

Marshall County, Ag Newsletter

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Ag Newsletter

Hello!

It is my pleasure to be your Ag & Natural Resources Educator in Marshall County! The last couple of months, I have been busy learning about parts of the county that I was not already familiar with. If you weren't aware, Marshall County is my home having grown up on my family's row crop farm. This spring, I graduated from Purdue University with a degree in Agriculture Education and a minor in Crop Science. My primary focuses are Crops, Dairy, Livestock, and Farm Safety. If you ever have questions or concerns agriculture related, please contact us! My email is brianna@purdue.edu

On November 9th at 6pm is our Extension Board Annual Meeting and Dinner. The meeting will be at the Plymouth Wesleyan Church. I know this is during the harvest season, but if time allows we would love to invite you to attend! Representative Jack Jordan will be speaking that evening. There will be great food and fellowship, as well as an opportunity to give input as to how we can best help you! More information on purchasing tickets can be found on page 7 of this newsletter.

As we are entering the heart of harvest season, take a moment to take in your role in agriculture. Being in an industry that is needed to sustain human life is something to be proud of. There is a small percentage of people in the world who are able to carry on the roles of a farmer and agriculturalist and be successful! You are one of them! In a few short months harvest will be wrapping and plans for the spring will be taking place. Reflect on this past year and the accomplishments you have achieved. Last but not least, have a happy and safe harvest!

Kind Regards,

Brianna Slonaker

Extension Educator, Ag & Natural Resources

Upcoming PARP Meetings

Nov 8– Kosciusko Co PARP

Register 574-372-2340 eluc@purdue.edu

Crop Disease Update; UAV Use in Agriculture; Kosciusko SWCD Update; 2023 Regulatory Update

Dec 6– White Co. PARP

Register 574-946-3412 pwoolery@purdue.edu

Soybean Management for High Yields; Weed Management; 2023 Regulatory Update

Dec 18– Porter Co Farmer Meeting

Register 219-465-3555 nikky@purdue.edu

Don't Get Tangled: Railroad Tracks and Utility Lines; Field Crop Disease Update; 2023 Pesticide Regulatory Update

To view all upcoming PARP meetings in our area visit ppp.purdue.edu and click 'PARP Events'

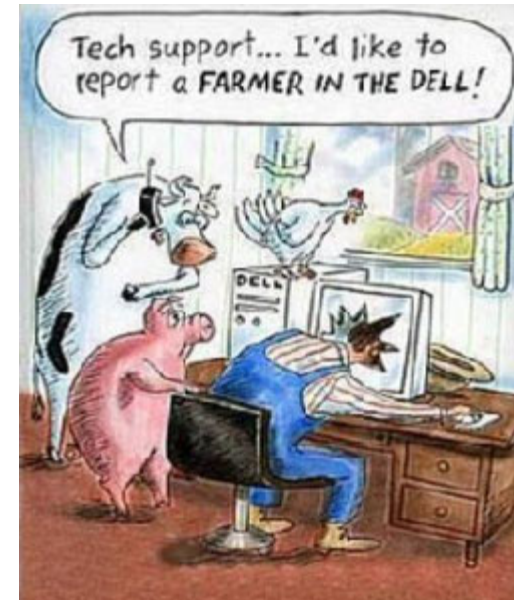


Photo credits: Ag Daily



Looking for more ANR resources?

Local event information, PARP events, CCH events, webinar series offered by Purdue and digital resources can be found on our Facebook page and Marshall County extension website and through our Smore digital publication. Add, subscribe, and follow us to stay up to date!



www.facebook.com/marshallanr



<https://www.smore.com/u/purdueboilermaker>



<https://extension.purdue.edu/Marshall>

November

- 7- Beef Quality Assurance Training
- 8- Kosciusko Co. PARP
- 9- **Extension Board Annual Meeting**
- 10- **Office Closed**
- 23-24 **Office Closed**

December

- 6- White Co PARP
- 18- Porter Co PARP
- 22-25-**Office Closed**
- 22- Jan 1-**Purdue Winter Recess**

January

- 1- **Office Closed**

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Become a Certified UAV Pilot

Purdue Extension UAV Technology Program

FAA Part 107 Remote Pilot Test Preparation Course Topics

- ⇒ FAA Test Preparation
- ⇒ Flight Instructions
- ⇒ Camera Settings
- ⇒ Flight Plans and Record Keeping
- ⇒ Data Management
- ⇒ Image Quality & Troubleshooting
- ⇒ Sensors & Artificial Intelligence
- ⇒ Emergency Preparation



Location

Pinney Purdue Ag Center
11042 S County Line Rd
Wanatah, IN 46390

Dates & Time. Must attend both days

Oct 30-31, 2023
9:00 am - 5:00 pm Central

Cost: \$200 per person

Registration Info Coming Soon!

Call 765-494-6794 to reserve a spot.
Limited to 20 participants!!! Here is a link to register:

<https://cvent.me/lkP022>

QUESTIONS?

Contact: Nikky Witkowski
nikky@purdue.edu
219-465-3555



Hands-on Experience



Endless Applications

Purdue University Cooperative Extension Service is an equal access/equal opportunity institution. Reasonable accommodations available on request.

AUGUST 2023

PURDUE AGRICULTURAL ECONOMICS REPORT

your source for in-depth agricultural news straight from the experts

Download the full report: <https://tinyurl.com/2023PurdueAgEconReport>

Indiana Farmland Values & Cash Rents Issue



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Training and Certification

Beef Quality Assurance (BQA) training will take place to help producers either earn or renew their certification. Certification has become a requirement among some major industry beef buyers and packers and is good for three years.

This two and a half hour training and certification sessions would only need one person from each operation being required to be certified to ensure the entire operation follows BQA standards. However, all who handle and manage fed cattle are encouraged to become BQA certified.

Bring a state issued ID

**November 7,
2023**

**Register: 6:00 PM
Program starts:
6:30 PM**

**112 W Jefferson St.
Room 203
Plymouth, IN 46563**

Please RSVP by
Friday November 3,
2023 Seating is
limited.

574-935-8545 Ex. 0
brianna@purdue.edu

Should I Use An Annual Or A Multi-Year Cropland Lease?

By: Dr. Michael Langemeir

A vast majority of cropland leases are in effect for only one year. One of the reasons for this is the predominance of oral leases which are typically not valid for more than one year. Multi-year leases provide incentives for tenants and landowners to invest in long-term improvements, maintain soil fertility, and encourage conservation practices. This article will discuss why you may want to consider multi-year leases and discuss factors that influence leasing terms.

Before discussing the financing of improvements and factors that influence lease terms, we will first briefly describe some key improvements that may be needed on rented ground. Improvements may be related to fertilization, lime, farm structures and repairs, and/or drainage. The residual value of fertilizer, particularly P and K, may last beyond the year of application. With a one-year lease, it may be important to specify carry-over fertilizer levels in the lease. Lime typically lasts several years so there is likely to be some value past the length of the lease. Farm structures and drainage may include fences, terraces, tile lines, machinery storage, and/or grain bins. The useful life of lime, farm structures, and tile drainage is likely longer than the length of the lease. This fact needs to be accounted for in the terms of the lease.

There are several ways to handle the financing of improvements within cropland leases. First, the landlord may pay for the improvement as part of the rental agreement, with the understanding that the rental rate will be higher to compensate for the improvements. Second, the cost of each improvement may be shared between the landowner and tenant. If part of the work is done by the tenant, he or she should be compensated for this work. Also, a lease provision describing how the tenant gets reimbursed by the landlord for the undepreciated value of the improvement at the end of lease term should be included in the cropland lease. The undepreciated value is computed using the initial cost of the improvement and a depreciation rate that reflects the improvement's useful life. Third, the cost of improvements may be paid for by the tenant. Again, under this approach, the tenant should be compensated for the undepreciated remaining value of the improvement. It is also common for a tenant to negotiate a lower rental rate when using this approach.

Where do multi-year leases fit? Often, an improvement gets delayed or does not get made because an equitable sharing of the expense can not be agreed upon. Long-term leases provide landlords and tenants an incentive to invest in improvements, and maintain soil fertility and conservation structures. They also mitigate the uncertainty associated with frequently building new relationships. As noted above, if a lease is not longer than one year, it is extremely important to adjust leasing terms such as the annual rent and to account for the undepreciated value of an improvement at the end of the lease.

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Indiana Farmland Prices Continue to Rise in 2023

By: Kami Goodwin

[Aug 2023]Indiana farmland prices once again hit record highs in 2023, according to the recent Purdue Farmland Value and Cash Rents Survey. Statewide, the average price of top-quality farmland averaged \$13,739 per acre, up 7.3% from June 2022. Average and poor-quality farmland increased 5.8% and 0.7% to \$11,210 and \$8,689 per acre, respectively.

“While farmland prices reached a new peak in 2023, the appreciation rate from 2022 to 2023 was much lower than the record high price growth observed between 2021 and 2022,” said Todd H. Kuethe, Schrader Endowed Chair in Farmland Economics and the survey's author. “Farm incomes and liquidity are playing a role in boosting price growth; however, rising interest rates continue to put downward pressure on purchases financed through mortgages.”

Statewide cash rents increased by a modest amount between 2022 and 2023; yet, in nominal terms, all three quality grades are at an all-time high. Per acre cash rental rates for top, average, and poor-quality land exceeded the previous highs set in 2013, 2014, and 2021. Indiana per acre cash rent for top quality land increased by 1.99% to \$306. Cash rental rates for average and poor-quality land increased by 2.09% and 2.50% to \$257 and \$212, respectively.

Kuethe says that it's important to note that these modest changes at the state level mask some of the larger variation across land qualities and regions. For example, cash rental rates grew by 32.8% to 47.2% in the Southeast region for top, average, and poor-quality land, but cash rental rates fell by -2.2% to -10.7% in the Southwest region. The highest cash rents, across all three quality grades, were observed in the West Central region. Across all regions and quality grades, rent as share of land value (the capitalization rate) held relatively steady between 2022 and 2023.

A divergence was also found in values for farmland transitioning out of agricultural production and those of farmland used for recreational purposes in 2023. Statewide, the per acre value of farmland transitioning out of agricultural production increased by 4.1% between June 2022 and June 2023 to \$25,228. However, the value of recreational land declined by -10.4% to \$8,170 per acre.

The department of agricultural economics conducts the Purdue Farmland Value and Cash Rents Survey each June and publishes it in the Purdue Agricultural Economics Report. The survey is produced through the cooperation of numerous professionals knowledgeable of Indiana's farmland market. These professionals provided an estimate of the market value for bare poor, average, and top-quality farmland in December 2022, June 2023, and a forecast value for December 2023.

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October Favored To Be Wetter Than Normal

By: Beth Hall

To say the last few months have been dry is a bit of an understatement. Since August 1st, only a sliver of Newton and Benton counties (northwest Indiana) and the tiniest speck of Warrick County (southwest Indiana) have had above-normal precipitation. Most of western Indiana has been near (but below) normal, while the rest of the state has seen less than 75% of normal amounts (Figure 1). Normal amounts are approximately the 30-year average from 1991-2020. Since September 1st, the story gets even drier (Figure 2). It is rather shocking to see most of the state has received less than 25% of the normal amount of precipitation typical during that period. This has led to most of Indiana now being classified in Moderate Drought (D1) according to the U.S. Drought Monitor (Figure 3). How long is this expected to go on? The 7-day forecast has most all of Indiana dry (except for northeast Indiana that might get a very small amount). Fortunately, this dry pattern then move out of the area within the next 6-10 day, with near normal to above normal precipitation patterns following. In fact, the national Climate Prediction Center is slightly favoring above-normal precipitation for October. This is not very strong confidence, but certainly better than the dry pattern seen lately! Unfortunately, the various climate outlook models that offer these probabilities were all over the place for the 3-month period of October-November-December, providing no precipitation guidance over this longer period. This is likely due to it being a transition season (from summer to winter) but also with a strong El Niño pattern moving in. El Niños and La Niñas tend to have weaker climate correlations in the Midwest than other parts of the U.S. and the fall season tends to be the most difficult season for those global oceanic patterns to predict any strong guidance. Climate scientists are still

a bit longer to get a better understanding of how strong this El Niño pre- this ter will be dicting upcom- may be

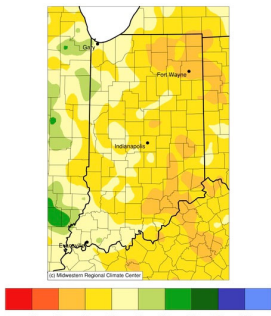


Figure 1. Precipitation represented as percent of normal based upon the 1991-2020 period for August 1 through September 28

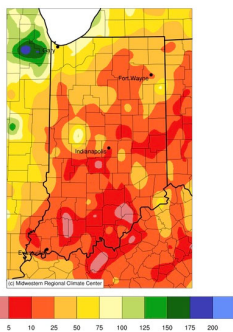


Figure 2. Precipitation represented as percent of normal based upon the 1991-2020 period for September 1 through September 28.

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A second line of defense is to have a tractor and disc on standby to create a firebreak around the combine, Field added. This can help keep the flames from spreading across the field or to neighboring properties.

Since insulated cabs may prevent operators from noticing smoke or flames until it is too late, combine fires can start without warning and quickly grow out of control, Field said.

“Even small leaks in a fuel or hydraulic system can cause a small fire to become a large one in seconds,” Field said. “For example, a leak causing diesel fuel to be sprayed into the engine compartment of a tractor or combine can cause the compartment temperature to go from a normal operating temperature to over 1,000 degrees Fahrenheit in seconds. Fires of that intensity are almost impossible to extinguish before the machine is destroyed.”

In addition to damaging or destroying the combine, other consequences may include crop loss, field fires spreading to adjoining properties, and operator injury or death.

“Ultimately, the only good fire is a contained one that keeps us warm,” said Field. “Keeping it that way in the field should be part of every farmer’s management plan this fall.”



Proper Maintenance is Crucial to Prevent Combine Fires

By: Edward Sheldon

Combine fires cost farmers millions of dollars in damages every harvest. As harvest continues, be proactive and prevent or reduce the chance of combine fires before they happen!!

Farmers should regularly inspect their combines' machinery, fuel lines and electrical systems during harvest season to prevent fires, a Purdue Extension safety specialist says.

Harvest season brings a unique combination of risk factors that increases the risk of combine fires, said [Bill Field](#), professor of [agricultural and biological engineering](#). Dust kicked up during field operations and dry plant material from crops can clog or wrap around machinery, causing it to overheat. Other common hazards are electrical malfunctions, sparks from hitting rocks, loose or slipping belts and leaks in fuel or hydraulic lines.

Worn bearings or seals and blocked exhaust systems can cause overheating and sparks. Inspecting equipment at the end of the day can help prevent overheated components from catching fire during the night, Field said, and a hand-held thermal camera can help detect hot areas before they ignite.

Some components of the combine's electrical systems are also at higher risk of overheating, particularly parts like starter motors and heating and cooling systems that draw a heavy electrical load. "Fuses that blow regularly should be considered an important warning sign that a circuit is overheating somewhere," Field said.

"Every fire involves three elements – an ignition source, fuel and oxygen. Removing one or more of these elements will prevent fire, so as you examine the combine, other agricultural machinery or a building, consider the potential for each element and where they are likely to come together to form a fire."

In case a fire does start, farmers should always have a cell-phone or two-way radio with them in the cab. Also, combines and other large units should have at least two 10-pound, type ABC fire extinguishers installed, Field recommended. These extinguishers should be inspected regularly to make sure the lock pin is intact, tamper seals are unbroken and the tank is still full.

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While the dry pattern will start shifting away from the region, there are strong probabilities that above-normal temperatures will move in over the next 2 weeks. This should not mean triple-digit heat waves, but may make us wonder what happened to the start of autumn. Do not worry. Those fall colors are already developing. We may have to keep enjoying them without a coat on for a while, though! Accumulated modified growing degree-day temperatures since April 15th now range from around 2600 units (northern Indiana) to over 3400 units (southern Indiana) (Figure 4). Most of Indiana has accumulated less modified growing degree days compared to the 1991-2020 period by up to 175 units (Figure 5).

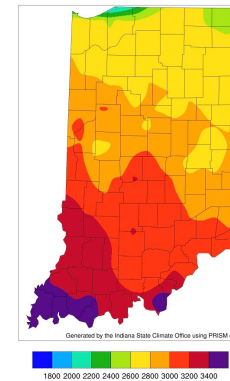


Figure 4. Modified growing degree day (50°F / 86°F) accumulation from April 15-September 27, 2023.

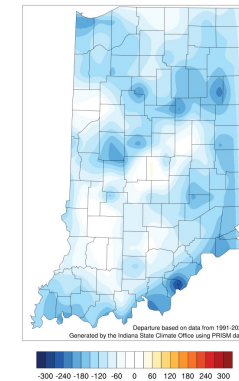


Figure 5. Modified growing degree day (50°F / 86°F) accumulation from April 15-September 27, 2023, represented as the departure from the 1991-2020 climatological average.

MARSHALL COUNTY EXTENSION BOARD ANNUAL MEETING

November 9th 2023 - 6:00 PM EST.

Plymouth Wesleyan Church
11203 Michigan Rd. Plymouth

\$10.00 per person

Can purchase tickets from the
Marshall Co. Extension office by Nov. 1st



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Stalk And Ear Rots: The Importance Of Identifying Them Now To Help With Harvest Decisions

By: Darcy Telenko & Dan Quinn

It is now time to evaluate fields for any stalk or ear rot symptoms. This will aid in making assessments about field harvest order and if there is a risk of mycotoxin contamination. There are many factors that can contribute to stalk decline. There are both plant pathogenic causes and abiotic stresses factors that can play a role in reduced stalk integrity, such as drought and flooding. Either way, as stalk tissue becomes compromised below the main ear the stalk may become brittle or weak and be prone to lodging.

As the corn plant loses photosynthetic leaf area due to different stresses such as foliar disease and hot and dry conditions, the amount of carbohydrates available for dry matter deposition into the kernels is also decreased. Therefore, plants respond by remobilizing non-structural carbohydrates from the stalk to supply the demand required by the developing kernels on the ear. This response causes stalk strength and integrity to decrease, and increases a corn plant's risk of lodging and infection from pathogens that cause stalk rot. Fields with large ear sizes and strong kernel set, which have a high kernel fill demand, may also be at the greatest risk.

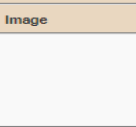



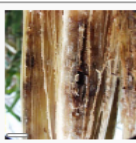



There are a number of plant pathogens that can cause stalk rot including, Anthracnose, Bacteria, Charcoal, Diplodia, Fusarium, Gibberella, and Pythium. Some of these stalk rots have very characteristic symptoms that can help identify the specific problem, while others may require laboratory diagnosis (Table 1). The Purdue Extension Publication [Corn Diseases: Stalk Rot](https://www.extension.purdue.edu/extmedia/BP/BP-89-W.pdf) has good images to help identify the major stalk rot diseases we see in Indiana (<https://www.extension.purdue.edu/extmedia/BP/BP-89-W.pdf>).

It is time to check stalk integrity – check field by using the **Push or Pinch Test** by evaluating 20 plants in at least five random areas in a field.

- **Pinch Test** – grab the stalk somewhere between the lowest two internodes and pinch between your fingers to see if the stalk is strong enough to handle the force – if the stalk collapses, it fails.
 - **Push Test** – push the stalk to a 30-degree angle – if it pops back up when released, it passes the test, if not it fails.
- Threshold: 10% or more of the stalks fail then consider field for early harvesting to avoid risk for lodging.

What can you do in the future – management options will depend on the specific disease (see table 1). Production practices that promote good plant health including balanced fertilization, appropriate plant populations, and good water

Table 1. Stalk rot pathogens, identifying characteristics, and management options.

Stalk Rot	Image	Characteristics	Management Options ²			
			Resistance	Rotation	Tillage	Other
Anthracnose		Distinctive blackening of the stalk rind, loss of pith leads to shredded interior.	X	X	X	Strong stalks, reduced susceptibility to foliar diseases, and production practices that promote good plant health may reduce potential for lodging
Bacteria		Slimy, water soaked outer rind and pith.			Fall	Good drainage and plant health practices
Charcoal		Silver grey rind, peppered with microsclerotia – grainy, gray in color.	X			Many hosts. Rotation not as effective since microsclerotia can survive for many years
Diplodia		Many small, black pycnidia embedded in rind of lower internode- that cannot be scrapped off with thumbnail, white mold might appear in wet conditions, shredded pith.	X	X	X	Strong stalks, reduced susceptibility to foliar diseases, and production practices that promote good plant health may reduce potential for lodging
Fusarium		Dark lesions, external brown streaks on lower internode, internal shredding, sometimes a pale-pink to salmon color on rotted tissue.	X	X	X	Strong stalks, reduced susceptibility to foliar diseases, and production practices that promote good plant health may reduce potential for lodging
Gibberella		Small, black spots (perithecia) on internodes and nodes – these can be scrapped off with thumbnail, pink discoloration and shredding in pith.	X	X	X	Strong stalks, reduced susceptibility to foliar diseases, and production practices that promote good plant health may reduce potential for lodging
Physoderma		Infected nodes will snap when pushed, node is black and rotten.		Maybe		Strong stalks, reduced susceptibility to foliar diseases, and production practices that promote good plant health may reduce potential for lodging
Pythium		Decay of first internode about soil – soft, brown, water-soaked pith. Stalk may twist. Typically no odor.				Strong stalks, reduced susceptibility to foliar diseases, and production practices that promote good plant health may reduce potential for lodging

management can reduce stresses that might predispose corn to stalk rot. In addition, these key management tools can help mitigate future stalk rot issues.

1. **Properly diagnosis the stalk rot pathogen.** (Samples can be submitted to the [Purdue Plant and Pest Diagnostic Lab](#))
2. **Select hybrids with resistance** if available.
3. **Crop Rotation** – rotating to non-host crop will help reduce stalk rot potential in a field. Note that Charcoal rot and Gibberella stalk rot can infect other rotational crops in Indiana
4. **Tillage** – burying infected crop residue will encourage more rapid desiccation and help reduces risk of overwintering in crop residue.
5. **Good soil drainage and reduced compaction.**
6. **Foliar Fungicides** – applying foliar fungicides can help protect crop from foliar diseases that could predispose plant to stalk rot when present, but devoid of foliar disease pressure fungicides applications have not consistently been found to help reduce stalk rot.