



Summer 2023

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**USDA Acreage Report Results:
Price and Crop Insurance Impacts**

The United States Department of Agriculture (USDA) updates its estimates of U.S. supply and demand factors for selected crops throughout the year. This article, written by Dr. Grant Gardner Assistant Extension Professor Agricultural Economics, explores projection updates via the USDA Acreage Report (AR), released on June 30, 2023, and marketing and risk management implications. We point out why soybean prices have a higher possibility of upward price movement than corn as of July 11, 2023. We also discuss crop insurance products, finding that 85% revenue protection, Enhanced Coverage Option (ECO), and Supplemental Coverage Option (SCO) would trigger should the growing season end today.

The initial estimate for corn acreage was 91 million acres in February, which was increased to 92 million in March, and now sits at 94 million in June. This is the third-highest number of acres planted to corn since 1944 (USDA-NASS, 2023). It is worth noting that corn harvested for grain makes up a smaller number of acres at 86.3 million acres but is still up 9% from last year (USDA-NASS, 2023).

Estimated soybean acreage dropped 4.6% to 83.5 million acres in the most recent acreage report, whereas wheat acreage has been similar in all three reports.

Looking at the possible price impacts in the acreage report, we closely examine corn and soybeans, which have experienced the largest acreage changes. Recent upticks in the prices of both commodities have been driven by drought throughout major crop-producing states, causing a weather-induced "crop scare event." During this crop scare, the drought impacted corn and soybean supply expectations which caused market and futures prices to increase drastically. Prices peaked on June 21 and began to fall due to rainfall in key production states such as Indiana, Illinois, and Iowa. The large increase in corn acreage in the June acreage report will make the corn market price less susceptible to future supply shocks, causing a lower price environment. However, the opposite may hold for soybeans which have dropped 4 million acres. As there are fewer soybean acres than previously projected, soybean prices could be more susceptible to further price increases due to detrimental weather, which causes deterioration in crop conditions and expected yield.

A marketing tool available to producers that could

be considered is buying a put option to place a floor on the futures price. A put option gives the right but not the obligation to sell a futures contract at the strike price specified in the put option contract, so long as the futures price is below the strike price when the option is exercised (i.e., "in the money"). Producers can use this strategy to protect against futures market price declines while allowing them to benefit if prices rally. Additionally, producers can manage price risk in their local cash market by locking in prices received at harvest at a local grain elevator or grain purchaser through forward contracting.

Lastly, we look at a producer's potential price protections with purchased crop insurance by considering the futures price as of the afternoon of July 11, 2023,

relative to the projected crop insurance price released by USDA-RMA in the winter. Harvest month soybean futures contracts are very close to the projected price; however, harvest month corn futures contracts are substantially lower. Notably, if the 2023 growing season were to end today, holding the 2023 harvest yield the same as the APH yield, 85% Revenue Protection would trigger an indemnity for corn. The current harvest month corn futures price

would also trigger an indemnity under Enhanced Coverage Option (ECO) and Supplemental Coverage Option (SCO), assuming no difference in the county expected harvest yield and established APH. ECO and SCO trigger an indemnity once county-level revenue falls below 95% and 86% of the county-level revenue guarantee, respectively.

Note: Hunter Biram, University of Arkansas contributed to this article.

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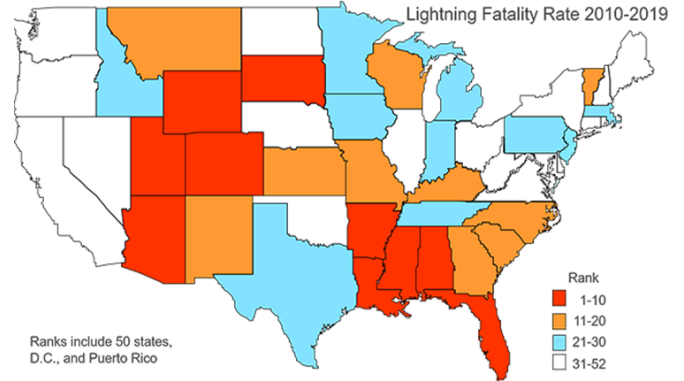


The Risk of Lightning and How to Stay Safe

By Scherri Evans in association with National Weather Service Paducah, KY

While fascinating to watch, lightning poses a dire threat to life and property. There are millions of lightning flashes each year in the United States alone and in the last 30 years, lightning strikes have caused numerous fatalities as well as life-long injuries.

All storms go through differing stages of growth and development, but mainly form in the early parts of the day when the Sun heats the surface and pockets of air start rising. When they reach a certain point in the atmosphere, cumulus clouds begin to develop. As condensation takes place, ice crystals begin to form and drop in the layers of the atmosphere as they get heavier. The movement of these ice crystals allows them to develop electrification and as the heavier crystals drop, they become negatively charged in the middle and lower part of the clouds. Beneath the clouds, a positive charge develops on the ground creating a connection to the negative charges. Lightning forms as the electrification of the negative and positive charges becomes greater, causing a large spark of electricity to be released that is as hot as 50,000 degrees Fahrenheit.



Lightning fatality rate from 2010-2019 U.S.A. ranking By National Weather Service

If you hear thunder, you are likely in an area that will allow you to be struck by lightning. If you somehow find yourself in a situation where you cannot reach cover in a vehicle or covered shelter, the following tips apply:

1. Avoid open fields, the top of a hill or a ridge top.
2. Stay away from tall, isolated trees or other tall objects. If you are in a forest, stay near a lower stand of trees.
3. Stay away from water, wet items, such as ropes, and metal objects, such as fences and poles. Water and metal do not attract lightning, but they are excellent conductors of electricity. The current from a lightning flash will easily travel for long distances.



AGRICULTURAL DEVELOPMENT FUND UPDATE



The Green River Area Beef Improvement Group, a volunteer, non-profit organization which administers the County Agriculture Investment Programs in Daviess, Mclean, Webster and Henderson County has been allocated a portion of Kentucky Agricultural Development Funds to conduct the cost share program in each of those counties this fall.

Individuals who have attended an Extension Service educational event or other agricultural educational opportunity since January 1 of this year are eligible to choose from a long list of items and investments known to be a source, or opportunity for increasing farm revenue or improving on-farm infrastructure. Eligible items should be purchased no earlier than when the educational event was attended and/or December 20 for all of the counties listed above, which identifies the beginning of the six-month retroactive period adhered to across the state for all County Agriculture Investment Programs. A website discussing eligible items can be found at <https://www.kyagr.com/agpolicy/2023-Program-Guidelines-and-Applications.html>.

All purchases and projects must be complete and in operation with applications, receipts, photos, and other required documentation returned and/or postmarked on or before November 30, 2023. Only one application per household, social security number and farm serial number is allowed. Call the extension office to request an application.

FAMILY AND CONSUMER SCIENCES UPDATE

If you have an abundance of fresh produce that you would like to keep, be sure to stop by the Daviess County Extension Office for our Food Preservation booklet. It has all the information on how to properly preserve your harvest by either canning, freezing or drying it.

If you do plan on canning and you have a dial gauge pressure canner, bring your dial gauge canner lid by the office to have it checked for accuracy before you begin canning.



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COOPERATIVE EXTENSION

BEEF BASH

UNIVERSITY OF KENTUCKY

Thursday, September 21
 C. Oran Little Research Center
 1051 Midway Rd. Versailles, KY
 1:30 PM | \$15 Registration

Search "Beef Bash 2023" at [Eventbrite.com](https://www.eventbrite.com)

UK Martin-Gatton College of Agriculture, Food and Environment
 KENTUCKY CATTLEMEN'S ASSOCIATION

2023 UK Corn, Soybean & Tobacco Field Day

July 25, 2023

UKREC
 1205 Hopkinsville St.

Talks begin: 8 am (CT)

Pre-register:
[2023 C,S&T Field Day](#)



EDUCATIONAL CREDITS:

GC IPM Stop

CCA: 1 PM
 Pesticide: 1hr Cat 4

GC Management stop

CCA: 1 CM
 Pesticide: 1hr Cat 10

Tobacco Stop

CCA: 0.5 CM, 0.5 PM
 Pesticide: 1hr Cat 1A

TOPICS INCLUDE:

- Corn Disease Concerns for 2023
- Red Crown Rot of Soybean: A New Disease to Kentucky
- The New "Non-certified Pesticide Applicator's" Category
- UKREC Tobacco Barn Construction Update
- Evaluating Biological N Fixation for Corn
- Tobacco Types Grown in Kentucky: Old vs. New Varieties
- Do We Need to Spray for Caterpillars in Soybeans?
- Comparing Wheat, Barley, and Rye Cover Crops Before Corn
- Flea Beetle Management in Tobacco
- The Continuing Battle Against Problematic Weeds!
- Corn & Soybean Outlook
- Potassium Chloride Use in Tobacco
- Effect of Fungicides on Cigar Wrapper Leaf Production



Thanks to our lunch sponsors!



How Does Wildfire Smoke Impact Corn Growth?

By Dan Quinn Assistant Professor of Agronomy and the Extension Corn Specialist at Purdue University

In recent years, Indiana has experienced an increase in air quality concerns during the summer due to elevated incidence and severity of wildfires in Canada and the western U.S. In late-June of 2023, air quality warnings were issued throughout Indiana due to smoke caused by Canadian wildfires, which resulted in a noticeable haze and reduction in direct sunlight. Therefore, not only is this a concern for human health, the question that is also asked by many farmers is “how is the smoke impacting crop development?”. And, as you may have guessed the answer to this question can be tricky and often results in the quintessential extension answer of “it depends”.

Haze and reduced air quality from wildfire smoke can result in both negative and positive impacts on crop growth. The first negative impact is a reduction in light availability, which can reduce crop photosynthesis. For example, during the week of June 26, 2023 (when air quality concerns were the greatest), average weekly solar radiation was decreased by 32% as compared to the week prior (June 12) and the week after (June 31) in West Lafayette, IN (Purdue Univ. Mesonet). Wildfire smoke in the atmosphere can reflect portions of incoming sunlight, thus reducing the total amount available to plants. Reductions in light availability from wildfire smoke are more likely to impact corn than soybean. This is due to corn being a C4 photosynthesis crop and having a higher light saturation point (the point at which further increases in light do not increase photosynthesis). Soybean is more susceptible to changes in CO₂. The second negative impact caused by wildfire smoke is an increase in ground-level ozone. Ground-level ozone can be both harmful to human health and crop growth. Wildfires can emit various air pollutants which can form ozone when reacted with sunlight. Ozone can cause harm to both corn and soybean by entering the plant through the stomata and causing harm to plant tissue during respiration. Since both reductions in sunlight and increases in ozone can cause photosynthesis reductions, corn may also be inclined to remobilize carbohydrates from the stalks later in the season to satisfy grain fill requirements, thus increasing the potential for weak stalks and lodging prior to harvest.

In contrast to negative impacts caused by reduced sunlight and increased ozone, wildfire smoke in the atmosphere can also have positive effects on crop growth. One positive effect is that not only can wildfire smoke reflect sunlight, it can also scatter sunlight. By scattering the light, this can allow light to penetrate deeper into the crop canopy and increase plant photosynthesis. Furthermore, when light is scattered and direct sunlight is reduced, this can also lower leaf surface temperatures which can benefit crops under drought stress. Lower leaf temperatures can reduce the amount of transpiration (water movement and evaporation from the plant) needed to cool the plant and reduce overall water stress.

Overall, corn is more susceptible to the negative effects of wildfire smoke during the grain fill stages and the good news is that the majority of corn in Indiana was in the vegetative stages during the smoke presence in 2023. Therefore, minor or no yield loss is expected throughout the state. However, much is still needed to be learned about the impacts of wildfire smoke on crop growth, and as these events become more frequent, it will be important to pay attention to them in the future.

KENTUCKY GROWN GROWERS ASSOCIATION and KENTUCKY CORN PROMOTION COUNCIL ANNUAL REPORT

The Kentucky Corn Growers' Association is an organization based on an effort to improve markets and demand, strengthen consumer trust, invest in corn research and to provide a voice for KY farmers. In addition to partnering with UK on corn research, Cooperative Extension has a non-voting appointed extension agent on the KCGA board of directors. Take time to visit the KCGA annual report at <https://kycorn.org/whoweare-annualreports/>. The website highlights ongoing promotion activities and efforts to improve overall market and production information available to farmers.



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Cooperative Extension Service

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