

# AGLINE

PURDUE UNIVERSITY COOPERATIVE EXTENSION SERVICE, Fulton County  
 1009 W. 3rd Street, Rochester, IN 46975-574-223-3397-mkepler@purdue.edu

***DO YOU NEED POINTS TO FULLFILL YOUR PESTICIDE LICENSE? CHECK OUT  
 END OF YEAR OPPORTUNITIES NEAR YOU!***

There are several opportunities coming up in December 2021 for those that are in need for points for their private applicator pesticide license. Mark Kepler, Purdue Extension –Fulton County, ANR/CED, will be hosting a class at the Fulton County Fairgrounds on December 8th, 2021 at 6:30pm. It is specifically designed for the forage producers.

There will be a remote video presentations by **Marcelo Zimmer, Purdue Weed Specialist** and **Dr. Christian Krupke, Purdue Entomology Specialist**.

This will be followed by a program called “Forage Jeopardy”. Test your knowledge by answering forage related questions.

(See page 2 for flyer and the other opportunities.)

PAGE	TOPIC
2	PARP Opportunities
3	“Fruit of the Persimmon Tree”
4	2022 Winter Farm School information
5	“Which came first?”
6	“Breeding Plants into the Future”
7	Article continued
8	“Is it an animal or a weed?”



Fulton County , Rochester, IN on December 8th, 2021 from 6:30pm to 8:30pm.

Cost to receive PARP credit is \$10.00.

## FORAGE FORUM FRIDAYS ROUND 2

Join Purdue and Industry  
Forage Specialists as we  
dive even deeper into the  
world of forages!



**DECEMBER 3, 2021@12:00 PM EST**  
**FORAGE SEED PRODUCTION AND  
INVENTORY UPDATE**

**DECEMBER 8, 2021\***

*\*THIS WILL BE AN IN-PERSON SESSION AROUND INDIANA*

**FORAGE PARP  
6:30-8:30 PM EST**

**FEATURING  
MARCELO ZIMMER-PURDUE WEED  
SPECIALIST**

**DR. CHRISTIAN KRUPKE-PURDUE  
ENTOMOLOGY SPECIALIST**

**\$10 FOR PARP CREDITS**

**DECEMBER 10, 2021@12:00 PM EST**  
**WHAT HAPPENS TO MY HAY WHEN I  
SEND IT IN FOR A HAY TEST?**

**STAY TUNED FOR MORE  
SESSIONS IN JANUARY  
AND FEBRUARY 2022**

THE PURDUE UNIVERSITY COOPERATIVE EXTENSION SERVICE IS AN AFFIRMATIVE ACTION/  
EQUAL OPPORTUNITY INSTITUTION.

Other year end PARP opportunities

Starke Co Weed Update

**DATE/TIME**

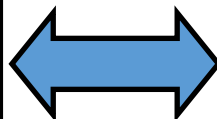
Date - 12/02/2021  
7:00 pm EST - 9:00 pm EST

**CONTACT INFO**

**Name:** Phil Woolery  
**Title:** ANR Educator  
**Phone:** 574-772-9141  
**Email:** [pwoolery@purdue.edu](mailto:pwoolery@purdue.edu)

**LOCATION**

[Knox High School Cafeteria](#)  
**County:** [Starke](#)  
Knox High School Cafeteria



Fertility Management in Limited Supply & Higher Costs;  
Making Corn Pay with Input Costs and Limited Supply;  
Minibulk regulations.

**DATE/TIME**

Date - 12/07/2021  
7:00 pm EST - 9:15 pm EST

**CONTACT INFO**

**Name:** Bob Yoder  
**Title:** ANR Educator  
**Phone:** 574-935-8545  
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**LOCATION**

[Marshall County Building, Room 304](#)  
**District:** Northwest  
**County:** [Marshall](#)  
**Address:**  
Marshall County Building, Room 304  
112 W. Jefferson Street  
Plymouth, Indiana/Marshall

## ***Fruit of the Persimmon Tree***

*By*

*Mark Kepler, Purdue Extension Educator*

*ANR/CED*

When you hear about a food whose name is interpreted as “Fruit of the Gods” your mouth can only water for a taste. But that taste may have you puckered for some time if your yearnings for a persimmon are too early.

I learned at an early age that you do not eat the persimmon fruit until it is fully ripe. The unripe fruit leaves an astringent taste that you cannot spit out of your mouth. In reality, you need to wait until the fruit has dropped from the tree before your taste buds can be rewarded. Ripening of the fruit is now near and can last until the snow flies.

There are few persimmon trees in northern Indiana, as compared to southern Indiana, but I have known of one over by Culver all my life. I have partaken of both the good and bad fruit of this tree. It seems like people get joy from giving some unsuspecting person an unripe persimmon that will hinder them from really enjoying a delicious fruit. It is the tannins in the unripe fruit that give you that unforgettable taste.

Persimmons have also entered into the realm of folklore weather predicting. Here is a quote from the Purdue’s Extension Forester, “It was thought the shape of the embryo in the seed could predict the winter weather: a spoon shape indicated deep snow, a knife would indicate icy cutting winds and a fork meant it would be mild with plenty to eat until spring.”

I have always loved these folklore ways of predicting the weather. My favorite is the “Hog Spleen Report” published in my wife’s South Dakota home town newspaper predicting weather based on the shape of a slaughtered hog’s spleen. Many people in that area are of Swedish descent, so they come from a line of people that know what a long cold winter is. When a hog is slaughtered in the fall, the part of the spleen near the head represents the first months of winter and the ones toward the end are for spring. Any thickening of the spleen would mean tough weather ahead. A bulge means even more severe cold.

In either case, there is no science behind the predictions, but one thing I can tell you is a ham sandwich with persimmon pudding is a definite winner.

This series of meetings is jointly sponsored by the Purdue University Cooperative Extension Service and the Rochester High School Vocational Agriculture Department. All meetings will be held on **Wednesday evenings at 7:30 p.m.** Most meetings are in the Rochester High School Vo-Ag Room. Refreshments will be available courtesy of several local banks.

## Session 1 January 5, 2022

### AGRICULTURE ECONOMIC OUTLOOK

Dr. Michael Langemeier, Purdue Agriculture Economist and the Purdue Center for Commercial Agriculture



Dr. Langemeier will discuss farm commodity prices, cash rents and land value. He will provide updates on livestock prices, interest rates and other issues affecting farm inputs and prices.

## Session 2 January 12, 2022

### THE COST OF FARM SAFETY

Dr. Bill Field, Purdue Extension Safety Specialist



For 45 years, Dr. Field has been leading farm safety programs at Purdue. He has appeared as a expert witness in numerous agricultural injury-related litigations. He will relate to us farm safety, liability and long term disability issues.

## Session 3 January 19, 2022

### FIELD CROP IRRIGATION

Lyndon Kelley, Purdue Extension/Michigan State University Extension

Irrigation Educator



Lyndon Kelley is currently serving under a joint agreement with Purdue Extension to provide leadership and education to irrigated crop producers of Michigan and Indiana. Under this agreement he deals with the technical and social/political and economic issues of irrigation. Mr. Kelley will cover the possibility of irrigation expansion as well as general irrigation management information.

## Session 4 January 26, 2022

### CONTROLLING TAR SPOT AND OTHER DISEASES

Dr. Darcy Telenko, Purdue Extension Field Crop Plant Pathologist  
Mark Kepler, Purdue Extension Educator AG/NR - Fulton County



Dr. Telenko will discuss the impact of fungal disease, especially Tar Spot in corn and how it took their economic toll in our area this past year. Understanding this disease and others, including when to use fungicides, are critical information for area farmers. A portion of this class will include information about Drift Watch Crop Registry presented by Mark Kepler. This program is also certified as a **PARP** class for those needing a pesticide license credit. The cost is \$10 for those needing the pesticide credit. This program will be held in the **HIGH SCHOOL AUDITORIUM**.

↳ *If you have a disability that requires special assistance for your participation in the meeting, please contact:*

Mark Kepler, Purdue Extension Service at (574)-223-3397



## *Which Came First??*

By  
Mark Kepler, Purdue Extension Educator  
ANR/CED

Which came first, the chicken or the egg? We can sit around and debate that in many different ways, but I will change that question to something that can be more easily proven. Which came first, the dog or the pig?

Domestication of animals started to take place around the time of crop domestication. Around 12,000 years ago, wheat was one of the first crops to undergo genetic improvements allowing people to go from being hunters and gathers to being farmers. This is the dawn of civilization. There would not be any massive cities without the ability to feed people. Farming allowed the ability of communities to have excess food and therefore people could now trade and have occupations like butchers, bakers, and candlestick makers.

In those roles, the bakers had a variety of wheat species domesticating them to the point that today we have six classes of wheat that can be used depending on where it is grown and the use, bread, pasta, pie crust, brewing, or pastry.

Domestication of animals brought about the butcher trade. Goats were the first farm animal, around 10,000 BC followed by pigs and sheep, a thousand years later; cattle in 8,000 BC and chickens in 6,000 BC. Geese were 3,000 more years into the future.

Ancient horse DNA samples have identified the genetic homeland of modern horses, where the animals were first domesticated around 4,200 years ago. According to a study published in Nature in October 2020, modern domestic horses probably originated on the steppes around the Volga and Don rivers, now part of Russia, before spreading across Eurasia.

They are the latecomers to domestication coming about 8,000 years after goats but they made significant strides in transportation, communications, and warfare. Part of that domestication was breeding horses for a strong back. An essential trait for the many uses we have for horses.

The candlestick maker can trace their origins back to the Egyptians. They are located on the western edge of the area of the world known as the cradle of civilization. The area from which wheat, sheep, and goats also arose. The first candles are attributed to the ancient Egyptians, who made torches by soaking the pithy core of reeds in melted animal fat. The Romans began making candles from tallow, beginning around 500 BC. Tallow is the fat of either sheep or beef. The domestication of these animals lent themselves to the establishment of this trade.

The first animal domesticated was the dog at least 3,000 years before goats. Man's best friend was also its first friend. Some evidence even points to wolves being domesticated 23,000 years ago in Siberia.

So, to answer the hen and egg question. I contend it is the egg. I equate that with a seed. Our bread wheat comes from a cross of durum wheat and a plant called Tausch's goatgrass. That breeding produced an improved genetic seed from which our bread wheat is derived. There are many genetic crossings in all walks of life, it is from those that we have been able to mankind. It is all in the seed, or should I say the egg.



**Glandular hairs, next to pin point, of potato leafhopper resistant varieties. Purdue Photo.**

### **BREEDING PLANTS INTO THE FUTURE**

**BY MARK KEPLER, PURDUE EXTENSION EDUCATOR, ANR/CED**

“It ain’t what it used to be.” That is a phrase many people use to describe poorly constructed new products. It might also be stated, “they do not make them like they used to.” When it comes to plant genetics that is also true but in a positive way.

In a part of the world known as the fertile crescent, located around present-day Iran, 12,000 years ago, they began genetic improvements of grains and the domestication of what would become our farm animals. Those genetic advancements have been accelerated in the past 100 years. Corn, a North American native, was first commercially hybridized in the early 1930s when the annual U.S. corn yields averaged 24.2 bushels per acre. Through the scientific and natural crossing of specific lines of corn, the 2021 projected average national corn yield will be 194 bushels per acre.

Through this process of natural breeding, there have been a lot of genetic improvements in crops. An example of the natural way that we have found to stop insect damage comes from alfalfa. The potato leafhopper has a mouthpart that allows it to draw juices from the tips of alfalfa leaves causing them to turn brown with a symptom known as hopper burn. This insect does not spend its winter in our area but makes its way in from the South near the end of May, just in time to cause damage to the freshly growing second cutting of hay.

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When farmers purchase alfalfa seed, they have the option of a leafhopper resistant variety or one that is not. In 1997, the first alfalfa varieties that displayed resistance to this bug were released to farmers. These varieties had long hairs on the leaves. At that time, it was thought that the hairs prevented them from getting their mouths to the leaf surface. In reality, it is a more complex mechanism in these resistant plants that includes those hairs not only exudes a chemical that repels the leafhopper plus they just do not prefer or can tolerate these plants.

Potato leafhoppers feed on many plants including their namesake as well as eggplants, grapes, strawberries, beans, and red maples. Although they are the primary reason most people's potato plants die early, as of yet, there is no long-haired mechanism to rid these sapsuckers from one of our favorite vegetables.

This fall I went to a local farm that had just mowed their alfalfa field. Denied a juicy meal, the leafhoppers that had inhabited that field moved to the nearby planting of potted chrysanthemums. By brushing my foot over the leaves, leafhoppers would fly from each plant. Although they are not known as a major pest of mums, with their food supply gone they were settling in on the next available crop.

To go along with that alfalfa seed, many beef producers also plant orchardgrass. Here they have an option that was never around years ago. The seed for early or late-maturing orchardgrass. Historically our early maturing orchardgrass would seed early and start to decrease in quality by the time the alfalfa met its peak harvest time. Plant breeders discovered late-maturing orchardgrass that are more closely aligned with the alfalfa development. For quality hay production, plant a slower growing late maturity orchardgrass with the alfalfa for an overall higher quality of hay. For quick grass growth in the spring for grazing, early maturing orchardgrass would be the best choice. They each have their role.

There are many exciting plant enhancements that are coming to the market. Recently I watched a program by a large corn breeding company. The wave of the future for them is short stature corn. Corn that genetically will have a maximum height of 7 feet.

Look around this fall and see all the downed corn stalks. These shorter corns will present a lower profile to the winds plus they seem to handle drought better. This would have been an ideal year for that genetics.

If that excites the crop producers, then the forage producers also have something to look forward too. Purdue currently developed a sorghum that contains no dhurrin, a compound that combines with plant enzymes to create hydrogen cyanide, known more commonly in the livestock industry as prussic acid. With this genetic we no longer will have to worry about grazing frosted sorghum plants. Anything that lets us sleep better is a positive development.

Geneticists have their roles also in feeding the world. By far they have contributed the most to crop improvements, yields, and enhanced human wellbeing. "It ain't what it used to be" sometimes is good.

(continued from page 6)

## Is it an animal or a weed ?

By

Mark Kepler, Purdue Extension Educator, ANR/CED

It seems that in horticulture we steal a lot of names for plants from the animal world. We have plants named goose grass, goats' beard, lambs' quarter, Horse weed, mares' tail, pig weed and many more. These are interesting and confusing names.

Pig weed is a member of the genus, *Amaranthus*. It includes the several species in which the grain is used as a food source. Several of those are referred to as grain amaranth and are high in protein and oil and can be cultivated in dry areas.

Pig weed is generally edible but can be poisonous when there is an accumulation of nitrates under drought conditions. The name comes from the fact that pigs will consume the plant. It is amazing what common names you can find for a variety of species, I had one farmer call it red root hog carrot. One of my memories of this weed was when I was at the Purdue's Animal Diagnostic Lab when they were doing a post mortem on a sow that died of pig weed poisoning.

Then there is horse weed also called mares tale or the horse weed that is also called giant ragweed. Neither of these should be confused with horse nettle, horse tail (also known as scouring rush), horse mint and horse hair. Wait, horse hair is a worm that in many ways resembles a hair from a horse that is found as a parasite of crickets. Interestingly, I have seen it before floating in a horse tank.

The giant ragweed type horse weed gets taller than a horse leading to its name.

The goats also have their horns into the many names with goat head, goat weed, and goats beard and goat grass. Goats beard is an interesting plant found around here. It looks like a giant dandelion seed head. It is usually not found in field crop situations but in pastures and along roadsides.

A lot can be done with the names of weeds. Wait I think I just saw some fleabane in my cattail.