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Orange County Agri-News

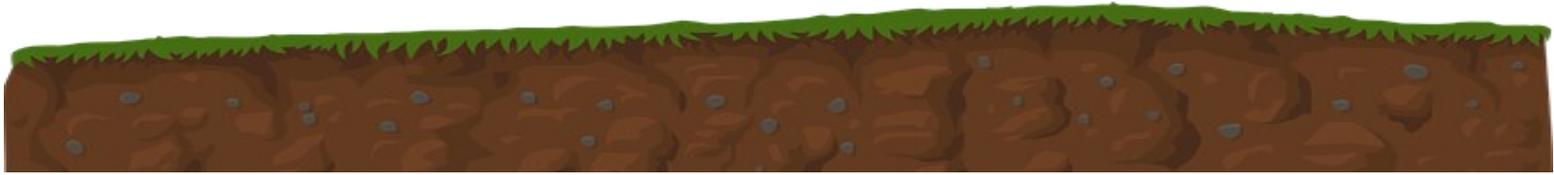
GET THE DIRT ON ORANGE COUNTY AGRICULTURE

June/July 2021



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Extension - Orange County



From the Office...

As we wrap up planting season, it's time to work on cleaning up your equipment and taking care of the quick fixes you made in the field. This newsletter features more cattle articles than grain, primarily because there's not a lot happening this year that's out of the ordinary - and that's a very good thing!! We'll gladly take it over the past few crazy years, right?

Like always, let me know if there are any programs you'd like to see. I'm working on a couple of Farm Stress related projects and getting some summer program ideas together. If you're needing PARP credits, keep an eye out for a mid-summer credit offering.

*Keep Growing,
Abby Heidenreich*



In the Works

Here are a few of the things going on around Orange County:.....

Timber Management- Purdue Extension – Orange County is proud to partner with the Indiana Department of Natural Resources to offer a Timber Management Workshop titled “Getting to know your forest” on Friday, June 4th from 8:30 am – 3pm at the Patoka Lake Nature Center CO RD 975 S Eckerty, IN 47116. This workshop is designed for landowners who are interested in learning more about their woodlands, whether they be residential or commercial, large or small. The cost to attend is \$25 and includes gate fees to Patoka Lake and a box lunch. Topics to be covered include tree identification, physiology of woods, basic timber management, timber harvests, invasive species, wildlife management and more. Speakers will present from 8:30 am until lunch, then participants will be outdoors practicing identifications and applying the information learned that morning. Participants should watch the weather and dress appropriately to be outdoors in the afternoon. Pre-Registration is required online at www.bit.ly/timber2021 or by calling the Extension Office at 812-723-7107 and press 3 for Abby Heidenreich. COVID-19 Safety plans will be followed and masks are required inside the Nature Center per the State of Indiana.

Harvest of the Month - Every month, Abby teaches a Harvest of the Month lesson either in person or virtually at all the elementary schools in Orange County. You can view the videos she made that go with the lessons on the Purdue Extension - Orange County YouTube Channel!

Orange County 4-H Fair: We are on track for a normal fair this year! July 9th-16th at the Orange County 4-H Fairgrounds you'll be able to see in person livestock shows, view projects and more! We look forward to seeing everyone at the 2021 fair!

Transition Planning: I'm working on putting together a program for farms that are hoping to pass down operations to next generations. I know of several in Orange County who would benefit from this type of thing so please start thinking about how you're going to approach keeping that farm in your family.

PARP - Abby is waiting until planting gets mostly finished up to offer another PARP class, but we will be having a few classes coming.

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If you can't tell by reading this page, *I want to hear from you!!*

Let's have a conversation about Orange County Agriculture. Call me at 812-723-7107 or stop by the Extension Office at 205 E Main Street in Paoli.

Quick and Easy Spaghetti Bolognese Recipe

Named after the rich cookery style of Bologna, Italy, Bolognese refers to dishes served with a thick, full-bodied meat and vegetable sauce, often enhanced with wine and milk or cream. The Italian term for this sauce is ragu Bolognese, or simply ragu. While we love the images of a cook standing over the stove for hours, stirring the family's secret recipe for Bolognese until it is just right, we have simplified the technique so you can create a tasty meal in under 30 minutes. Create a satisfying meat sauce by cooking Italian sausage, peppers, sweet onions and garlic, then add a quality jarred pasta sauce, such as Barilla or Classico. We know what you are thinking: Grandmother would never use a jarred sauce. But if she could taste this recipe, she may just give a nod of approval. Remember to reserve some pasta water when you boil the spaghetti noodles, because adding the starchy water to the meat sauce adds richness and creaminess. This recipe for Bolognese freezes beautifully, so think about making a pot or two and freezing in appropriate containers for a quick dinner or snack at a later date.

Active: 15 mins
Total: 25 mins

Yield: Serves 4 (serving size: about 1 1/2 cups pasta, about 1 1/4 cups sauce)



Orange-Glazed Chicken

If you're looking for a quick, easy, and delicious dinner, look no further! Although this orange-glazed chicken recipe looks impressive on the plate, it couldn't be easier. If you think you'll have to spend all day in the kitchen to cook this delicious chicken dinner, we're here to tell you you're wrong. This easy recipe only takes 20 minutes from beginning to end, so it's perfect to serve for dinner on busy weeknights. In addition to short prep time, this recipe also has a short ingredient list, most of which you probably already have on hand. Since the recipe is a little spicy as prepared, if you've got little ones or family members who would prefer their chicken without a kick, leave out the red pepper flakes for a sweeter glaze that highlights the citrus flavors. We recommend serving Lemon-Sautéed Green Beans as the side for this citrus dish and adding fresh lemon slices as a garnish.

Hands-On: 15 mins
Total: 15 mins

Yield: Serves 4 (serving size: 1 chicken cutlet)



Ingredients

- 1 tablespoon olive oil
- 1 pound sweet Italian sausage, casings removed
- 1/2 cup chopped sweet onion
- 1/2 cup chopped green bell pepper
- 2 garlic cloves, minced
- 1 (24 oz.) jar tomato and basil pasta sauce (such as Barilla or Classico)
- 1 teaspoon granulated sugar
- 1/2 teaspoon kosher salt
- 1/4 teaspoon black pepper
- 1 (16 oz.) package spaghetti or linguine noodles
- 2 tablespoons chopped fresh basil
- Shaved Parmesan cheese (optional)

Directions

- Step 1**
Heat oil in a large skillet over medium-high. Add sausage, onion, bell pepper, and garlic, and cook, stirring, until sausage is browned and vegetables are tender, 8 to 10 minutes.
- Step 2**
Stir in pasta sauce, sugar, salt, and black pepper; bring mixture to a boil over medium-high. Reduce heat to low; simmer 15 minutes.
- Step 3**
Cook pasta according to package directions, reserving 1/2 cup cooking water. Stir chopped basil into meat sauce. Stir in up to 1/2 cup reserved cooking water, adding 1/4 cup at a time, if needed, to reach desired consistency. Serve sauce over cooked spaghetti. Garnish with shaved Parmesan cheese, if desired.

Time-Saving Tip

Pasta is one of the quickest meals you can make, but there's an easy way to get it on the table even faster: When you're filling your stockpot from the tap, use very hot water to kickstart the boiling process. (Try this to speed up blanching or boiling vegetables too.)

Ingredients

- 4 (5 to 6-oz.) chicken cutlets
- 1/2 teaspoon kosher salt
- 1/4 teaspoon black pepper
- 1 tablespoon salted butter
- 1 tablespoon olive oil
- 1/2 cup orange marmalade
- 4 teaspoons Dijon mustard
- 1 teaspoon lemon zest, plus 2 tsp. fresh lemon juice
- 1/4 teaspoon red pepper flakes

Directions

- Step 1**
Preheat broiler. Sprinkle both sides of cutlets with salt and pepper. Melt butter with oil in a large ovenproof skillet over medium-high. Cook cutlets in butter mixture until lightly browned, 1 to 2 minutes on each side. Tilt pan; add marmalade and next 3 ingredients to drippings, and stir until combined. Spoon sauce over cutlets.
- Step 2**
Broil 8 inches from heat until chicken is glazed and cooked through, about 6 minutes, turning cutlets every minute and basting with pan sauce. Spoon sauce over chicken.

Hearty Spring Recipes



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Farmers Market

Farmers Market this week

Week one is under our belt and it was a perfect day. Lots of sunshine and awesome smiles. The market was full of new and returning vendors with even more expected this week. Everyone is invited to join us every Saturday from 8 am to 12 noon on "Beautiful Congress Square" in downtown Orleans. Our Buck a Book is open (Thank you Bob and Debbie Turner) with new to us titles. Every child is invited to pick out and keep a book each market day.

Every item available at our markets will always be handmade, home grown or home baked. There is never any "reselling" at our market. When you pay for your items, you are paying money to the person that grew, created or baked that item.

This week you can expect to see,

From our Home Kitchens, Fudge, peanut brittle, bagels, scones, jam, jelly, syrups (blackberry, strawberry, peach, shagbark hickory, elderberry), pies, cakes, breads, cookies, candies, donuts, turnovers. With more added weekly.

From our Farms and Home Gardens, Beets, broccoli, cabbage, eggs, dried flowers, plants and plant starts, lettuce, onions, radishes, rhubarb, snow peas, sugar snap peas, spinach, strawberries, gourds, microgreens kits, seeds, grass and grain fed beef, fresh flower arrangements, and much more.

From our Craft People, Walking sticks, fairy gardens, birdhouses, leather goods, rugs, tie dyed clothing, stationary, yarn, bags, painted items, tanned furs, fossils, rocks, beard care and shaving products, aprons, bibs (adult & kids), wind chimes, jewelry, bird feeders, gnomes, body butter, deodorant, candles, wooden signs, wooden spoons, goats milk soap, dog collars, heirloom quality wooden bowls and boxes, painted items, greeting cards, all natural soy candles, framed dried flower art, crochet and knitted items, baby blankets, hats, wreaths, pot holders, hot dish holders and more.

The Jammers were back on stage and filling the market with music. Everyone is welcome to bring a chair and join in or just sit and listen. They start around 9:30 or 10.

For up to the minute happenings in Orange County, visit the CVB Visitors Center in French Lick. You will always be greeted with a smile. Stop by or call 812-936-3418 for more information.

After shopping our awesome market, take a walk around town and visit the terrific business offerings available in Orleans. Word has it "Speakeasy Pizza" will be opening at 11 each Saturday.

Our markets are always glad to accept SNAP. See our Host Tent for details.

We always have room for new vendors and volunteers. If interested visit our website OrangeCountyHomeGrown.org or call 812-653-0977 for information.

Carpenter bees: What's that buzzing around your porch?

By: Elizabeth Barnes

Have you noticed large bees buzzing around your woodpile? Or maybe near your porch? There's a good chance you've encountered carpenter bees. Carpenter bees are large, solitary bees that people often notice in the spring when the bees build their nests. Female bees tunnel into wood using their strong mandibles. The entrance holes to these tunnels are typically about ½ inch wide (about the size of your pinky finger) and perfectly round (image 1). Each tunnel is outfitted with several cells that the females will stuff with pollen and lay a single egg in (image 2). Once the eggs hatch, the larval bees feed on the pollen until they are large enough to pupate and emerge as adults.

Carpenter bees only tunnel into dead wood. If you find a perfectly round hole in a living or recently living tree, you may have found evidence of the highly destructive invasive species Asian longhorned beetle. If you think you've found evidence of this beetle, please report it!

How do I know if I've seen a carpenter bee?

Bumble bees are often confused with carpenter bees. The quickest way to tell them apart is to look at their abdomens. Bumble bees typically have fuzzy abdomens (image 3 a) whereas carpenter bees have shiny, black abdomens (image 3 b). If you're still unsure if you've seen a carpenter bee, we suggest trying out the iNaturalist app or website. This project can help you to identify all sorts of organisms and your observation will be added to an international biodiversity project. You can also send a specimen to Purdue's Plant and Pest Diagnostic lab to be identified for a small fee.

Do they sting?

Seeing several large bees buzzing around your home can seem quite threatening but these bees are mostly harmless. Male bees can seem aggressive but can't sting. Females can sting, but they rarely do so. In most cases, they will only sting if held tightly in your hand or if you directly attack their nest. Male bees can be distinguished from female bees by the yellow square on their face.

How much damage do they cause?

The amount of damage that these bees cause varies widely between locations but, in most cases, the damage is relatively minor. Carpenter bees like to re-use the same tunnels year after year rather than building new ones. Once they've built a tunnel, they are unlikely to expand it further. However, in some cases, they can cause cosmetic or structural issues. The tunnels can also allow moisture to get into the wood and cause further damage. In addition, woodpeckers occasionally enlarge carpenter bees' tunnels to eat the larvae inside.

How can I protect my property?

The best way to protect your property is to discourage the bees from nesting where you don't want them in the first place. Carpenter bees prefer unpainted, soft wood and will generally avoid painted wood, pressure treated wood, and hard woods. Taking preemptive measures like painting wood or using hardwood in construction can discourage the bees from tunneling into areas you don't want them. However, this will not always guarantee protection. We have outlined further treatment methods using a combination of insecticides and filling in the bee's tunnels in our bulletin on Carpenter Bees.

Do they have positive impacts?

Carpenter bees, like many native solitary bees, are excellent and important pollinators. If you have a garden or flowering tree, you might have these bees to thank for some of your harvest!



IMAGE 1: Carpenter bee entrance holes are distinctive because they are perfectly round and about the size of your pinky finger. Photo by David L. Clement, University of Maryland.



IMAGE 2: Carpenter bees section off their tunnels into chambers. Each chamber is filled with pollen and a single egg. Photo by USDA Forest Service, Wood Products Insect Lab.



IMAGE 3: Carpenter bees are often confused with bumble bees. You can tell them apart by looking at their abdomens: bumble bees typically have fuzzy abdomens (a) and carpenter bees have black, shiny abdomens (b). Photos by David Cappaert and Ansel Oommen.



Reader's Digest—

Profiting on Cull Cattle



Dean Kreager, Ohio State University Extension Agriculture and Natural Resources Educator, Licking County (originally published in Ohio Farmer on-line)

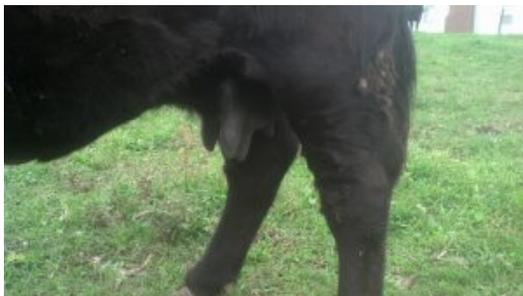
As cattle producers we often look at ways to improve our bottom line. Where can we profit the most from our production? Is it from sales of feeder calves, breeding stock, finished cattle, freezer beef or some combination? This decision may change from year to year based on economic conditions, feed availability, and facilities.

One type of sale that sometimes gets overlooked is the sale of cull animals. National studies estimate the value of these sales amounts to 15 – 30% of the revenue for beef farms. These culls make up 20% of the beef consumed. Considering the value and importance of these animals to the supply chain we should look at ways that we can manage them to increase our profits.

There are many reasons for culling animals. Physical problems, poor performance, age, reproduction, and falling outside of a calving window are all common reasons. These reasons can have a big impact on how and when we cull these individuals with the goal of receiving the highest income. Research out of the University of Tennessee demonstrated that while a cow may be 4 or 5 years old when it reaches its breakeven point, missing 1 calf can increase that by 2-3 years and if they miss 2 calves they may not break even in their lifetime. Culling those cows that miss a calf often is your best decision.

There are 2 important factors that go into the price you receive for those cull animals. The first is the time of year when the animal is being sold and the second is the body condition of the animal.

Many years of market price evaluations have revealed rather consistent trends. Typically cull cow prices begin to rise in January, peak in March and remain relatively constant until August. From August until October they drop, and then remain steady until January when they begin to rise again. Of course, these are averages and any individual animal can fall outside of this pattern. Following these trends we would usually like to market culls between February and August. While this fits the schedule for fall calving herds it is not such a good fit for most people with spring calving herds.



Teat or udder problems are just one reason for considering culling a cow. Hoof or leg issues are another reason to consider culling.



The second factor affecting price is body condition score (BCS). Cull cows are divided into 3 categories of marketing classes. Breakers are those with a BCS above 7. Boners fall into the 5-7 BCS range, while leans and lights have a BCS of 1-4. The lights are the very small, light muscled individuals. The dressing percentage and carcass quality grade also factor into the price. Several years of observations have shown that breakers do not bring more than boners so feeding culls beyond a 7 BCS will probably not improve profits. Breakers and boners typically earn 4-5% over leans while lights bring 16% less than leans.

Given this information, in an ideal world we would like to sell all our cull animals during the season high and have them at a body condition score above 5. With spring calving herds, the problem is that we are weaning calves when the cows are both at their lowest BCS and at the seasonal low in price. The positive is this can play into your favor if you can find a way to put those cows on feed for a little while. Thin healthy cows can have good feed conversion and compensatory gain. On top of the increased price from weight gain, you will likely receive a higher price due to seasonal variation. Research in South Dakota showed that keeping thin cull animals on corn stalks and a supplement for 70 days, from November 15th to February 1st, resulted in an extra income over expenses of \$125 per head in 2019. This capitalized on both increased value from weight gain and improvement in price by seasonal variation.

Not all culls should be put on feed. Cows with chronic physical conditions may get worse with time. Those animals should be marketed as soon as possible. Cows with a high BCS will probably cost more to feed than any price increase that may come from seasonal variations. There likely is not an advantage of additional gain on these animals. Finally, if you are in a seasonal high for the market, such as in July, additional feed costs of keeping culls for another 70-90 days and selling at a seasonal low probably would not make sense.

A final consideration for increasing the value of cull cows is to breed and market good young cows that fall outside of your calving window. These bred cattle that may fall into someone else's calving window. The value of good quality, young, bred cows would also provide a premium over normal slaughter prices. Finding individuals that have a use for these cows could be worth the effort when they would otherwise have become routine culls.



Depending on available feed resources, and their values, net cull value can often be added by feeding to a BCS of 5 or 6.

Want to learn more? Contact Abby at the Extension office! 812-723-7107

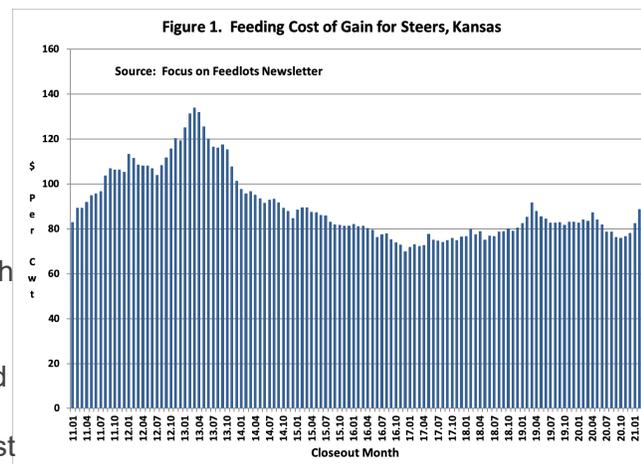
Impact Of Higher Corn Prices On Feeding Cost Of Gain For Cattle Finishing

by Michael Langemeier

Corn price futures for the July 2021 contract (December 2021 contract) increased from \$4.68 per bushel (\$4.31 per bushel) in early January to \$6.56 (\$5.57) for the week ending April 30. Moreover, using the iFarm price distribution tool there was a 25 percent chance on May 4 that the expiration price for the December corn futures contract will be below \$4.50 per bushel and a 25 percent chance that price will be above \$6.50. Given that the U.S. stocks to use ratio is currently only 9.2 percent and continued questions related to U.S. corn acreage in 2021, there is tremendous uncertainty regarding corn prices for the rest of this year. To address this uncertainty, this article examines the impact of relatively high corn prices on feeding cost of gain for cattle finishing.

Feeding Cost Of Gain - Feeding cost of gain is sensitive to changes in feed conversions, corn prices, and alfalfa prices. Information on these items are available from monthly issues of the Focus on Feedlots newsletter. Figure 1 illustrates feeding cost of gain from January 2011 to February 2021. In February 2021, corn and alfalfa inventory prices were \$5.69 per bushel and \$167 per ton, respectively. After averaging \$80.50 per cwt. in 2020, feeding cost of gain for January and February was \$82.30 and \$88.60, respectively. The estimated feeding cost of gain in the February issue of Focus on Feedlots for placements in February was \$103 per cwt. It is important to note that since this estimate was made corn prices have continued to increase.

Feeding of gain for the rest of 2021 was estimated using early May projections of corn and alfalfa prices, and seasonal average feed conversions. Because feeding cost of gain is computed using corn prices from the time cattle are placed to the time they are sold, the relatively high corn prices we are currently experiencing will impact feeding cost of gain for the next several months. In other words, even though corn prices are expected to decline this fall, feeding cost of gain will remain relatively high through at least the third quarter of 2021. With this in mind, feeding cost of gain for the second quarter of 2021 is expected to range from \$93 to \$98 per cwt., with the higher cost occurring in June. For the third quarter, feeding cost of gain is expected to range from \$102 to \$105 per cwt. Feeding cost of gain for the fourth quarter is expected to range from \$101 to \$104 per cwt., with the highest cost occurring in July. If these feeding costs are realized, they will represent the highest feeding cost of gain since the fourth quarter of 2013.



Sensitivity Of Feeding Cost Of Gain To Changes In Corn Prices - To determine the sensitivity of feeding cost of gain to changes in corn prices, alfalfa prices, and feed conversion, a regression using data for the last ten years was estimated. Results are as follows: each 0.10 increase in feed conversion increases feeding cost of gain by \$1.20 per cwt., each \$0.10 per bushel increase in corn prices increases feeding cost of gain by \$0.88 per cwt., and each \$5 per ton increase in alfalfa prices increases feeding cost of gain by \$0.45 per cwt. To more fully understand the impact of feed conversion, corn price, and alfalfa price on feeding cost of gain, we computed coefficients of separate determination (Langemeier et al., 1992). These coefficients can be used to measure the influence of each independent variable upon the dependent variable. The sum of the coefficients of separate determination for each variable equals the R-square goodness of fit measure, which was 0.976 for the feeding cost of gain regression. This goodness of fit statistic indicates that 97.6 percent of the variation in feeding cost of gain was explained by fluctuations in feed conversions, corn prices, and alfalfa prices. Computed coefficients of separate determination indicated that corn price explained approximately 79 percent of the variation in feeding cost of gain. As noted above, there is currently a \$2 per bushel difference between the December corn futures price at expiration at the lower and upper 25 percentiles. The projections above used the middle range of corn prices. For example, the average corn price for July closeouts was projected to be \$6.45. If corn price was \$1 lower, feeding cost of gain would be \$93.10 rather than \$101.90. In contrast, if corn was \$1 higher, feeding cost of gain would be \$110.70 rather than \$101.90.

Summary And Conclusions - Corn prices have increased steadily so far this year and are expected to be quite volatile for the rest of the year. This article examined the impact of higher corn prices on feeding cost of gain for cattle finishing. Using projected corn prices, feeding cost of gain is expected to peak in the third quarter at approximately \$103.50. However, each \$0.10 increase in corn price results in an increase in feeding cost of gain of \$0.88 per cwt. If corn prices are \$1 higher than projected prices, which is certainly possible in today's environment, feeding cost of gain would be approximately \$111 in the third quarter of 2021.

Corn Growth Stages and Postemergence Herbicides – Size IS Important

Aaron Hager
Department of Crop Sciences
University of Illinois

The labels of most postemergence corn herbicides allow applications at various crop growth stages, but almost all product labels indicate a maximum growth stage beyond which broadcast applications should not be made, and a few even a state minimum growth stage before which applications should not be made. These growth stages are usually indicated as a particular plant height or leaf stage; sometimes both of these are listed. For product labels that indicate a specific corn height and growth state, be sure to follow the more restrictive of the two. Application restrictions exist for several reasons, but of particular importance is the increased likelihood of crop injury if applications are made outside a specified growth stage or range.

Corn plant height is commonly used on many herbicide labels but plant height may not always provide an accurate indication of the plant's true physiological maturity. Determining plant height may seem relatively straightforward, but using different benchmarks for measurement can lead to different plant heights. Generally, corn plant height is determined by measuring from the soil surface to the arch of the uppermost leaf that is at least 50% emerged from the whorl. Be sure to measure several plants in a given field and average the numbers. Plant height is obviously influenced by many factors, including genetics and the growing environment. Adverse environmental conditions, such as cool air/soil temperatures, hail, etc., can greatly retard plant height and result in corn plants that are physiologically older than their height suggests.

Many agronomists agree that leaf number is a more accurate measurement of corn developmental stage. Counting leaves and counting leaf collars are the two primary techniques used. Leaf counting begins with the short first leaf (the one with a rounded tip) and ends with the leaf that is at least 40–50% emerged from the whorl. Counting leaf collars also begins with the short first leaf, but includes only leaves with a visible collar (the light-colored band where the leaf joins the stem). Leaves in the whorl or those without a fully developed collar are not counted. The leaf collar method quite often stages a corn plant at one leaf less than the leaf counting method.

Adverse environmental conditions, such as one or more frost events, can sometimes result in corn plants that are physiologically older than their height would suggest, so be sure to accurately assess plant developmental stage (i.e., leaf/collar number) in addition to plant height before applying any postemergence herbicide. When counting leaves or leaf collars, be sure to account for leaves that might have been lost from the plant after a frost or hail storm. If you believe one or more corn leaves has been lost due to frost but are uncertain the actual number lost, it's advisable to error on the high side (i.e., assume more leaves) than the low side since potential for corn injury generally increases as plants become more mature. If a second postemergence application will be made later in the season, don't forget to include leaves that might have been lost earlier in the season.

Close Grazing, Close Mowing And Grazing/Mowing Too Often Makes A Forage Stand Weak

By: Keith Johnson

The 2021 grazing season has recently started and hay harvest is going to begin soon. As the pasture gets grazed and the forage growing in the field is mown, make sure to evaluate grazing and cutting height so perennial plants have better persistence.

A few years ago, I was called out to several pastures being grazed by horses to give recommendations regarding the improvement of the forages in the pastures. These are pastures that I travel by often. On any given day of the year my observations had been that the pastures looked more like a golf course putting green than a pasture for livestock. My first recommendation to the owner didn't include soil fertility, weed control or improved forage species. The recommendation I did provide was to reduce the number of horses being grazed or to buy more land. In other words, reduce the stocking rate so overgrazing would be avoided.

Another common happening is to start a pasture with higher yielding forages like alfalfa, orchardgrass, and red clover and over the course of many years the stand transitions to Kentucky bluegrass, white dutch clover and weeds. Why does this occur? Over grazing reduces the growth and development of the improved forages because meristems, where growth and development begins, find their way to the mouth of the close-grazing livestock and never have a chance to differentiate into leaves and stems. This is especially a concern when pastures are continuously grazed. Preferably, pastures would be broken into paddocks so rotational grazing can occur. Plants within a paddock would preferably be grazed to no less than a 4-inch height and then livestock would move on to the next paddock where more growth exists. This provides necessary rest within the recently grazed paddock so plant vigor is improved. Kentucky bluegrass and white dutch clover meristems are so close to the soil surface that they can avoid being damaged by continuous close grazing. Similarly, a Kentucky bluegrass lawn can be mowed often at a three-inch height without loss of turf quality but the objectives are much different than when grazed by livestock. Kentucky bluegrass may persist better than many other forages when closely grazed, but it is not very drought tolerant and doesn't have the carrying capacity of higher yielding forage options. Likewise, Kentucky bluegrass isn't as productive when continuously closely grazed as compared to being in a properly stocked rotational grazing system.

Close grazing and mowing, as well as a hay harvest interval that is too short, essentially starves the plant. By removing too many leaves too often, photosynthesis can't occur in the time frame needed to keep a plant vigorous. Photosynthesis is the process in the plant factory, specifically located in the chloroplasts, that ultimately results in the transport of sucrose through the phloem, an internal plumbing network, to locations in the plant where energy is needed for respiration, growth or storage.

There have been many reports of orchardgrass decline after harvest of alfalfa-orchardgrass mixtures. Alfalfa meristems within crown buds are located very close to ground level. Alfalfa meristems avoid being harvested with a mower, even if cutting at a 2-inch height.



Orchardgrass tillers, on the other hand, have elevated stem bases that are the storage organs where carbohydrates are stored and necessary to initiate regrowth. To illustrate the concern over scalping orchardgrass, two orchardgrass plants were clipped at 4 inches or ½ inch on July 6. I came back to monitor regrowth of the same plants on July 9 and 13. As the pictures aptly show [above], the scalping of orchardgrass is a deleterious practice as compared to cutting at the 4-inch height. As you manage pastures and hay fields, remember to avoid overgrazing and cutting too low so the forage has great persistence for many years.

Tips on Hay Storage

Tips on Hay Storage

by Dwain Meyer, North Dakota State University and Krishona Martinson, University of Minnesota

High-quality hay is presently selling at record prices throughout the United States and in most upper midwestern states. These high prices are great for the cash hay producer, but not for the hay buyer. Therefore, with high hay prices, paying additional attention to storage will either increase the price received or reduce the need for purchasing high-quality hay by reducing the losses in storage.

The best method to reduce losses is to store hay under cover. If indoor storage facilities are available, storage losses can be reduced 10-35% depending on the amount of precipitation, site location, and condition of the bale. If storage losses can be reduced by 25%, the value of the hay saved in a building with a 20-year lifespan would allow an investment of about \$15/ft² or about \$250/ton of storage space.

Storage barns need maintenance to protect the hay. Patch or replace leaky roofs, animal proof enclosed storage areas, plug rodent holes with steel wool or rat-wire mesh, and attempt to deter larger wildlife, such as raccoons, from moving in during winter months by covering openings near the ground. Not only do these animals produce waste, but they can also chew through twine, making a mess out of the hay storage area.

Buildings that are entirely enclosed need some form of ventilation to remove the moisture given off during the normal sweating process that all hay must undergo. A properly sized vent fan should prevent the accumulation of moisture and potential deterioration of properly dried hay. Pole barns with only a roof are cheaper to construct and provide fair protection from rainfall, but snow may accumulate on the top of the bales, melt, and cause deterioration if unprotected.

Bales that are stacked outside should have a temporary cover for the duration of the storage. The outer 4" layer of a 6' round bale contains 25% of the total volume and will likely be weather-damaged if stored improperly. Consider placing a plastic cover over outside hay piles. Tarps are not cheap, but the hay saved by tarping easily pays for their cost, especially with high-priced hay. Use care to adequately secure the tarp, and check frequently, making adjustments if necessary to ensure it is secure. Some types of tarps can be used for multiple years, which increases cost-effectiveness.

Sites for bales stored outside need to be selected carefully. Most losses that occur during storage take place on the bottom of the bales where moisture levels remain high and air movement is low. The following are storage techniques that help to minimize outdoor storage loss:

- **Store hay on pallets.** Hay bales stored on wet ground can take on moisture, leading to early deterioration and as much as 50% spoilage. Pallets can help prevent the bales from "wicking-up" moisture and encourage air circulation beneath the bales. Pallets can also be used for indoor storage to prevent moisture uptake on concrete floors that sweat during the spring and fall. An alternative is to develop a hay lot on a sandy soil site or use a 4-6" crushed rock base to help prevent moisture uptake and twine deterioration.
- **Use plastic or net wraps.** Wraps can reduce storage losses by 5-10% depending on the amount of rainfall. Be sure bales are properly formed and are tight to reduce bale sag that increases the amount of the bale contacting the ground. If twine is used, space no more than 6-10" apart and wind tight to prevent sag. Tight bales also form more dense surface layers that will shed more rainfall.
- **Never store round bales in pyramids unless covered or stored indoors.** Water shed off the top row of bales tends to enter the second level at the point of contact, increasing bale deterioration. Single-rows with bales end-to-end is the preferred method for round bale storage, but this increases contact with the soil. A gently sloping site with southern exposure is preferred to maximize solar drying and drainage. Turning the bale on end with one on top is also used to prevent twine deterioration, but this increases the contact with the soil and rain shed from the top may enter the exposed end of the lower bale.
- **Stack bales for air circulation.** Large square bales should have a 4-6" gap between bales to increase air circulation for both indoor and outdoor storage and allows for the natural hay sweating process. Place the bottom layer of small square bales on their sides so the uneven, non-stringed surface rests on the floor (if pallets are not used) to aid air circulation throughout the stack. Leave space between the bales in each row and alternate the orientation of successive layers so bales are at right angles with layers above and below. This pattern "ties" the stack together, while also keeping bales from packing together too tightly. Rows of large round bales should be separated by 3-4' to aid air circulation. Reduced storage losses means less purchased hay or more hay to sell in this high-priced period for hay.

Foliar Diseases of Alfalfa

BY: DARCY TELENKO AND KEITH JOHNSON

We have received a number of calls about leaf spots occurring in alfalfa. Many of the common foliar diseases of alfalfa are favored by the high moisture conditions this season in Indiana. These include common leaf spot (figures 1 and 2), *Stemphylium* leaf spot (figure 3), *Leptosphaerulina* leaf spot (or Lepto leaf spot) (figure 4), and downy mildew (figure 5). All these leaf spots can lead to defoliation, and reduce vigor, hay quality, and yield.

Below is a brief overview of each of these leaf diseases and the characteristic symptoms used for diagnosis. If you have questions about these, the Purdue Plant Pest Diagnostic Lab can provide a formal confirmation to assist with future management decisions, such as variety choice.

Common leaf spot (*Pseudopeziza medicaginis*): Symptoms of this disease include small, circular brown to black spots that develop on the leaflets (Figure 1). Fully developed lesions may reach 1-3 mm (Figure 2) but in general do not coalesce. On the upper surface within the lesion you may be able to observe the fungal fruiting body (pseudoapothecium) which would appear light brown, raised and as large as 1 mm in diameter. Infected leaves will eventually turn yellow and drop as the disease progresses.

***Stemphylium* leaf spot (*Stemphylium* spp.):** Symptoms of *Stemphylium* leaf spot include oval light brown lesion with a dark brown border, which may often be surrounded by a light yellow halo. The lesions may expand and form concentric rings.

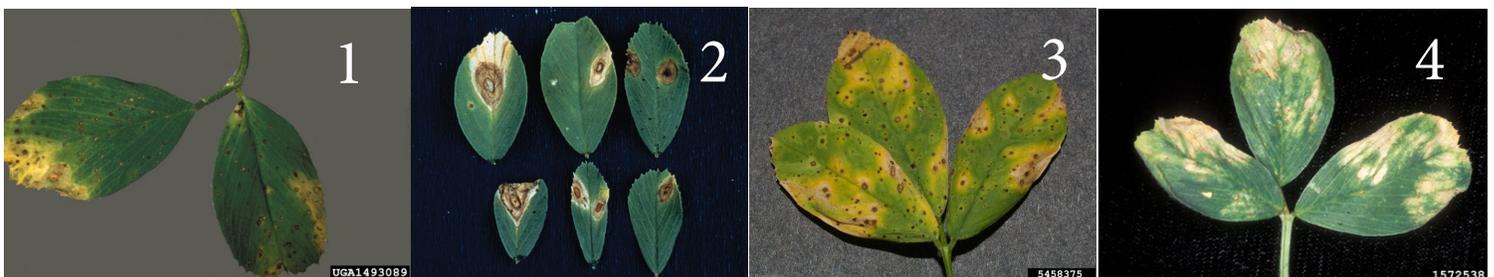
***Leptosphaerulina* (Lepto) Leaf Spot (*Leptosphaerulina briosiana*):** Young leaves are most prone to *Leptosphaerulina* leaf spot. Symptoms will often start as small, black spots and may remain as a “pepper spots” or they may enlarge to form an “eyespot.” The larger eyespots may be oval to elliptical with light brown to tan centers and darker brown borders. A halo might also form around the lesion. Favorable environmental conditions can promote infection and disease development that can lead to loss of leaflets and possible stunting of stems. Resistance cultivars are not available, but some may show reduced leaf loss as compared to others.

Downy mildew (*Peronospora triflorum*): Downy mildew infection is characterized by chlorotic tissues. A localized infection will cause chlorotic tissue on leaves or shoots. Systemic infection can cause a bunchy rosette-type growth at plant apex. White to pale purple fungal growth can occur on the lower leaf surface of the leaves. Cultivars with resistance are available.

Management options:

Moderate and resistant varieties are available for common leaf spot and downy mildew; low to moderate for *Stemphylium*. For all leaf spots, Do not delay harvest.

Harvesting the diseased tissue before leaf drop will help 1. remove inoculum from the field, 2. remove the younger, more susceptible leaves, and 3. open up the canopy to reducing the relative humidity and slow the disease cycle. There are several fungicides labelled to use in alfalfa, but the economics of applying a fungicide may be inhibitory. See link below for a publication that describes the breakeven scenarios and probability of recovering fungicide costs by Smith, et al. 2015. Using Fungicides on Alfalfa for Dairy Production in Wisconsin. <https://learningstore.uwex.edu/Assets/pdfs/A4090.pdf> Additional information: Frate and Davis. 2008. Alfalfa Diseases and Management. https://alfalfa.ucdavis.edu/IrrigatedAlfalfa/pdfs/UCAlfalfa8296Disease_free.pdf



Upcoming Events

June 4th - Timber Management Workshop

SEE FLYER

June 12th - Cattlemen Annual Meeting

June 24th - Master Gardener Meeting

July 9-16th - Orange County 4-H Fair

SEE FLYER



Master Gardener News

Upcoming Meetings:

June 24th—6:30pm

@Orange County Community Center

July 29th—6:30pm

@Orange County Community Center

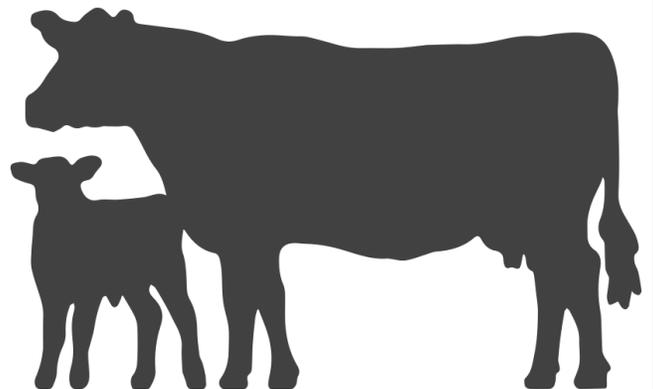
Cattlemen News

Upcoming Meetings:

June 12th 2021 - Annual Meeting

More Info In Next Newsletter

If you are a beef producer in Orange County, please join the Cattlmen!



Flyers and Info



2021 Orange Co. 4-H Fair

July 10th, Saturday

- 9:00 am- Horse and Pony Show
- 1:00 pm- Poultry Show
- 6:00 pm- Rabbit Show

July 11th, Sunday

- 9:30 am- Orange Co. Born & Raised Swine, Breeding Gilts
- 2:00 pm- Orange Co. Born & Raised Goat, Goat Show
- 2:00 pm- Open Quilt Show Judging

July 12th, Monday

- 4:00 pm- Swine Showmanship
- 5:00 pm- Market Swine Show

July 13th, Tuesday

- 5:00 pm - Dairy Show
- 6:00 pm- Horse & Pony Gaming
- 7:00 pm- Beef Show, Beef Showmanship

July 14th, Wednesday

- 9:30 am- Small Animal Show
- 11:00 am- Cat Show
- 6:00 pm- Sheep

July 15th, Thursday

- 5:00 pm- Country Born & Raised Beef
- 7:00 pm- Master Showmanship

July 16th, Friday

- 10:00 am- 10 Year & Senior Member Recognition
- 10:30 am- Livestock Auction

July 17th, Saturday

- 7:00 pm- Demo Derby

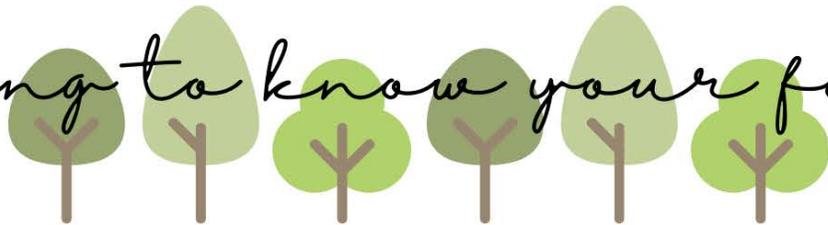
4-H Exhibits and Commercial Exhibits open **5 pm- 9 pm** during **July 10th-15th**



Flyers and Info

TIMBER MANAGEMENT WORKSHOP FOR LANDOWNERS

getting to know your forest



FRIDAY, JUNE 4TH 2021 - PATOKA LAKE NATURE CENTER - 8:30AM TO 3PM

TOPICS DESIGNED FOR LANDOWNERS OF ALL KINDS
WANTING TO LEARN MORE ABOUT THEIR CURRENT
TIMBER STANDS AND HOW TO MAKE IMPROVEMENTS.



- TREE IDENTIFICATION
- PHYSIOLOGY OF WOODS
- BASIC TIMBER MANAGEMENT
- TIMBER HARVEST
- TIMBER STAND IMPROVEMENT
- INVASIVE SPECIES

8:30 AM - NOON: PRESENTATIONS

NOON - 1PM: LUNCH

1PM - 3PM: OUTSIDE APPLICATIONS

PLEASE DRESS ACCORDING TO WEATHER, WE WILL BE
OUTSIDE FOR THE AFTERNOON PORTION OF THIS
PROGRAM.

\$25 PER PERSON
INCLUDES BOX
LUNCH AND GATE
FEE

PATOKA LAKE
NATURE CENTER
CO RD 975 S,
ECKERTY, IN 47116



Extension - Orange County



REGISTER AT

[HTTPS://BIT.LY/TIMBER2021](https://bit.ly/timber2021)

OR CALL 812-723-7107

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- 1. In the Works
- 2. Hearty Spring Recipes
- 3. Farmers Market
- 4. Carpenter Bees
- 5-6. Profiting on Cull Cattle
- 7. Impact of corn prices on feed
- 8. Corn Emergence
- 9. Close Grazing
- 10. Upcoming Events & Flyers

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Orange County Agri-News

June/July 2021

Extension - Orange County



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