in the cropping and feeding system on the farm. $265.00 per person. Register before October 10th and receive a $25 discount.

For more information visit: https://prodairy.cals.cornell.edu/online-courses/forage-management/

Beef Quality Assurance Transportation Training

Where: Empire Livestock-Pavilion

375 Lake Street, Pavilion, NY

When: Tuesday, October 8th

Time: 6:00pm - 9:00pm

Cost: FREE

Transportation Quality Assurance plays a critical role in the health and welfare of cattle. By using best practices, transporters can save the beef industry millions of dollars each year.

Topics will include:

- Cattle handling guidelines & diagrams
- Checklists for loading/unloading,
- Checklists for weather factors
- Bio-security and Emergency Action Plans and more!

RSVP: October 4, Katherine Brosnan at:

kbrosnan@nybeef.org or 315-339-6922. For more information visit: https://nwnyteam.cce.cornell.edu

Small Ruminant Management & Fiber Conference November 9 & 10

Cashmere Goat Association

The Cashmere Goat Association is proud to announce the **2019 Small Ruminant Management and Fiber Conference**, to be co-hosted with the Sheep & Goat Program, Department of Animal Science, Cornell University. The conference will take place in Ithaca, NY on November 9th and 10th.

This conference is aimed at both prospective and experienced goat and sheep raisers as well as fiber designers and processors, youth organizations, college students, professionals and fiber enthusiasts. Speakers include preeminent professors, veterinarians and graduate students from Cornell Univ., Langston University's internationally acclaimed Goat Research Center, Virginia Tech and Italy as well as nationally renowned fiber specialists and farmers.

Tickets are limited. To register or view the full event schedule visit: https://www.eventbrite.com/e/2019-small-ruminant-management-and-fiber-conference-tickets-61240114832

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2005 PETERBILT 378; 475 HP CAT C15; Jake Brake; 10-Spd. Manual; 206" WB; 12,000# F/A; 46,000# Locking Rears on Chalmers Susp.; Polished Alum. Wheels; Dual Exhaust & Air Cleaners; 738,651 Miles; Stk. #5821 - **$50,000**

2008 MACK GRANITE GU813 WATER TANK TRUCK; 485 HP Mack MP8; 18-Spd.; Tandem Axle; 24.5 Tires (75% Rubber); 236" WB; 20,000# F/A; 46,000# Locking Rears; 4,400 Gal. Water Tank w/Pump; Can Separate Tank From Chassis; 21' Frame Behind Cab; 170" CT; 337,914 Miles; Stk. #5838 - **$83,000**

2007 KENWORTH T800B; 475 HP CAT C15; 18-Spd. Manual; TRI-DRIVE Cab & Chassis; Hendrickson Air Ride; 20K F/A; 69K Triple Locking R/A; 266" WB; 23'6" Frame Behind Cab; 186" Cab To Center Of Center Drive; 4.30 Ratio; 219,167 Miles; Stk. #5982 - **$68,000**

2004 KENWORTH T800; 435 HP CAT C15 Single Turbo; 10-Spd.; Double Frame; Full Locking 46,000# Rears; 16,000# Fronts; Air Lift Axle; 4.33 Axle Ratio; 280" WB; 208" CT; 268" Total Usable Frame; 241,888 Miles; Stk. #5959 - **$49,900**

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

2003 PETERBILT 367; Daycab; 485 HP Cummins ISX; Allison Auto. Trans.; Tandem Axle; 24.5 Tires; Alum./Steel Wheels; 202" WB; 14,600# F/A; 44,000# Full Locking Rears; Wetline; 109,212 Miles; Stk. #5843 - **$55,500**

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

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

2010 PETERBILT 365; 350 HP Cummins ISM Engine; Allison Auto.; Long, Double Frame Cab & Chassis w/300" WB; 227" CT; 31' Frame Behind Cab; 18,000# F/A; 60,000# R/A On Hendrickson Susp.; 87,267 Miles; Stk. #5907 - **$62,900**

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

2005 PETERBILT 357; 370 HP Cummins ISM; 8LL Trans.; Quad Axle Cab & Chassis w/Double Frame; 18K F/A; 44K Full Locking Rears; (2) 11K Steerable Lift Axles; Air Trac Susp.; 22' Frame Behind Cab; 212" CT; 302,500 Miles; Stk. #5831 - **$48,500**

2002 KENWORTH T800; 475 HP CAT C15 6NZ; 10-Spd. Manual; Double Frame; Daycab w/20,000# F/A; 46,000# Locking Rears; NEWAY Air Ride Susp.; 5.29 Ratio; 204" WB; 16' Ol Frame; 186,151 Miles; Stk. #5097 - **$39,500**

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

1998 KENWORTH T800; 335 HP CAT C10; 10-Spd. Manual; Double Frame Flatbed w/Palfinger 24001 Knuckle Boom w/68' Reach; Max Lift Capacity 18,700 lbs.; (2) Outriggers; 18,740# F/A; 44,000# R/A; 4.33 Ratio; 262" WB; 22'x96" Steel Deck; Rear Mounted Lift Axle; 343,738 Miles; Stk. #5923 - **$39,500**

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

2006 KENWORTH T800; 475 HP CAT C15; 18-Spd. Manual; Clean, Low Mile Water Tanker w/Hamm's 4,400 Gal. Steel Tank w/Pump; 20K F/A; 46K R/A; 256" WB; Neway Air Ride; 36" Bunk; 121,630 Miles; Stk. #5988 - **$50,000**

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

2005 PETERBILT 357; 335 HP CAT C11; Allison Auto.; Twin Steer Ready-Mix Truck w/CBMW 11 Cu. Yd. Mixer; 280" WB; Chalmers Susp. 21'6" Frame Behind Cab; 200" CT; 18,834 Hours; 119,190 Miles; Stk. #6062 - **$49,500**

2005 INTERNATIONAL 5600i; 400 HP Cummins ISX; Allison 6-Spd. Auto. Trans. w/PTO; Double Frame Cab & Chassis w/20K F/A; 58K Rears; 19' Double Frame Behind Cab w/2' Of Single Added On; 140" CT; 206" WB; Hendrickson Spring/Beam Susp.; 6.37 Ratio; 136,225 Miles; Stk. #6072 - **$43,500**

2008 KENWORTH T800 WINCH/OIL FIELD TRUCK; 400 HP CAT C13; Engine Brake; Air Ride Susp.; 38,480# F/A; 46,000# Full Locking Rears; 4.10 Ratio; 333" WB; Twin Steer, Double Frame Truck w/660" Bridge Measurement; Premier Titlex Pump; Pullmaster WL25 Winch; Max-Lift 360 Crane; Will Separate Pump, Winch & Crane From Chassis; 256" CT; 30' Frame Behind Cab; 238,383 Miles; Stk. #5910 - **$45,900**

2003 KENWORTH W900; 320 HP Cummins ISM; Allison Auto.; Clean, Low Mile Cab & Chassis w/20,000# Front Axle; (2) 11,000# Steerable Lift Axles; 44,000# Full Locking Rears On Chalmers Susp.; 5.43 Ratio; 250" WB; 21' Frame Behind Cab; 156" CT; Muffler Takes Up 12" Behind Cab; Stk. #6016 - **$54,900**

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

2004 WESTERN STAR 4900S 430 HP CAT C12; 18-Spd. Manual; Clean, Low Mile Tank Truck w/4,360 Gal. Steel Tank & Bowie 3" Pump; 16K F/A; 46K Full Locking Rears; 252" WB; Chalmers Suspension; 133,613 Miles; Stk. #5979 - **$38,500**

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

Corn Silage 2019: Two different crops

by Joe Lawrence and Karl Czymmek, PRO-DAIRY

This year's corn silage harvest will present two distinctively different forages, often on the same farm, sometimes in the same field.

On many farms there is a portion of the corn silage acres that have a reasonable chance to make it to proper corn silage maturity (approx. 35% whole plant dry matter). While there is another portion of the crop that will likely be harvested at an immature stage, where dry down may be induced by a frost.

To the extent possible on your farm it will be best to develop two different harvest strategies and management plans for managing the crop in storage and at feed out. While jumping from field to field does create some inefficiency during the harvest season, the value of separating these different quality forages for feeding purposes will far outweigh the slight cost of harvest inefficiencies.

Assessing Maturity & Harvest Timing

The date of silking can be used to determine silage harvest date based on growing degree day (GDD) accumulation. Work in New York by Dr. Bill Cox showed that the crop needs 750-800 GDD's after silking to reach a whole plant DM of 32%. Under typical late season dry down conditions we can expect the crop to reach 35% DM 4-7 days later. (http://climatesmartfarming.org/wp-content/uploads/2017/01/GDD-for-silking-to-silage-Cox-Cornell-2006.pdf)

A new growing degree day calculator from the Cornell Climate Smart Farm team can be useful in estimating harvest date. Access the calculator here: http://climatesmartfarming.org/tools/csf-growing-degree-day-calculator/

Video instructions on how to use the tool can be found here: http://climatesmartfarming.org/videos/csf-growing-degree-day-calculator-video-introduction-and-practical-usage/

While this tool was designed to estimate GDD accumulation from planting, you can simply enter in silking/ tasseling date in the planting date box and select 750-800 GDD's in the "enable target" tab to get an estimated date.

Harvest management plans for these two different forages should include:

- the identification of separate storage areas,
- determining the desired length of cut and the need for kernel processing based on what group of animals is likely to receive this feed, and
- identifying the inoculant that will work best for different dry matter (DM) forages

Separate Storage Areas

The ability to store these two different crops in different areas will be critical to being able to feed the right quality feed to the right group of animals. Properly mature corn silage is always valuable but will be at a premium this year and optimizing the value of this crop for lactating animals will be compromised if it is blended with immature silage. Immature silage can be a useful feed for non-lactating animals but presents some additional challenges in terms of storage, with increased potential for improper fermentation (increased spoilage) and excess leachate. If a farm is forced to put up wet silage, utilizing the available storage location with the best setup for managing leachate would be preferred.

- *Wet corn silage can be an environmental challenge* - Karl Czymmek, Peter Wright and Joe Lawrence: https://prodairy.cals.cornell.edu/sites/prodairy.cals.cornell.edu/files/shared/documents/Wet%20corn%20silage%20can%20be%20an%20environmental%20challenge.pdf

Harvest Strategies

For the portion of the crop that is expected to mature, follow standard harvest recommendations for target whole plant DM, length of cut and kernel processing.

- *Setting the Stage for Success: Corn Silage Harvest* - Joe Lawrence, Cornell PRO-DAIRY Ron Kuck, Cornell Cooperative Extension: https://prodairy.cals.cornell.edu/sites/prodairy.cals.cornell.edu/files/shared/Corn%20Silage%20Harvest.pdf
- *Harvest Strategies and Forage Quality Monitoring for Corn Silage* - Joe Lawrence, Cornell CALS PRO-DAIRY Margaret Quaassdorff, NWNY Cornell Cooperative Extension: https://prodairy.cals.cornell.edu/sites/prodairy.cals.cornell.edu/files/shared/documents/Corn%20Silage%20Harvest.pdf

For the portion of the crop harvested at an immature stage, adjustment to length of cut and kernel processing can affect both the use of the feed in a feeding program

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Corn Silage 2019: Two different crops

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and its potential to result in excess leachate. Generally it is suggested that this immature crop be chopped at a longer length of cut to achieve desired particle size and often kernel processing is not necessary. Both of these adjustments are also known to help reduce leachate.

- *Wet Forage Harvest* - Tom Kilcer, Advanced Ag Systems: http://advancedagsys.com/august-2019-wet-forage-harvest/
- *Management Considerations for Immature and Frosted Corn Silage* - Larry Chase, Cornell University: https://ecommons.cornell.edu/handle/1813/66869

Forage Preservation and Quality

Additionally, wet forage and the increased chance for improper fermentation can increase the risk of anti-quality factors such as yeast and mold that, even if the silage appears ok, can create problems when re-introduced to oxygen and mixed with other ration ingredients. This may affect animal health, palatability and stability of the ration when delivered to the cows. Separate storage of this forage will help reduce the chances of introducing these anti-quality factors into the higher value, properly matured, corn silage. Work with your nutritionist to monitor fermentation and forage hygiene.

Bacterial based inoculants and other preservatives can facilitate proper fermentation and are an important tool for achieving high quality forage; however, they will not fix every situation.

Bacterial inoculants rely on moisture to activate and work properly but often different inoculants are designed for different ranges of crop moisture. Consult with your supplier to determine which inoculant will work best in the case of wetter forages.

In the case of acid based preservatives, the excess moisture in wet forages will dilute out the acid which will result in the need for a higher application rate to achieve the desired drop in pH.

Digesting the Alphabet Soup of a Forage Analysis

by Nancy Glazier

At first glance, a forage analysis looks very confusing. Much information is provided to interpret the quality of your hay sample. Testing forages is critical for feeding to meet nutrient requirements, especially this year. If hay is poor quality, your cattle may not be able to eat enough to maintain their body condition.

I am hoping to review some of the key components to feed your beef cattle successfully, with some examples for feeding the cow herd. These explanations apply to any lab results, but I am working with analyses from Dairy One Forage Testing Lab for the purposes of this article.

Lab results are posted in two columns, As Fed and Dry Matter (DM). All forages have moisture in them so to be able to compare samples they need to be reported on a dry matter basis. If you plan on comparing two forages, such as hay and baleage, the same basis is needed, hence DM. All animals require protein and energy. Protein is reported in different ways: crude, available, adjusted crude, degradable. Crude protein (CP) represents total nitrogen in the forage, Non-Protein Nitrogen (NPN) and true protein; not all is available to the cow. Degradable protein (RDP) is utilized in the rumen by bacteria that are needed to ferment the forages. The bacteria are then digested in the small intestine to feed the cow. Rumen undegradable protein (RUP) or bypass protein will mostly pass through the rumen and be digested in the small intestine. Meeting the needs of RUP and RDP are most critical with growing cattle.

Energy value of the feed is often the most limiting nutrient available, though the value directly is not reported. For many feeding situations, especially beef cows, TDN value will be sufficient. Total Digestible Nutrients is the sum of digestible protein, digestible nonstructural carbohydrates, digestible NDF, and 2.25 times the digestible fat. TDN (as well as other components discussed) is reported as a percent of the DM.

Neutral Detergent Fiber (NDF) refers to the moderately digestible fiber that is contained in the cell walls. This includes hemicellulose, cellulose, lignin and ash. NDF concentration is negatively correlated with DM intake: the higher NDF, the less forage will be consumed. **Intake of NDF the forage is greater than 50%; intake will be 1% of body weight divided by NDF for beef cows.**

Remember these samples from last month? Sample on the left is Large Round Bales, one on the right is Small Square Bales.

Acid Detergent Fiber (ADF) is the least digestible component of the feed, the cell walls, primarily lignin. As with NDF, as ADF increases, digestibility decreases. So the conundrum is, higher quality hay will have higher intake, while lower quality hay will have lower intake.

Crude fat is energy rich as it provides 2.25 times the energy as carbohydrates. Forages usually do not contain much fat in our area, less than 5%.

I'll run a couple of examples using analyses I have feeding the cow herd this winter. This is the simplest scenario with the space allotted. In the first example, we will look at mid-gestation and assume they are heading into the winter with adequate body condition of 5.0-5.5 and will consume at least 2.2% of their body weight. If your cows average 1400 lbs or are frame size 8 they will need **13.1 lbs TDN and 1.9 lbs CP**. These requirements are from Feeding Beef Cows and Their Nursing Calves, a fact sheet in the Cornell Beef Production Reference Manual.

Each cow will eat (2.2% x 1400) 29 lbs of hay on a DM basis (31.3 lbs as fed). Our first analysis from the Small Square Bales showed **92.5% DM, 9.5% CP, 63% NDF, and 60% TDN**. By calculating requirements based on TDN: 0.60 x 29 = 17.4 lbs TDN. Since NDF is over 50% intake will be reduced to 24.4 lbs, ([1400 x 0.01)/0.63=14.6 lbs]) which is still above 13.1 lbs.

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Digesting the Alphabet Soup of a Forage Analysis

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To check for protein: 24.4 x 9.5 = 2.3 lbs CP, and also more than requirement.

The second sample for Large Round Bales was a bit lower quality: **94.2% DM, 9.3% CP, 66% NDF, and 53% TDN**. Using the same calculations this hay provides 11.2 lbs TDN and 2.0 lbs CP. Additional energy would need to be provided to meet the cows' needs for this hay.

These requirements are for cows in their thermoneutral zone. Hair coat condition, wind, mud, temperature, etc., all play a role in the herd's energy requirements, increasing TDN requirements.

I'll post Mike Baker, Beef Cattle Extension Specialist's article on Outwintering Beef Cattle along with some additional resources on our website (nwnyteam.cce.cornell.edu). This will include feeding growing cattle, which is a bit more involved. If you'd like, I can mail them to you, just let me know. Give me a call if you have questions.

Fall Crop Topics 2019 by Mike Stanyard

Marestail is Everywhere!!!

Unfortunately, there were lots of preventive planted fields that grew a heck of a crop of marestail this year. These fields should have never been allowed to grow to maturity and should have been sprayed, mowed, or plowed in any combination. Weed seed management is a cornerstone to management of these herbicide resistant weeds. This weed is now predominant in every county in NWNY. It's not just in fields but everywhere I look from along the guardrail on the thruway exit to the flower garden in my front yard.

The seed has been blowing and dispersing with the wind. A big concern right now is how much is going to end up in your wheat field. Marestail can act like a winter annual and germinate this fall right along with the wheat. This gives it a big head start in the spring and it gets tougher to control the bigger it gets. If there is an opportunity to spray for weeds this fall, and you have lots of marestail in your wheat, it may be worth it. Who knows what the spring weather will be like in 2020.

Our traditional winter annual weeds: chickweed, mustards, purple dead nettle and even wild garlic and corn chamomile have been controlled by Harmony Xtra. However, our marestail population is resistant to ALS chemistry herbicides. This means that Harmony Xtra will not be effective. So what can we use to take marestail out of the wheat?

Huskie received a 24c in NY last year for use in wheat for marestail control. Many states are recommending mixtures of Huskie or dicamba (2 - 4 oz.) with Harmony Xtra. This allows for full spectrum broadleaf control.

A sea of marestail in a prevented planting field (August 27, 2019)

I have been asked about the use of 2,4-D or dicamba on emerged wheat in the fall. I know that Dr. Mark Loux at Ohio State discourages application of 2,4-D to emerged wheat in the fall due to the risk of injury and yield reduction but found that fall applications of dicamba did not cause injury or yield loss in their research trials.

NY and US Corn Production down in 2019.

New York corn grain production is forecast at 78.5 million bushels, down 23 percent from last year. Based on conditions as of September 1, yields are expected to average 154 bushels per acre, down 5 bushels from 2018. Area harvested for corn grain is expected to decrease 21 percent to 510 thousand acres.

U.S. corn production is forecast at 13.8 billion bushels, down 4 percent from last year. Based on conditions as of September 1, yields are expected to average 168.2 bushels per acre, down 1.3 bushels from 2018. If realized, this will be the sixth highest yield on record for the United States. Area harvested for grain is forecast at 82 million acres, up less than 1 percent from last year. (Source: USDA, NASS, Northeastern Regional Field Office).

Estimating Corn Grain Yields

Believe it or not, there is some great looking corn out there! Here's how to do some rough estimates.

1. Count the number of harvestable ears in a length of row equal to 1/1000th of an acre. For 30-inch rows, this would be 17 ft. 5 in.
2. Then, on every 5th ear, count the number of kernel rows and number of kernels per row and determine the average. Do not include kernels that are less than half the size of normal sized kernels.
3. Yield (bu/ac) = (# of ears) x (avg. # rows) x (avg. # kernels) divided by 90. The value of 90 represents an average of 90,000 kernels in a 56 lb. bushel of corn. This number can be increased to 95 in years of smaller kernels or decreased to 85 in good years with larger kernels.
4. **Example: (24 ears) x (18 rows) x (30 kernels/row) / 90 = 144 bushels/acre**
5. Repeat this procedure in a couple of areas within the same field for better accuracy. This is truly an "estimate" and many references state that there can be a plus or minus 30 bushels from actual yields.

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Soybean Harvest Aids

There were some late planted woolly soybean fields that just didn't get the weeds controlled in a timely manner. There have also been questions about herbicide recommendations to help dry down soybeans to get wheat planted earlier. There are a couple products we can apply as harvest aids (Glyphosate, Gramoxone, Sharpen, Aim and Clarity) but it is usually only for weed control, not to speed up plant maturation. We can kill the soybean plants earlier but many of the herbicide label restrictions do not allow application until plants are fully mature. See article out of Michigan State for more details: https://www.canr.msu.edu/news/preharvest herbicide options for soybeans weeds may be an issue

As an example: Gramoxone can't be applied until 65% of the pods are brown or seed moisture is less than 30%. It also has a 15 day preharvest interval.

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

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October 2019

8 ***Beef Quality Assurance Transportation Training,*** Transportation Quality Assurance plays a critical role in the health and welfare of Cattle. This FREE training will be held 6:00pm - 9:00pm at Empire Livestock-Pavilion, 375 Lake Street, Pavilion, NY. RSVP to Katherin Brosnan at kbrosnan@nybeef.or or 315-339-6922. Event details are also available on the NWNY Team's website: https://nwnyteam.cce.cornell.edu

9 ***Sexual Harassment Training Needs to be Complete,*** All New York employers are required to complete this training. See page 8 for details.

19 ***Beef Quality Assurance Training*** **(BQA) Training,** 10am - 1pm, classroom portion held at: Yatesville Church, 1894 Yatesville Rd, Penn Yan, 14527. Chuteside portion held at: Glade Haven Farm, 3550 Old County Rd, Penn Yan. Dr. Suzanne Patterson, Eastview Veterinary Clinic. $15 per person or $25 per farm, includes morning refreshments and lunch. RSVP by October 16th to Brandie Waite at 585-343-3040 x138 or bls238@cornell.edu

25 ***Open House at Van Lieshout's Dairy,*** 10am - Noon, 4759 Oak Orchard Rd., Albion, NY 14411. Please Join us for a morning of presentations and tours at the Van Lieshout Dairy Farm. National Grid will highlight energy efficiency upgrades and resources available to NY Farmers and utilized by Val Leishouts to implement robotic milking. Learn how they also utilized the Cornell Dairy Farm Business Summary to evaluate their business and the Dairy Acceleration Program through Pro-Dairy to plan their facilities upgrade. Light refreshments will be served.

November 2019

9 ***BQA Training,*** 10am - 1pm at Strobel Farm, 3690 Coomer Rd., Newfane, NY 14108. Dr. Allen Fournier, Maplewood Veterinary Associates, P.C. $15 per person or $25 per farm, includes morning refreshments and lunch. RSVP by November 4th to Brandie Waite at 585-343-3040 x138 or bls238@cornell.edu

9 & 10 ***Small Ruminant Management and Fiber Conference,*** presented by the Cashmere Goat Assoc. & Cornell Sheep & Goat Program. Held at Morrison Hall, Cornell University, Ithaca, NY. Registration and schedule are available online at: https://www.eventbrite.com/e/2019-small-ruminant-management-and-fiber-conference-tickets-61240114832