

Over the Back Fence

Agriculture and Natural Resources Extension Newsletter

Meet our new ANR Educator!

Hello everyone, my name is Ariel Camm, and I am excited to be the new Agriculture and Natural Resources Educator for Harrison County. I have resided in Harrison County my whole life and am blessed to share my passion for Agriculture! I recently graduated from Western Kentucky University with a B.S in Agriculture with a concentration in Agriculture Business. While at WKU, I served as an Agriculture Ambassador for 3 years and a member of the Block and Bridle Livestock Club for 2 years.

Agriculture has always had a big role in my life. I was a 10 year 4-H member where I showed dairy steers and exhibited 125 projects. I was also a 6-year FFA member at North Harrison and was heavily involved in leadership positions, national soils judging, state crops, forestry, and dairy foods. In my free time, I enjoy judging dairy cattle and going tractor pulling. I am looking forward to meeting everyone and helping with your agriculture needs. Please feel free to stop by the office and say hello!



Ariel Camm



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AG Fun Facts

There are 2.01 million farms across the United States. About 98% of those farms are family-owned.

Agriculture employs over 24 million people.

About 34 million cows are slaughtered in the US each year.

Indiana produces the most ducks in the United States.

**If agriculture goes
wrong, nothing
else will have a
chance to go right.**

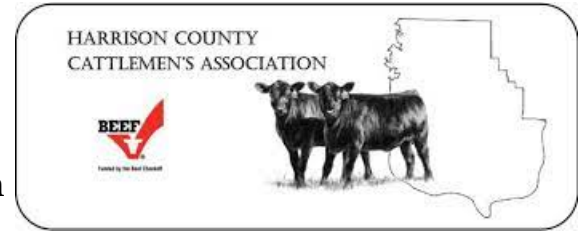
M. S. Swaminathan

ANR EVENTS

Harrison County Cattlemen's Association Meetings 2023

We meet on the First Wednesday of every other month at 7:30pm at the Extension Office (even numbered months). Visit the Purdue Extension Harrison County ANR page for more information about the Harrison County Cattlemen's Association.

- August 2nd
- October 4th
- December 6th

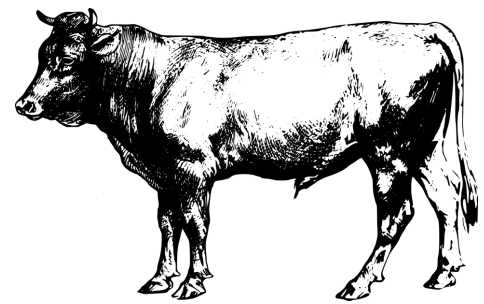


<https://extension.purdue.edu/county/harrison/ANRHomePage.html>

Bull Soundness Exams

The Harrison Co. Cattlemen's Association is offering to cover the cost of 1 bull soundness exam for the year 2023.

- CURRENT members ONLY (2023 dues are paid)
- ****1****BSE per current member for the 2023 year
- Utilize ANY vet, anytime during 2023
- vaccines, farm visit, any additional costs NOT included
- Call or text 502-554-5124 for information on reimbursement. Must provide proof of payment/services.



Harrison County Master Gardeners



We meet on the Third Thursday of every month at 6:30pm at the Harrison County Extension Office. Visit the Purdue Extension Harrison County ANR page for more information about Master Gardeners.

- July 20th
- August 17th
- September 21st
- October 19th
- November 16th
- December 21st

<https://extension.purdue.edu/county/harrison/ANRHomePage.html>

- Field Trip! Master Gardeners and their guests are invited to a behind the scenes tour of Gypsy Rain Organics for the July 20th Meeting at 6:00pm.
- Keep an eye out for the announcement of our Fall Guest Speakers Series for September-December! Past topics have included: Deer-Proofing, Daylilies, Winterizing, and more
- ANR Educator, Ariel Camm, and HHS Educator, Tara Beckman, will be Guest Presenters on September 21st and will be doing a "Grow It, Cook It, Learn It" presentation.



Harrison County Comprehensive Plan Survey:

A comprehensive plan is underway!
Get involved in the planning process today.

HARRISON COUNTY
COMPREHENSIVE PLAN



WE WANT YOUR INPUT!

Complete the online survey today.

Help us identify the top challenges and opportunities the county is or will be facing over the next 10+ years!

Fill out the survey by scanning the QR code or visiting www.surveymonkey.com/r/HarrisonCoPlan



Please fill out the survey to help Harrison County identify the top challenges and opportunities the county is or will be facing over the next 10+ years.

You can scan the QR code or visit: www.surveymonkey.com/r/HarrisonCoPlan

Purdue Field Day

AREA 1 AGRICULTURE & NATURAL RESOURCES



You are invited to join us in-person as Purdue Extension Specialists discuss current and relevant topics.

PARP/CCH Credit fees are complimentary thanks to the following sponsors:



4 pm to 7 pm- Field Rotations

- **Intensive Corn Management**
Dan Quinn, Purdue University
Chad Lee, University of Kentucky
- **Weed Science**
Bryan Young & Bill Johnson, Purdue University
- **Cover Crops**
Shalamar Armstrong, Purdue University
- **Conservation Cropping**
Hans Schmitz, CCSI

7:15 pm Pulled Pork Dinner
8:00 pm PARP/CCH Credits

AUGUST 29, 2023 • 4:00-8:00 PM
4425 E CO RD 350 N BUTLERVILLE, IN 47223

REGISTER BY CALLING THE BARTHOLOMEW EXTENSION OFFICE
(812) 379-1665



Extension - Agriculture
and Natural Resources

Purdue University Cooperative Extension is an Equal Access/Equal Opportunity Institution

Secret Service Project

Thank you to our 4-H member, Hudson Harshey, and Master Gardener, Deb Zimmerman, along with staff members that helped to plant the rain garden last Wednesday. This rain garden was the "Secret Service Project". The participants did not know what the project would consist of but still showed up to help without hesitation. We appreciate the time they took to help give the garden a renovation!



Blotchy Bass Syndrome



No, these fish aren't part of a Jackson Pollock art project. These fish have blotchy bass syndrome, and the USGS is encouraging anglers to join the Blotchy Bass Bonanza project! Anglers are being asked to sample and report blotchy bass syndrome caught between now and February 29, 2024.

Blotchy bass syndrome (BBS, hyperpigmentation/melanosis) is the occurrence of black ink-like spots on the skin, fins, and/or mouths of freshwater bass species. The goal of this project is to understand where BBS is found across the US and in Indiana. We will not share an entry's location information with the general public to protect the anglers' info and preferred fishing spots.

Please note that multiple species of fish can have BBS (not just bass), however this project is only for monitoring freshwater bass. Fish with BBS are safe to touch (i.e., to remove the hook and release) and eat (if they are properly cooked of course).

To participate in this project, please download the Angler's Atlas MyCatch app** and register for the 2023 Blotchy Bass Bonanza here: <https://mycatch.ca/> While fishing, please make sure to take photos of any blotchy bass you catch (preferably on a measuring board) and upload them to the MyCatch app. There is also the option to share videos. If you have questions, please contact the USGS by emailing craines@usgs.gov or the Indiana DNR by emailing araleigh@dnr.in.gov.

Digital Ag Showcase

Join Purdue experts for the Digital Ag Showcase on Friday, July 14, from 9 a.m. to 3:30 p.m. ET at the Beck Agricultural Center in West Lafayette.

This free event includes demonstrations featuring both leading-edge research and practical applications related to data-driven agriculture.



Preserve It Now...Enjoy It Later

Join Purdue Extension Master Home Food Preservation instructors to learn the basics of boiling water bath and pressure canning through education and a hands-on workshop. Participants will prepare and process a recipe to take home.



Boil Water Bath Canning Workshop:

Date: July 25th

Time: 10 AM - 2 PM

Location: Purdue Extension Office-Harrison County
Boilermaker Room 247 Atwood Street
Corydon, IN 47112

For workshop specific questions, contact: Janet Steffens at jsteffens@purdue.edu

Register at: <https://cvent.me/QDXbYW>

Cost: \$30.00

Class Size limited to: 9 Participants

Registration & Payment due by: July 18th



Pressure Canning Workshop:

Date: August 1st

Time: 10 AM - 2 PM

Location: Purdue Extension Office-Harrison County
Boilermaker Room 247 Atwood Street
Corydon, IN 47112

For workshop specific questions, contact: Janet Steffens at jsteffens@purdue.edu

Register at: <https://cvent.me/319y9Z>

Cost: \$30.00

Class Size limited to: 9 participants

Registration & Payment due by: July 25th

For additional information and a listing of other food preservation workshops through Purdue Extension go to: <https://bit.ly/393hmtY>

Purdue Field Days

Purdue Fruit and Vegetable Field Day

THURSDAY, JULY 20, 2023

Purdue Meigs Ag Center
9101 S 100 E, Lafayette, IN 47909



Fruit & Vegetable Field Day

Purdue Extension is proud to bring you the 2023 Purdue Fruit & Veg field day on July 20th. Registration is now open!

Register here:

<https://cvent.me/5zevYD>

See the attached agenda for full details. We hope you will join us!



Small Farm Education Field Day

2023 Small Farm Education field day registration is now open! Purdue Extension Specialists will be presenting a wide variety of educational demonstrations again this year on July 27th.

From fertilizer to pests, raised gardens and food safety, and that's just the start! See all the demonstration details below.

Register here: <https://cvent.me/ewWN3b>

Purdue Small Farm Education Field Day 2023

Thursday, July 27, 2023

In-person at the Purdue Student Farm



PRESENTED BY:
The Purdue Student Farm and



Horticulture and Landscape Architecture



The EMT food truck will be on site for those who would like to purchase lunch after the educational demonstrations end. The Kona Ice truck will also be on site for a FREE cool summer treat for all attendees, compliments of Purdue Extension and Purdue Horticulture and Landscape Architecture!



Stockmanship with Curt Pate

From Ryegate, MT, Curt Pate uses his personal experience incorporating effective stockmanship principles supports a "for profit" mindset and focuses on highlighting the increased economic benefits of handling stock correctly. In addition, Curt recognizes the growing public scrutiny surrounding livestock production and the impact that improved livestock handling practices create for the sustainability of the cattle industry.

STOCKMANSHIP WITH CURT PATE

SOUTHERN INDIANA PURDUE AG CENTER
DUBOIS, INDIANA



SAVE THE DATE

SEPTEMBER 29TH

Beef focused program

SEPTEMBER 30TH

Sheep & Goat focused program

Purdue Farm Management Tour

PURDUE FARM MANAGEMENT TOUR

— AND THE —
INDIANA MASTER FARMER RECEPTION

JULY 11

WASHINGTON & JACKSON CO., IN
• FREE EVENT •

The 90th annual #Purdue Farm Management Tour visits southcentral Indiana in July. Learn about innovative farm management strategies, new technologies and ways to ensure a successful transition of farm operations to the next generation. #PFMT23
Learn more & register at <https://purdue.ag/farmtour>

Indiana State Fair

Featured Farmers

The Indiana State Fair and Corteva Agriscience are proud to unveil the highly anticipated 2023 Featured Farmers that will be honored at this year's Indiana State Fair. In its eighth year, this popular program celebrates and helps put a face on Hoosier agriculture by connecting consumers with fellow Hoosiers who grow the food they eat. These 18 farm operations represent a variety of regions throughout the state, showcasing different agricultural products and stories throughout the 18-day State Fair, July 28 – Aug. 20.

Brothers Kevin, Kurt and Kory Wilson manage K-Brothers Inc. and Red Ripe Farms near Galveston, Ind. They will be the Featured Farmers on Saturday, Aug. 12 at the Indiana State Fair, discussing their soybean and tomato production.



“The Featured Farmers program is all about connecting fairgoers to farmers during the State Fair, to help connect the dots about where their food comes from,” said Cindy Hoye, Executive Director, Indiana State Fair Commission. “These farmers have incredible stories to tell, and we are proud to be the backdrop for these conversations.”

Visitors to the Indiana State Fair can attend a live chat at 2:30 p.m. in the Glass Barn with a Featured Farmer every day of the Fair, in addition to many other opportunities to talk with that day's Featured Farm family and learn about their operation. To learn more about the farmers, visit [IndianaStateFair.com](https://www.indianastatefair.com).

“Corteva Agriscience, is pleased once again to be the presenting sponsor of the Featured Farmer program at the Indiana State Fair. During the past seven years of sponsoring the Featured Farmer program, we have been able to honor farm families from across the state and provide an opportunity for fairgoers who are consumers to meet these farmers who spend their days working to feed all of us,” said Susan Carney, Strategic Marketing Communications Leader, Corteva Agriscience.

Here is the complete list of featured farmers, farm products and their home counties:

- Friday, July 28 – Hill Farms (Swine), Hancock County
- Saturday, July 29 – Hackman Family Farm Market (Melons), Jackson County
- Sunday, July 30 – Morgan Brothers, LLC (Corn, Soybeans, Wheat), Vermillion County
- Wednesday, Aug. 2 – Risin' Creek Creamery (Goats, Cheese), Morgan County
- Thursday, Aug. 3 – Groth Farms (Corn, Soybeans), Randolph County
- Friday, Aug. 4 – Marble Hill Farm (Sheep, Wool), Monroe County
- Saturday, Aug. 5 – Able Acres Polled Herefords (Beef, Corn, Soybeans), Montgomery County
- Sunday, Aug. 6 – Howard Swine Farm (Swine), Cass County
- Wednesday, Aug. 9 – Country Meadows Farm (Dairy, Beef, Goats, Sheep, Chickens), Steuben County
- Thursday, Aug. 10 – Scherle Tree Farm (Christmas Trees), Dubois County
- Friday, Aug. 11 – Estes Dairy (Dairy), Shelby County
- Saturday, Aug. 12 – K-Brothers Inc. (Soybeans, Tomatoes), Cass County
- Sunday, Aug. 13 – Carterly Farm (Dairy), Boone County
- Wednesday, Aug. 16 – Cornucopia Farm (Pumpkins, Produce, Farmers Market, Corn, Soybeans, Flowers, Agritourism), Washington County
- Thursday, Aug. 17 – Whaley Farms Partnership (Corn, Soybeans, Alfalfa, Cattle), Newton County
- Friday, Aug. 18 – At Ease Orchard (Apples, Bees), Hancock County
- Saturday, Aug. 19 – Dutch Country Organics (Eggs), LaGrange County
- Sunday, Aug. 20 – Sunset Ridge Berries and Blooms (Flowers, Strawberries, Pumpkins, Agritourism), Owen County

The Great Indiana State Fair

The Indiana State Fair is the state's largest multi-day event celebrating the Hoosier spirit and agricultural heritage. These 18 days bring all communities together to celebrate all things Indiana and promote it to hundreds of thousands of people across the state, and beyond. Nationally recognized for offering great entertainment, showcasing youth and interactive agriculture educational programs, premiere facilities and a variety of unique, fun foods, the Indiana State Fair has been an annual attraction for generations of Hoosiers since 1852. This year's Indiana State Fair will take place July 29th – August 20th (closed Mondays & Tuesdays). For information, visit: <https://www.indianastatefair.com/p/state-fair/entertainment/featured-farmers>

ANR RESOURCES

Soil Sampling: Test Now to Amend Soil

To grow good plants, you need good soil. The only way to tell what your soil really needs is to take a soil test. Applying too much fertilizer could be detrimental to your plants. You could waste money or pollute the environment. Adding too little fertilizer or the wrong fertilizer could produce little or no results. Therefore, for optimum plant growth, it is highly recommended to test your soil pH and nutrient status a minimum of every 3 to 5 years. Proper soil sampling techniques are important to obtain accurate soil test results. A basic soil test usually measures phosphorus, potassium, soil pH and organic matter. A proper pH is important for nutrient availability to plants. Take the soil sample well before planting, so there is time to add what the soil needs.

For more information about soil testing, visit:

<https://www.extension.purdue.edu/extmedia/HO/HO-71-W.pdf>

SUBMITTING TO A&L LABS:

Your local Extension Office can submit soil samples for you to A&L Labs. Typical turn around for results is 10-14 days.

BASIC ANALYSIS:

Measures the organic matter, available phosphorus, exchangeable Potassium, Magnesium, Calcium, Soil pH, Cation Exchange Capacity, Percent Base Saturation of Cation Elements.



2023 Soil Sample Pricing

***pricing subject to change**

1 Sample - \$19.00	6 Samples - \$84.00
2 Samples - \$29.00	7 Samples - \$90.00
3 Samples - \$45.00	8 Samples - \$100.00
4 Samples - \$54.50	9 Samples - \$110.00
5 Samples - \$64.00	10 Samples - \$120.00

PARP Information

Indiana Pesticide Regulation Changes

The Office of the Indiana State Chemist (OISC) and the Indiana Pesticide Review Board have approved regulatory changes effective January 1, 2023. Changes will be addressed at all 2023 Private Applicator Recertification Programs (PARP). Changes focus on restricted use pesticide application by certified applicators, recordkeeping, and restructuring of penalties/fines. Additional info can be found:

<https://oisc.purdue.edu/pesticide/index.html> under “News.”

For info on upcoming PARP Events:

<https://ppp.purdue.edu/private-applicators/recertification-parp/parp-events>

AG EDUCATION & INFORMATION

CONTROL OF BUTTERCUPS IN INDIANA FIELDS

Study examined county-level cover-crop planting, crop insurance data and weather measures in 12 states

MAY 21, 2020 | MARCELO ZIMMER, BILL JOHNSON AND GLENN NICE
PURDUE EXTENSION WEED SCIENCE

There are several buttercup species found in Indiana. The buttercups are toxic plants and can cause poisoning in grazing animals; however, buttercups are reported not to be toxic in hay. In the most frequently encountered buttercups, the flowers are yellow. These plants can be problematic in no-till crops, gardens, pastures, wheat, and waste areas.

The word 'buttercup' is a common name that is associated with a fairly large group of plants, which are predominantly in the genus *Ranunculus* spp. Plants in the buttercup family (*Ranunculaceae*), are also called the crowfoot family.

In Indiana, there are approximately 16 species in this group of plants called the buttercups. However, other buttercup species can be found in the Western US and Canada, and in the Southern US.

Buttercups can often be found in no-till row crops, wheat fields, pastures, and neglected areas. Dense populations of small flower buttercup have been observed in our no-till studies in Southeast Indiana at the Southeast Purdue Agricultural Center.



Identification

Typically when thinking of buttercups many think of single yellow flowers with five petals. In some cases that would be correct, but buttercup flowers can have a variable number of petals within the same species and some flowers can be white or pink. However, in Indiana they are most often bright to light yellow. In some species the petals are waxy in appearance. One characteristic of the flowers that is consistent is that there are many reproductive structures within a flower. The many female components of the flower are born on a cone like structure in the center and the many male components surround the cone.

These cones in the middle of the flower will eventually become the fruit of the plant. The fruit of the *Ranunculus* resembles a raspberry-looking structure (Figure 2). The seeds are an achene that always have a notch or described as a beak in Britton and Brown's "An Illustrated Flora of The Northern United States" (Figure 2). This 'beak' is often an identifying character of the species in question; it can be an indiscreet bump to a curled hook.

Toxicity:

Buttercups are problematic in pastures. The buttercup family includes several toxic plants. This family also contains the larkspur and staggerweed (*Delphinium* spp.) which are other well-known toxic plants. The whole plant is toxic to livestock. Cursed crowfoot (*R. sceleratus*) is reported to be one of the most toxic⁶. The toxic component is an acrid volatile substance called anemoral and an irritant called protoanemonin, which is also reported to be a plant produced antibiotic^{6, 7}. All buttercups have various amounts of these or related compounds. Symptoms of poisoning are drooling, diarrhea, increased heart rate, behavior changes such as weakness and depression, bleeding, and convulsions^{6, 8}. Protoanemonin has been reported to cause irritation to the skin in humans. Amounts of plant tissue required to be dangerous depends on species of plant. In the article "Poisonous Pasture Plants and Livestock" by Dwight Lingenfelter and Bill Curran of Pennsylvania State University, approximately 1 to 3% of body weight could cause poisoning⁹. Toxicity does not appear to carry through in the hay, possibly due to the rapid break down of the toxins involved⁶.

Control:

There may be differences between specific species and herbicide efficacy research done on one species may not mean that the same treatment will be successful on all species. Much of the work done in the Midwest has focused on smallflower buttercup. Products that are reported to be effective on smallflower buttercup may not be as affective on all buttercups, especially for tall buttercup which is a perennial^{10, 11}.

In studies done at Purdue University¹⁰, smallflower buttercup was controlled above 95% and higher with 2,4-D [1 pt/A], glyphosate [0.5 to 0.75 lb ae/A], Autumn [0.3 oz/A and up], chlorimuron plus 2,4-D, and fall applications of 2,4-D [1 pt/A]. Glyphosate plus 2,4-D can be used as a fall or early spring burndown in corn or soybean.

In winter wheat, Osprey, Olympus, and Harmony Extra provided excellent control of smallflower buttercup^{10, 12}. Osprey and Olympus can be applied in the fall or early spring before jointing. Harmony Extra can be applied in the fall or spring after the 2-leaf stage and before jointing.

Buttercups in grass pastures can be an increased concern due to the toxicity posed to grazing animals. The products Cimarron Plus, Cimarron Max, and Crossbow have excellent (> 90% control) of most buttercups you will encounter. Other products that have good control of buttercups are 2,4-D, Curtail, Milestone, and Forefront. Dicamba may provide fair to good control but appears to be a little more variable than 2,4-D.

For more information, visit:

<https://extension.entm.purdue.edu/newsletters/pestandcrop/article/control-of-buttercups-in-indiana-fields/>

BEEFING OVER PRICES:

How brisket went from the cheapest to most coveted cut

MAY 26, 2023 | JILLIAN ELLISON | PURDUE UNIVERSITY COLLEGE OF AGRICULTURE

A king among barbecue platters, the brisket is a finicky cut of meat packed with fat and tissue. When cooked low and slow, the end result nearly melts in your mouth. But this delicious smokehouse staple wasn't always as famous, nor as expensive, as it is today.

Nicole Olynk Widmar, professor and associate department head of Agricultural Economics, said popularity and fads among various meat cuts have been trends in economic tracking for decades.

The brisket is naturally tough, being the front-end breast meat on beef cattle, leaving it more difficult than most other cuts to perfect when cooking. But the last few years have seen an increasing trend of barbecue enthusiasts opting to smoke their own meat at home, causing prices for brisket to climb out of reach for those who at one time could afford it.

"In recent years we've seen similar trends among other cuts of meat, for example the fall and then rise of chicken wing prices," Widmar said. "Since we are now getting into barbecuing season, brisket is among one of the cuts we'll see continue to trend upwards while the demand is high."

Ronald Lemenager, professor of animal sciences and beef cattle Purdue Extension specialist, said since cattle do not have a collar bone, the deep pectoral muscle of the breast is important for supporting around 60 percent of the cow's weight and movement, making the brisket one of the toughest cuts of meat. Over the last 20 years, Lemenager explained why brisket has slowly found its way onto restaurant menus.

The high collagen content in the brisket gelatinizes through the low and slow method of cooking, breaking down the deep connective tissue in the meat, Lemenager explained. The brisket's thickness allows for the meat to cook for several hours, resulting in the melt-in-your-mouth texture and flavor.

The meat market is a complicated one though, Widmar explained, as when a particular cut of meat on an animal increases in demand, other cuts of meat from that animal will likely see prices fluctuate, too.

"Consumer demand differs for individual products or cuts of meat. For example, consumers demand more chicken wings or bacon. Well, the livestock sector cannot provide more bacon without providing more of everything else that comes from a pig. While you're attempting to meet demand for one meat product, you're potentially oversupplying another."

-Nicole Olynk Widmar, professor and associate department head of Agricultural Economics

Emily Ford, meat lab manager of the Boilermaker Butcher Block, said their retail space is working to make brisket more accessible and simpler to prepare at home.

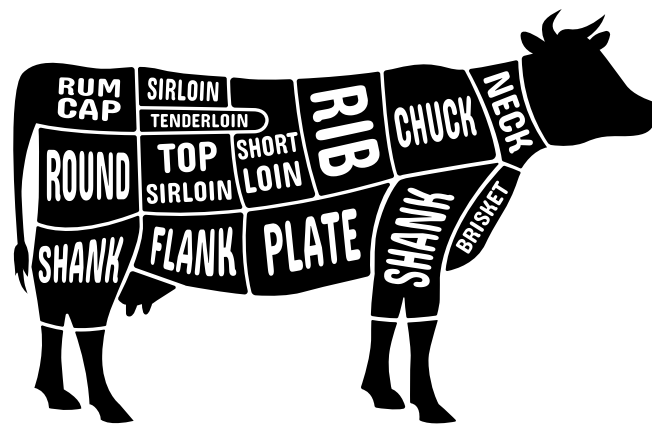
"Oven-ready briskets" are currently available at the Boilermaker Butcher Block, Ford said, consisting of a pre-smoked, pre-seasoned, smaller cut of brisket that can be finished off in the oven.

Having purchased a smoker for her own home in recent years, Ford said she understands the craze around brisket.

"People have become a lot more transparent in recent years of how to make things yourself at home, and we saw a lot of people find smoking meat as a hobby through that," Ford said. "Brisket has definitely become a hot commodity, but there are only two on every animal, so people are continuing to explore other meat options as well."

One of the keys to a great slice of brisket, Lemenager said, is knowing how to slice it.

"You have to slice the meat across the grain," he said. "You're essentially cutting the muscle fibers, so you have to cut across, not with the grain. Once you get all the little pieces into cooking and preparing it right, you're in for an awesome treat."



PROCESS OF EMERGENCE IN CORN

MAY 26, 2023 | DAN QUINN | PURDUE UNIVERSITY COLLEGE OF AGRICULTURE

Once the corn seed is planted, the waiting game for the first corn plants to emerge begins, which also means assessing (or worrying) if any issues had occurred. Corn typically requires about 100 to 120 growing degree days (GDDs) to emerge, which means both air and soil temperatures have a large influence on corn emergence timing from the soil. For example, if soil temperatures are warm, corn can emerge in as little as 4 – 5 days, whereas if soil temperatures are cool, it may take upwards of 20 – 30 days to emerge. In addition, factors such as residue coverage, seed depth, and soil moisture may also influence soil temperature and emergence timing. Therefore, just because your thermometer in the soil says 50 degrees F, doesn't mean that the corn plant won't take a while to emerge and potentially be exposed to issues before emergence occurs, especially if soil temperatures remain at or around 50 degrees F. As a reminder, to calculate growing degree days, calculate the average daily air temperature $(\text{high} + \text{low})/2$ and subtract the base temperature, which for corn is 50 degrees F. In addition, if the daily high and low temperatures are above and below 86 degrees and 50 degrees, respectively, then use the actual temperatures. However, if the temperatures are above 86 degrees or below 50 degrees, then use 86 degrees or 50 degrees in the formula.

The emergence process in corn starts with the elongation of the mesocotyl (a white, stemlike tissue that connects the seed to the base of the coleoptile and is essential for transferring energy from the seed to the young corn seedling), which moves the coleoptile (a protective sheath that surrounds the primary shoot, inner leaves and is first noticeable as corn begins to break the soil surface) toward the surface of the soil. Once the coleoptile tip has reached the soil surface, light exposure will disrupt the elongation and cause it to stop. Interestingly, once elongation is stopped, the depth of the coleoptile base will typically remain constant at $\sim \frac{3}{4}$ inches below the soil surface and you can use the length of the mesocotyl + $\frac{3}{4}$ inches to help determine how deep the corn was planted. Once the coleoptile has reached the soil surface (often known as the VE growth stage), exposure to sunlight will cause the coleoptile tip to soften and allow for the expansion of the inner leaves and the first true leaf to emerge from the tip of the coleoptile. In certain cases, corn emergence issues may occur due to the coleoptile splitting underground and causing premature leaf emergence below the soil surface. Factors which can cause this issue include exposure to sunlight (poor seed furrow closure), herbicide injury (corkscrew coleoptile), surface crusting and/or sidewall compaction (corkscrew coleoptile), and cold injury (corkscrew mesocotyl). Therefore, when assessing emergence and stand establishment issues in corn following planting, it is almost always important to take out the shovel and assess the corn plant and root health belowground.

SOYBEANS NEED TO BE GREEN TO THE EYE BY THE FOURTH OF JULY

“Corn needs to be knee-high by the Fourth of July.” We've all heard that saying over the years, but with all the advancements in technology and hybrids, does that still hold true?

“I've been asked that question a few times,” explains Purdue Extension Corn Specialist Dan Quinn on the latest Purdue Crop Chat Podcast. “I would say now if you're knee-high by the Fourth of July, you're probably behind in terms of corn. We always say if you can be shoulder-high or head high by the Fourth of July, you're in a lot better shape.”

Purdue Extension Soybean Specialist Shaun Casteel says he's got the new Fourth of July terminology that he's hoping catches on.

“Soybeans need to be green to the eye by the Fourth of July. So, what I mean by that is soybean rows need to be closed, green to the eye by the Fourth of July. You're setting things up for a great year if you've got the canopy closed by the Fourth of July.”

by Eric Pfeiffer | Jun 13, 2023 | Indiana Agriculture News, News Feed



INVASIVE PLANT SERIES: POISON HEMLOCK

ERIC EUBANK, FORMER PROJECT DIRECTOR, SICWMA; RON RATHFON, EXTENSION FORESTER, PURDUE UNIVERSITY

A native of Europe, poison hemlock was introduced to North America as a garden/ornamental plant. Poison hemlock is a member of the Apiaceae (parsley) family. It has a biennial growth pattern, being a low-lying rosette the first year and bolting to 3-10 feet the second year. The stems are stout, smooth, with distinctive purple spotting. Flowers are small, white and found in umbrella-shaped clusters in early summer (June/July). The fern-like leaves are pinnately compound and arranged alternately on the stem. The plant reproduces prolifically via seeds that are flattened and ribbed. Seeds mature in August/September and are easily spread via mowing/agriculture equipment. It may be confused with wild carrot (Queen Anne's lace) or wild cow parsnip, both of which have white umbrella-shape flower clusters. Wild carrot has a hairy stem, while cow parsnip has a ribbed stem. Neither have purple spotting.

Impact/ Distribution:

Poison hemlock contains highly poisonous alkaloid compounds that can be fatal to humans and livestock. Poison hemlock easily invades disturbed/early successional sites and is typically found along roads, streams, trails, ditches, forest edges and waste areas. Management: Poison hemlock spreads via seed, so effective management must prevent new seed production, prevent spread of existing seed, and exhaust the existing seed supply in the soil seed bank. Prevention: Poison hemlock seed often is inadvertently spread by mowing, road maintenance or agricultural equipment. Mow infested areas along roadsides, ditch banks and field edges before seed matures. Poison hemlock seed maturation may vary from year-to-year depending on weather patterns. In southern Indiana, mowing should occur from April through early to mid-July. Avoid working, recreating in or walking or driving through infested areas during seed dispersal periods. Also, clean clothing, shoes, ATVs or vehicles following activity in infested areas.

Control:

The most effective control may be mowing to prevent seed production, followed with herbicide applications to rosettes and resprouts.

- Manual - Can be effective for single plants or very small infestations. Pull or dig up all plants, place in trash bag and dispose of with regular trash. Always wear protective clothing, including gloves and eye protection, to prevent the plant from contacting skin.
- Mechanical - Mowing or cutting may be effective control but must be repeated often because the taproot can send up new shoots after a single mowing. Tilling or grubbing can kill hemlock and prevent seed production but is generally not recommended because of soil disturbance.
- Chemical - Effective for large infestations and for spot spray applications to individuals and clumps. Herbicide application should be performed while the plant is actively growing and before flowering. First-year basal rosettes may be sprayed from midsummer through fall. Second-year plants begin bolting flower stalks in April and begin flowering in mid-May. Follow-up treatments will be required, as seeds already present in the soil sprout.



For Full article: <https://www.extension.purdue.edu/extmedia/fnr/fnr-437-w.pdf>

MITIGATING DRY WEATHER EFFECTS ON CATTLE FEEDING, OUTLINING SOLUTIONS

PUBLISHED ON JUNE 18, 2023 | PURDUE UNIVERSITY AGRICULTURE NEWS

WEST LAFAYETTE, Ind. — An impending drought caused by lower-than-average rainfall in the spring and summer seasons could result in inadequate forage yield for cattle in parts of Indiana.

A timely [publication](#) from Purdue University Extension, Agronomy and Animal Sciences titled “When Forages Are in Short Supply Because of Drought” outlines key management and feeding practices available for producers to reduce the negative consequences of low forage supplies. The publication is free and can be downloaded from the [Purdue Extension website](#).



The authors – Keith Johnson, professor of agronomy and Extension forage specialist; Ron Lemenager, professor of animal sciences and Extension beef specialist; and Nick Minton, Extension beef systems specialist – offer a methodical analysis of the factors driving drought and a checklist to navigate the various impacts on herd health, including nitrate poisoning.

By discussing 18 vital producer tools in the article – such as providing supplemental feeding, known as creep feeding, to calves to obtain near normal weaning weights – the authors seek to help ensure cow production. Lemenager says, “We had a warm spell in February across much of the state and forages broke dormancy, and then it turned cool again, which set the growth curve back until early May.”

He details his experiences speaking with producers across the state, saying: “Many have experienced drier than normal weather. Coupled with usual or above average summertime temperatures, many are concerned about the possibility of lingering droughtlike conditions. I’m hearing stories of first-cutting hay yields being anywhere from 30% to 90% of normal.”

The Extension specialists highly recommend that producers scout their pastures to see what forage is truly available for grazing. They share that the cool-season grasses have set seed heads, and from the road there appears to be adequate growth, but the leaf material available for grazing may be inadequate to support normal animal performance.

Lemenager adds, “Producers need to avoid overgrazing, which will negatively affect plant regrowth and total tonnage of forage for the remainder of this grazing season.”

Offering feed insights, Johnson explains, “Unfortunately, there are no cheap, easy fixes for beef producers who have both short pastures and limited hay supplies. Good management means beef producers should develop and implement a strategy that specifies what to do with pastured animals and where winter feed supplies will come from, long before the last blade of grass or bale of hay disappears.”

Minton elaborates, “Taking the approach of just feeding them some form of concentrated feedstuff may be an unwise approach provided continued elevated feed prices even in the presence of a strong cattle market. Know what it will cost to produce a pound of gain or to maintain body weight before filling the feed bucket.”

— Purdue University Agriculture News

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Over the Back Fence

Agriculture and Natural Resources Extension Newsletter

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