PURDUE UNIVERSITY | Extension - Fulton County

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AGLINE

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Since March there are so many new things that are computer driven and Purdue Extension-Fulton County does have a Facebook page. You can go to this site to find out current happenings: : https://www.facebook.com/Purdue.Extension.Fulton/

This also where we can keep you up to date on upcoming meetings and programs.

We also try to keep you informed at our website: http://www.ag.purdue.edu/counties/fulton/pages/default.aspx

Inside this issue of Agline you will find some information about PARP. Tar Spot in Corn which can cause yield loss. Recent articles I have written about including my observations as a boy growing up on a farm in Cow Paths, Starlings around the dairy barn, Livestock Hair, where I discuss the winter hair coat on animals, and Animal Handling

I have included information on how you can watch videos for timely beef production management tips, at www.Beef Monthly.com

I have also listed the website, https://ag.purdue.edu/commercialag

Which has information and programs to update current farm market trends .

Weather

In the months of June and early July we have had less rain and more heat. This has not been a good scenario for corn. We have had a lot of stressed and rolled corn. Bob Neilson, Purdue Corn Specialist says: "young corn plants rolling their leaves in response to the leaf stomates closing as the plants try to slow transpiration of moisture through the plants. While the reduction in transpiration can be initially beneficial to the stressed plant, the closed stomates also result in less carbon dioxide being taken in by the leaves and this contributes to a reduction in photosynthesis (translation: "not good").

The impact of the leaf rolling and the associated reduction in photosynthesis takes its toll on young corn plants by either stunting eventual plant development (shorter plants, smaller leaves) or restricting ear size potential (ovule formation during the rapid growth period).

So, potential grain yield reduction due to early season dryness can result from (1) outright loss of plant population due to death, (2) loss of potential kernel numbers before pollination (i.e., ovule formation), and/or (3) & (4) loss of surviving kernels after pollination (i.e., abortion of young kernels) or decreased kernel weight during grain fill due to smaller plants (smaller "factories") and inadequate photosynthetic "output"."

I do not see hope for any big yields this year as we have lost yield potential but there is always the field that did better than expected. Like summer rains they have been mostly spotty. The past month the USDA had us in the first level of their drought index at Abnormally Dry.

Another index is Stress Degree Days. There are various ways in which to calculate Stress Degree Days. However, a very simplified approach is to calculate the difference between the daily maximum temperature and the peak optimum temperature for that plant. For example, non-irrigated corn's optimum maximum temperature is 86° F. If the daily maximum temperature on a particular day is 92°F, then 6 modified SDD have been accumulated for that day. When the SDD (Stress Degree Day based on temperature exceeding 86°F) total exceeds 140 it is tough to find corn yield above trend" (Taylor 2012). At last look a strip of Fulton, Marshall, Miami and St. Joseph counties were in the 25 to 50 degrees above normal area. Parts of Wabash were in the next higher category over 50.

Virtual PARP Opportunity-August 20, 2020
Pesticide Applicator News

Because of the few in person meetings it is getting difficult to get Pesticide License credits. All of Purdue's statewide field days this year will not be in person but virtual on the computer. There will be several of these throughout the state but the one that I have information on now is the Northeast Purdue Agricultural Center (NEPAC) near Columbia City, on August 20. Register prior to August 20. This is the link for their program and I have some of the information below. https://extension.purdue.edu/Whitley/article/37423

They will have pesticide (PARP) credits available but because we have to pay a third party for registration the cost is $15.

This is that meeting agenda:

8:00 – 8:30 Participants and speakers logon (see above link for instructions)

8:30 – 8:35 Introductory remarks/instructions -John Woodmansee, Extension Educator, Whitley Co.

8:35 – 9:00 Successful Transitions: Considerations in Transitioning Acreage to Certified Organic Grain Production-Michael O'Donnell, Extension Educator, Organic and Diversified Agriculture

9:00 – 9:05 Sponsor remarks

9:05 – 9:30 Cover Crops and Nitrogen Management for Optimum Corn Production -Shalamar Armstrong, Purdue Agronomy

9:30-9:35 Sponsor remarks

9:35 – 10:00 Weed Control Update-William Johnson, Purdue Extension weed specialist

10:00 – 10:05 Sponsor remarks

10:05 – 10:30 Soybean Update-Shaun Casteel, Agronomy Dept., Purdue University

10:30 – 10:45 Driftwatch-Steve Engleking and Ann Kline, Extension Educators, LaGrange and Noble Counties (respectively)

10:45-10:55 Unmanned Aerial Vehicles update- Purdue Quad Squad

10:55 – 11:00 NEPAC Staff Comments & Wrap-up-Stephen Boyer, NEPAC Farm, Ed Farris, Extension Educator, Huntington Co.

Cow Paths Mark Kepler Ag/NR Educator

If I had to do it all over again I think I would have become an animal psychologist. The animal sciences were more about physical science than mental in the 1970's when I was going to college. But that was soon to change, I remember going to the Midwest Association of Animal Scientist meetings as a graduate student in the early 80's and listening to another graduate student, Temple Grandin give a presentation on animal behavior. Today Temple is a well renown professor of animal behavior.

Just by chance, at one of the social gatherings there, I began a conversation with a person that was her major professor at the University of Illinois, Stanley Curtis. He, as it turned out, is a Culver High School graduate and farm boy, just like me. He was the valedictorian but I didn't fair that well. Stan researched farm-animal environmental physiology, behavior and care. At one time he did work in the Dairy area.

As a boy growing up on a dairy farm, I had every dairy farm child's job of bringing the cattle in from the pasture for milking. It was never a difficult job, those cows knew there was grain awaiting them in the barn and relief from their tightening udders. After getting the cows started, their trip eventually would lead to the well-worn cow path that meandered its way to the barn. Just like a river where small streams would eventually join to make the main channel; cow paths would form at various spots in the field and converge onto the main path. Eventually the cows, one by one would follow each other down that path. That path was a part of their "creature of habit" mentality, just as the fact is that the cows would also go right into their own stalls in the barn.

The cows grazed in a pasture field of grass. What kind? As a small boy I did not know of orchardgrass and bluegrass and that field was never renovated, fertilized or improved, so it was just grass. Dairy cows in the 1960's produced an average of 35 pounds of milk a day. The forages at that time were good enough to support that performance. Today our genetically improved milk cows have doubled that average and many individual cows have far exceeded 70 pounds per day.

In order to accomplish those kinds of numbers, it is the feed and especially the forages that can be the limiting factor in milk production. Dairy farm children now need to do more than run the hay bine and bale hay. They need to learn about alfalfa, clover, ADF and NDF and a lot more of the science behind cattle raising.

They also need to know what their cows are thinking. In the book "Cow Talk" by John Moran and Rebecca Doyle, they state, "cows responded best to confident introverts (in other words people with the following set of traits: self -reliant, considerate, patient, but difficult to get on with, forceful, suspicious of change, not easygoing and not talkative). People with these traits were more stable and had an air of confidence, which enabled them to develop positive relationships with their cows that benefited their performance… fear of humans can account for 20% of the variation in herd milk yield."

I cannot imagine my life if I had not grown up on a farm. Just like Stan Curtis it has led to my life's pursuits. Every once in a while, those old cow paths would split into two and eventually reconverge. In Robert Frost inciteful poem, he writes "Two roads diverged in a wood, and I—I took the one less traveled by, And that has made all the difference." For me it would be, two paths diverge in a green pasture and I, well I just followed the cow. And in the long run, it too made a difference.

Go to www.BeefMonthly.com to watch a video-podcast designed to provide beef producers with the newest and most up-to-date information that affects the operation's sustainability and profitability.

The program has 5 segments:

Headline news that directly impacts beef producers at the local level.

How consumers react to beef and how that affects beef demand and beef consumption.

Timely beef production and management tips.

AskDrRon@purdue.edu where producer supplied questions are answered.

Upcoming programs and events that producers can attend to gain more insight into issues of interest.

Livestock Hair Mark Kepler Ag/NR Educator

With the sounds of the Cowsills signing their 1969 hit, "Hair," playing in the background it is a good time to talk about livestock hair. The Cowsills sang about "long beautiful hair. Shining, gleaming, steaming, flaxen, waxen." It was all about hair.

Working with the cows in our dairy barn at milking time, that song played many times on our radio, but unknown to me at that age, was just how important hair really is to the cows.

Livestock produce hair growing hormones in reply to the oncoming winter weather by responding to daylength and cold. In order for cattle to survive the winter, their haircoat has to be in place.

In 2013, western South Dakota was struck with one of the worst blizzards in the state's history. It came in early October when cattle had not fully grown their winter hair and the snow came in wet, heavy, and in copious amounts. Then it got really cold, nearly 50,000 cattle died.

The key term was wet. Once the hair gets wet, it lies down flat, it no longer has those fluffy air spaces between the hairs. It is the air that insulates, and without those spaces it's very hard for the animal to keep warm. During the harsh winter, cattle may have snow accumulate and remain on their backs until a warm sunny day comes along, yet they remain comfortable due to the insulative effect of the thick winter coat of hair.

Once spring comes the animal needs to lose that winter hair to reduce heat stress. Research has shown that calves from cows that shed their winter hair coat earlier weigh more at weaning, to the tune of 25 to 50 pounds. Shedding of winter hair is related to health and nutrition but it is also an inherited trait. In fact, the American Angus Association has hair shedding scores. On black animals' winter hair is reddish in color and is easily seen.

A farm animal I have wondered about is hogs. The old heritage breeds of hogs have a thick winter coat. Between the hair and copious amounts of fat they could survive the winter with some shelter. Most hogs of today are raised in indoor confinement. They are tremendously leaner and there is less need for hair. Taking one of them out in real cold would be a disaster. Given time, they too would acclimate somewhat.

Then there is a pig breed that I was recently introduced to called the Mangalitsa. It comes to us from Hungary and it is so hairy it looks like a sheep with a snout. They were raised for lard in the day when lard was a desirable characteristic of a hog. Hogs with that trait were in poor demand in the last 100 years causing a decrease in that breeds' worldly numbers down to around 200 hogs. About 70% of the carcass of a Mangalitsa is fat, leaving a small amount of meat on these hogs that I have been told is very tasty. It also adjusts well to pasture raising and fits well in the natural meat movement. So now the world population of them has climbed to about 50,000.

Now that I think about it, I wonder if the Cowsills were singing about those Mangalitsa hogs.

Starlings Mark Kepler Ag/NR Educator

I have had many conversations with people where the positive efforts of humans are thwarted by wildlife. A beautiful planting of Hosta's ravaged by deer, newly planted flowers pulled up by squirrels and a row of young trees nipped off at perfect 45-degree angles by cottontails. I am now a victim of starling depravity.

have now discovered an easy source of nest building materials in those long fibers and have messily pillaged some of them.

It is hard to think that I have Shakespeare to thank for the flower pot mess. He mentions a starling in Henry IV. A group called the American Acclimatization Society decided in the 1800's to import every bird that Shakespeare wrote about. Thus in 1890 they released starlings at New York's Central Park. The efforts of those well-meaning people turned into an ecological disaster for some other bird species and a mess for the human population.

In the late 1960's the east window of our dairy barn served as an excellent place to steady the .22 rifle for an upslope shot at birds, especially starlings resting on fence post. Several times my brother and I would do that while dad milked cows. Several days after one of those marksman outings, dad was out in the summer heat checking on the hogs. There laid a decaying, nearly market-ready, hog with a shot to the heart. We could only figure it was the victim of a ricocheted bullet off of one of those fence posts. For a struggling farm family that was a big loss.

Starlings especially congregate on livestock farms. They eat a lot of feed and also are known to transmit diseases such as salmonella and E. Coli. Just the nature of a livestock building serves as excellent roosting sites with plenty of available food, easily allowing their numbers to get into the thousands.

Farmers have tried different control methods for years including fake owls, sticky repellants and fine wires on roost, scarecrows, animated scarecrows, recorded calls, battery-operated alarms, propane exploders and chemicals placed on bait that irritate the birds making them give out distress calls.

Recently I saw a video on the effects of laser beams focused on starlings. They were very effective in dispersing the birds. But like many things utilized to try scaring animals, I wonder if over time the animals will get used to the method and they would just ignore it. In the mean time I can only imagine what a hip farm we would have had with a laser light show hooked up to our milking parlor radio. It would have to be contained but it is a more pleasant thought than a decaying hog in the hot sun.

The Purdue Center for Commercial Agriculture has been actively doing programs to update farmers on current market trends. Their last program was on July 13th and the recording of the 2020 Corn & Soybean Outlook webinar is available for viewing.

Purdue agricultural economists Michael Langemeier and James Mintert provide an updated corn and soybean outlook featuring information from USDA's July World Agricultural Supply and Demand Estimates (WASDE) report and updated crop condition information. Also included are estimated 2019 and 2020 ARC-County and PLC payments, 2020 corn and soybean profitability estimates and some insights into marketing and management decisions for corn and soybean producers. The Centers web site is https://ag.purdue.edu/commercialag

Animal Handling Mark Kepler, AG/NR Educator

It was a race I knew I could win. The participants were a doe deer and me, driving my pickup truck. As I drove slowly down the gravel road with a new goat feeder in the bed, along my passenger side the deer running full speed in a corn stubble field was determined to out run me. As I slowly gained on the parallel running deer in that eighth of a mile stretch I kept wondering when it would decide to veer left in front of me. I was ready for that to happen and I had enough distance to react since I really did not want to test out my grill guard. As I neared the field bordering high tinsel fence, the deer was still parallel as she cleared the fence and ran into some brush just as I passed on by.

For me, it was not the chase but the chance to see a wild animal exhibit the characteristic behavior we teach in our animal management classes called "Point of Balance." There is a spot on an animal where you can make the animal move forward or backwards. That point is generally near the shoulder. If you walk towards an animal and you are in front of the shoulder they will turn away from you. If you are behind the shoulder, they will continue to move forward.

Several years ago, we produced a video used in programs to teach law enforcement officers how to handle escaped animals. In that video Purdue Beef Specialist, Ron Lemenager takes a step in front of the shoulder of a beef animal, at this point the animal stops. He then takes a step back and the animal goes ahead. He does this about five times before letting the animal proceed by stepping back.

We also did this with a hog and a person carrying a hurdle board beside it. That person was in a hurry and every time the hurdle got in front of the shoulder the hog stopped.

The animal characteristic that leads to this is the eye placement. Our farm animals are considered prey species. In the wild they would be eaten by predators and so cattle have developed an eye set that allows them to see a little more than 300 degrees around them. Think of it as panoramic vision. They can easily detect movement behind their shoulders but not as far back as behind their tail. Conversely, they cannot see horizontally as good as we can. Humans can see about 140 degrees up and down and cattle can only see around 60 degrees. This is why cattle must lower their heads to focus on something on the ground. This is also why deer hunters use tree stands to escape the view of their quarry.

Binocular vision is what humans have where we use both eyes to focus on an object, allowing the perception of depth, speed and distance. Cattle have binocular vision up to the 50-degree range in front of them. Along their sides, they know something is there but they cannot focus and tell exactly what it is.

Part of animal husbandry is knowing how to use their biological makeup to our advantage. Walking directly behind an animal will put you in their blind spot. To effectively get them to move walking in a zigzag pattern will allow you to be see out of both of their eyes and will get them to move straight ahead. If the handler is walking on one side they will eventually curve away.

In a group of cattle, the point of balance is the shoulder of the lead cow. Someone zigzagging behind the group and other people walking along side can get the herd to move. The people walking on the side should never get ahead of the shoulder of the lead cow.

The running deer is in panic mode and it sees the truck in its monocular vision so it views itself as being chased. In this mode my truck is well past the point of its shoulder and its mind is focusing on what is ahead of it. This illustrates another principle that we teach in livestock classes and that is, animals can only process one thought at a time. That animal is only concerned about the fence and brush that lie ahead it will have to navigate. It is in flight or fight mode and some of our animal handling knowledge and technique no longer work. I will never forget the day-old calf that I tried to catch and tag. It took off on a dead run though the high tinsel fence and across a twenty-acre field before it was stopped by a short span of woven wire fence. When I finally caught up to it, it put its head down and charged me. It didn't care where its mom was, it was in panic mode with only one though on its mind. That was one of many experiences where I learned that calving pastures need to have woven wire fences.

Diseases

The most talked about disease in corn the past few years is tar spot. Already this year they have found it in LaPorte and Porter Counties and if history repeats its self it will be here before seasons end. Tar spot is small, black, raised spots (circular or oval) develop on infected plants, and may appear on one or both sides of the leaves, leaf sheaths, and husks. Spots may be found on both healthy (green) and dying (brown) tissue. Sometime, the black spots may be surrounded by a tan or brown halo; this is especially obvious on healthy leaves. In 2018 there were reports of 20-60 bu/A yield losses in some Midwestern areas.