

# Russell County Agriculture and Natural Resources June-July. Newsletter



University of Kentucky  
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Food and Environment  
Cooperative Extension Service

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## THINGS TO REMEMBER:

- Free Soil testing until funds are depleted. Limit 5 free test per Russell County land owner and/or household.
- Remember to Like us on Facebook: Russell County Extension Office- ANR to stay up to date on events.
- Office Closed June 19<sup>th</sup>, and July 4<sup>th</sup>

**HAPPY JUNE DAIRY MONTH!!**  
**THANK YOU DAIRY FARM**  
**FAMILIES**

Jonathan Oakes, CEA for  
Agriculture and Natural Resources

### **FSA Youth Loans**

★ Finance modest, income-producing, agriculture-related, educational project that falls under authorized loan purposes.

★ Eligibility:

- 10 to 20 years old
- Active in FFA, 4-H or Ag Organization
- Parental permission & supervision

★ Maximum Loan Amount is \$5,000

For more information, please contact the  
Columbia Service Center at 270.384.6432  
or stop by at  
961 Campbellsville Rd Columbia, KY 42728.

To access more details online, you can go to  
[www.fsa.usda.gov/youthloans](http://www.fsa.usda.gov/youthloans)

**USDA**



**Farm Service Agency**

Russell County is now home to a new Kentucky Mesonet Station managed by WKU. This is a great asset to everyone in Russell and surrounding counties. You can download the app on your smart phone by searching for KY Mesonet or you can get all the info on your computer at [https://www.kymesonet.org/live\\_data.html?county=WOOD](https://www.kymesonet.org/live_data.html?county=WOOD)

## **Finding the Cause for Abortions and Stillbirths in Cattle- Why is it still so Difficult?**

***Dr. Michelle Arnold, UK Veterinary Diagnostic Laboratory***

Determining the cause of abortions and stillbirths in cattle remains a significant challenge for veterinary diagnostic laboratories, despite vast improvements in the tests used to detect infectious organisms. Most studies find that only 20-50% of abortion cases submitted are “solved”, meaning the first initiating event resulting in the death of the fetus was discovered and answered “why” the calf died. Diagnosis of the cause of an abortion is exceptionally challenging because characteristic visible clues in the fetus rarely occur, sample tissues are often rotting and unsuitable for examination, and the most important tissue for analysis, the placenta, is seldom submitted. Instead, veterinary diagnostic laboratories can often recognize the final mechanism resulting in death of a fetus or calf, such as anoxia (lack of oxygen) or trauma, that answers “how” the calf died instead of “why”. Veterinarians understand the limitations of abortion diagnostics and are best suited to help the producer determine if and when an investigation is warranted and how to collect and submit the appropriate samples. Abortion outbreaks can cause serious economic losses, so it is of value to identify potential causes and how to reduce or eliminate them. For some producers, a single pregnancy loss may trigger an investigation while for others, multiple losses need to occur before calling a veterinarian. A loss of 2% for abortions is often quoted as “acceptable” but this percentage usually does not include any unobserved early losses. Most often, a cluster of cases within a short time span is the most important tipping point to begin an investigation. No matter the situation, the chances of a successful diagnosis increase with the right input from the producer, veterinarian, and the diagnostic laboratory.

“Reproductive failure” is a term used when a cow fails to get pregnant, loses a calf during pregnancy, or the calf dies within 48 hours after calving. Unfortunately, there is a lot of variation in the vocabulary used by scientists, veterinarians, and producers for the events that make up “reproductive failure”. For clarity in this article, “embryonic death” is defined as death of the embryo up to 45 days but, with pregnancy detection now possible much earlier, this may be classified into early and late embryonic death. These early losses often go unnoticed and result in open females or an extended calving season. “Abortion” is defined as expulsion of a fetus between day 42 and day 260 of gestation, a timeframe defined as when the developing fetus could not survive outside the uterus (the limit of fetal independent viability). Females that abort from day 42–120 generally return to estrus either without a fetus being expelled because it was resorbed, or the expelled fetus was too small to observe. Abortions within the 120–260-day timeframe are sometimes referred to as “observable abortions” because they are more likely to be noticed by the producer. “Stillbirth” or “premature delivery” is expulsion of a near-term to full-term fetus that is considered “viable”, so it is developed enough to survive outside the uterus. A “stillbirth” is generally defined as death of a full-term fetus before or during calving while a “perinatal mortality” is death immediately before, during or within 48 hours after calving. Although these distinctions may seem unimportant, they are diagnostically essential. Abortion investigations include gathering a thorough case history, and collecting samples from the dam, fetus and placenta for examination and testing. Stillbirth investigations include these elements but must also address non-infectious management issues such as how long the cow was in labor before assistance was given or potential trauma that occurred during or after birth.

The causes for abortion in cattle can essentially be divided into non-infectious and infectious. Examples of non-infectious causes may be physical (trauma), nutritional deficiencies, genetic abnormalities that result in fetal death, and toxic agents such as nitrates. Infectious causes include bacterial, viral, protozoal and fungal agents such as the BVD virus, IBR virus, the protozoan *Neospora caninum* and the bacterium *Leptospira borgpetersenii* serovar *Hardjo* type *hardjo-bovis*, among many others. These agents either directly damage the fetus or, more commonly, damage the placenta resulting in suffocation of the fetus from lack of oxygen or starve it from lack of nutrients crossing to the fetus from the dam. Infectious organisms may arrive at their destination in the fetus and placenta through the bloodstream from the dam, known as the

“hematogenous route”, or may ascend through the dam’s vagina and cervix to reach the placenta. If the infectious organisms colonize the placenta (called “placentitis”) and penetrate the amniotic fluid, the infected fluid is then swallowed by the fetus or inhaled into the lungs, resulting in fetal bronchopneumonia, gastroenteritis, and, in the case of fungi, a fungal dermatitis may develop. In addition, hematogenous spread may take the infectious organisms through the umbilical vessels and into the fetal liver then out to other organs by the vascular system, resulting in widespread organ infections such as hepatitis (liver infection), interstitial pneumonia (infection within the lung tissue) and nephritis (infection of the kidneys) in the fetus. If the fetus is not yet viable, abortion occurs. If viable (>260 days gestation) yet weak due to lack of oxygen and nutrients or is suffering from infection, the outcome may be a premature, stillborn or weak calf that dies shortly after birth.

Successful diagnosis of abortion involves evaluation of the case history, submission of usable samples and accurate interpretation of laboratory results. Gathering relevant information to assess the extent of the problem and to provide possible diagnostic clues is exceptionally important. The ages of the dams affected, the gestational age of abortions, the estimated abortion rate, any illness or disease problem in the dams, current diet, any recent changes including movement to a different location, new herd additions or feed changes, vaccination status, and any history of previous disease in the herd may help guide testing and aid in the diagnosis. The entire fetus with the placenta and a serum sample from the dam are the best specimens to submit to a veterinary diagnostic laboratory for analysis at the time of the abortion. A complete necropsy examination on the fetus and placenta will then be performed to determine any visible abnormalities present and possibly establish the time of death (before, during or after birth) for the full-term calves found dead. Tissues from the placenta and fetal organs are then submitted for histopathology, an examination at the cellular level under the microscope. Fresh placenta and organ tissues as well as fetal stomach contents and fetal heart blood are tested for bacterial, viral, protozoal and/or fungal agents by various methods. The blood sample from the dam may help determine exposure to a pathogen (infectious organism) by measuring her antibody levels but usually cannot differentiate between antibodies produced due to previous vaccination or

a natural exposure. To improve interpretation, a second blood sample from the dam may be drawn 3-6 weeks later (the convalescent sample) to help identify a rising number of antibodies to a particular organism. In the same way, measuring antibody levels in fetal fluids can be indicative of an active immune response, *if* the fetus was old enough to produce antibodies.

By far, the most important reason for failure to diagnose an infectious cause of an abortion is the lack of placenta submitted for analysis. It is the most significant tissue involved in abortion and without it, the odds of success go down dramatically. As mentioned previously, infection in the placenta (“placentitis”), disrupts oxygen transport, nutritional support, and the hormone and growth factors needed by the fetus. A normal placenta is thin and transparent in the areas between the dark, red-brown cotyledons (see Figure

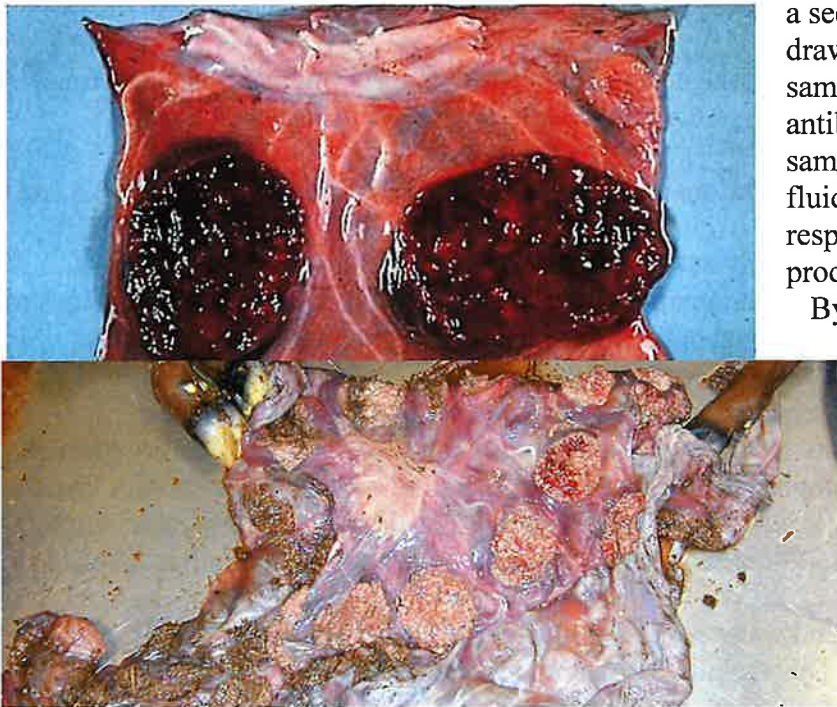


Figure 2: Placentitis. Cotyledons are tan with hemorrhages and the intercotyledonary portions of the placenta are opaque and thickened. (Photo obtained from [http://www.askjpc.org/wsc/wsc\\_showcase2.php?id=451](http://www.askjpc.org/wsc/wsc_showcase2.php?id=451))

1). Placentitis may cause cotyledons to appear discolored or rotten, with areas of hemorrhage and the tissue in-between may be opaque, reddened, and thickened (see Figure 2). Although the placenta may be found in the pasture dirty, covered in mud and manure, frozen, and half-eaten, the superficial contamination can be rinsed away in the lab and the placenta spread out to look for any abnormal areas. Unfortunately, if the fetus and placenta were retained in the uterus for an extended time after death, the tissues may be macerated (soft), mummified (dried), or autolytic (rotten), making them difficult to impossible to use for testing. Ideally, every sample would be tested for every possible infectious agent, but financial considerations dictate selective ordering of appropriate tests, based on the case history and sample quality.

Beyond the diagnostic problems presented by poor sample quality and lack of placenta, what is often overlooked is that sometimes a diagnosis can't be found, even from good samples. There are numerous causes of perinatal mortality that are not related to a certain organism, or the organism is long gone due to the lag time between infection and death. Most final abortion/stillborn necropsy reports from a vet diagnostic lab include language regarding signs of "fetal stress" or "fetal anoxia" in the submitted animal, meaning the fetus was not getting enough oxygen and began struggling, breathing harder and faster, resulting in aspiration of any fluid type present in the nose or mouth down into the lungs.

"Meconium staining" is another sign of fetal stress due to meconium (the first feces) being expelled early, usually during a delayed birth, mixing with the uterine fluids and staining the calf yellow. These signs of fetal stress may be due to prolonged stage 1 or stage 2 of labor, a very large calf, a malpresentation, premature placental separation, and many other possibilities. Fetal anoxia may also be due to maternal hypoxia, meaning the dam's blood is low in oxygen from a disease such as an active case of anaplasmosis or from a toxin such as nitrate so there is not enough oxygen from the dam to support fetal life. Remember that working with your veterinarian, submitting a fresh fetus and placenta to a veterinary diagnostic laboratory, and providing as much information as possible to the lab is your best chance to determine an underlying cause of why a calf died.

#### Preventive Practices to Decrease the Risk of Reproductive Failure:

1. Always provide good nutrition-Providing forage, supplemental feed, trace mineral and clean water to meet nutritional needs and of sufficient quality and quantity to always maintain good body condition scores.
2. Vaccinate for diseases known to cause abortion, including BVD and IBR viruses, Leptospirosis and Vibriosis.
3. Prior to breeding season, test for venereal disease in bulls and have a breeding soundness exam performed. Veterinarians will check scrotal circumference and the reproductive tract for any signs of abnormalities, and the semen for motility and defects. Bulls should be monitored for excessive weight loss and illness. Heat detection, breeding attempts, and semen quality will be reduced in bulls that are under-conditioned or sick. Lameness and pinkeye can be important causes of poor pregnancy rates on pasture as bulls are less likely to seek out cows in heat. Frequent observation of bulls during the breeding season is important to detect any inability to mount or successfully breed that might be caused by injuries to the bull's legs, back or penis. This is particularly vital in single bull breeding pastures. Injured bulls, if detected, can be replaced before too much time is lost from the breeding season.
4. Avoid contamination of cattle feed and water sources with feces or urine from other cattle, wild animals, dogs, cats, and waterfowl. This includes surface runoff into water sources such as ponds.
5. New Purchases:

- a. Buy from someone you trust-Ask for health records and a complete herd history of any disease problems. Ask questions regarding preventive health measures such as what and when vaccines and dewormers were given and how they were administered.
  - b. Quarantine all new additions away from home herds for a minimum of 30 days. Blood test for Johne's, BVD PI, Neospora, and possibly Anaplasmosis; consult your veterinarian for appropriate recommendations. Vaccinate and deworm while in quarantine. Best to not mix new cattle in cow-calf herd until calving season is over. If new additions are pregnant when purchased, strongly recommend testing their calves for BVD-PI shortly after birth.
6. Frequent monitoring of the calving process is the first step in early identification of calving difficulty. Checking the cows that are close to calving at least twice daily and heifers three times per day at minimum is recommended. It is best to separate the heifers from the mature cows and keep heifers in an area where there are working facilities close by to allow restraint and assistance. Pregnant females close to calving will show enlargement of the vulva, the pelvic ligaments at the hips will "sink in", there is enlargement of the udder, and the teats will become engorged with colostrum.

## Forage Timely Tips: June

Posted on **June 7, 2023**, in Kentucky Forage News

- Continue hay harvests. Minimize storage losses by storing hay under cover.
- Clip pastures for weeds and seedheads as needed.
- Slow pasture rotation allowing for a longer recovery period.
- Use portable fencing to decrease paddock size and increase paddock number.
- Do NOT graze below the minimum desired residual height of 4" cool season grasses.
- When present, johnsongrass can provide high quality summer forage when managed.
- Crabgrass, a warm-season annual grass, can provide high quality summer grazing.
- Begin grazing native warm-season grasses. Start at 18-20" and stop at 8-10 inches.

## Dry Weather Effects on Corn at Early Growth Stages

Chad Lee, Extension Professor, Grain Crops

The dry weather across the state is putting stress on the corn crop. The lack of water to corn before the V12 growth stage usually results in minimal yield losses if adequate water occurs at V12 and beyond. Most of the corn in Kentucky ranges from just planted to about V9 as of June 5, 2023.

While yield losses might be minimal, some other issues can or will occur with a lack of water. Each of these scenarios assumes that the water stress lasts for about two weeks and plants will recover on the other side.

1. **Leaf rolling:** The corn leaves will roll during the heat of the day to try to conserve as much water as possible. When this leaf rolling occurs, the plant conducts less photosynthesis, causing it to produce less biomass during the drought stress.
2. **Potassium Deficiency:** Potassium deficiency is a common indicator for drought stress on young corn plants. Plant tissue samples taken on V3 to V6 corn last week and this week likely will show K

deficiency and that K deficiency may be from the drought and nothing else. The corn plant needs water to take up K, so adding more potassium will have no effect on the corn crop if the crop does not have water.

3. **Other Nutrient Deficiencies:** Water is needed for corn to take up several nutrients, not just potassium. Potassium might be the most obvious, but a tissue test will reveal several others as being deficient as well. A soaking rain is the best remedy for these transient deficiencies.
4. **Compaction Becomes Evident:** Both seed furrow sidewall compaction and subsurface tillage compaction become more obvious in dry soils. If corn in a single row or a section of the field shows twisting and curling before other corn, compaction could be a problem. "Vertical tillage" implements and discs often cause soil compaction at the depth they are set. In dry soils, these compacted areas become impossible for roots to break through. Both sidewall compaction and subsurface compaction stunt roots. Those stunted roots cannot take up as many nutrients resulting in stunted corn plants. Timely rains are about the only in-season remedy for these soils. With the dry weather in the forecast right now, rains might be too late to help.
5. **"Floppy" corn syndrome.** (Someone needs to write a "Floppy Corn" song to the tune of Adam Sandler's Sloppy Joe chorus in "Lunch Lady Land".) The dry weather and hot temperatures can cause all roots from one or more nodes to desiccate or dry out and die. A strong wind at this point will knock the plants over. Corn plants from about V2 to V3 will be most susceptible this week. Corn plants in shallow placement are more susceptible. Soaking rains to allow new root growth before any strong winds occur is the best remedy. For more on Floppy corn, [see this article](#). As for that song: "Floppy corn, flop-floppy corn..." It's in your head now, isn't it?
6. **Loss of Row Number or Kernel Number:** Once corn reaches V6 growth stage, the dominant ear and tassel formation start. However, water stress starts affecting row number and kernel number closer to the V12 growth stage. At the V6 growth stage, the corn plants have switched to the nodal root system. This is the final stage before exponential growth. A lack of water from V7 to about V12 could reduce total biomass of the stem and leaves. A lack of water around V12 will reduce kernel rows and then kernel numbers per row on the ears.
7. **Less Disease Risk:** So, we are looking for a positive aspect with this one. A lack of water means foliar disease pressure is extremely low right now. We should not be applying fungicides to V5 or V6 corn anyhow. We certainly do not need fungicide in a drought. Kiersten Wise will have more on this issue.
8. **A Lack of Residual Herbicide Activity:** Most soil residual herbicides need rainfall to activate. Scout fields to identify which weeds are escaping and plan to spray once a rain event occurs. The weeds are not growing well now, either. They need the rain event to be receptive to the herbicides. When applying the herbicides, be sure to use the full adjuvant types and rates recommended on the labels. Travis Legleiter will have more on this issue.
9. **Watch the Roots this Week:** Soils usually dry from the surface downward. This movement of water can affect root development. The V9 corn should have well developed roots that are deeper into the soil. While the V9 corn demands more water than V2 corn, the V9 roots are more likely to interact with plant available water longer than the V2 corn this week. Emerging corn (VE) and V1 corn demands very little water (less than 0.1 inches per day), and most soils still have enough for those plants at the start of this week. Corn at the V2 to V3 growth stage this week may be at soil depths without water and could lose nodal roots to the lack of water.
10. **Nitrogen On Dry Soils:** Volatilization losses are the greatest risk for N losses in dry weather. Urea fertilizers on the soil surface will be actively volatilizing within 72 hours (about 3 days) after application. Urea treated with the adequate rate of NBPT (the active ingredient in Agrotain and other products) will not begin volatilization for about 7 to 14 days. Urea treated with adequate rates of Duromide plus NBPT (the active ingredients in Anvol) will not volatilize for about 14 to 21 days. If possible, sidedress with liquid urea ammonium nitrate (either 28% or 32% UAN). Only half of the

UAN product is urea, making volatilization a smaller risk. The liquid form will soak into the soil further reducing volatilization losses. Injecting the UAN into the soil would be preferred where possible. Whether injected or applied to the surface the UAN will not move far until water re-enters the soil profile. Corn will not take up the N, either, until water is available, so getting the N right next to the corn plant may not be as important. Spray booms with StreamJet (or similar style) nozzles in between each row will apply some of the N close to the plant. Avoid applying any of the nitrogen directly to the corn plants. If applied this week, direct contact of N fertilizer with corn leaves will burn the corn leaves. Usually, this burn is cosmetic and does not affect plant health and yield. But, the corn crop is stressed already, and leaf rolling is limiting photosynthesis. There is no need to add additional stress with leaf burn. If dry urea is the only option available, then apply it. If other options are available, pursue those. Edwin Ritchey and John Grove have more on this topic.

## References

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Nielsen, R.L. 2022. "Rootless" or "Floppy" Corn Syndrome. Corny News Network. Purdue Univ.

<http://www.kingcorn/news/timeless/FloppyCorn.html>

## Hanging by a Thread

By Cheryl Kaiser, Plant Pathology Extension Support, and Nicole Gauthier, Plant Pathology Extension Specialist

Dead, curled leaves dangling by fungal "threads" are typical of a disease called thread blight. This disease is more common in eastern Kentucky, where it has been observed on apple, cherry, and viburnum. Other potential hosts include cotoneaster, dogwood, gooseberry, and rose. Unlike fire blight, which kills branch tips, thread blight begins on interior portions of trees (Figure 1).

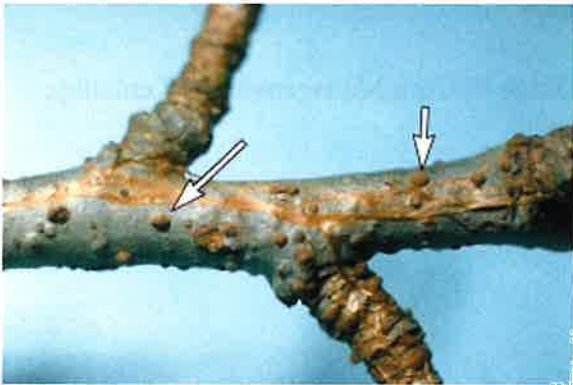
### Thread Blight Facts

- Caused by the fungus *Corticium stevensii* (formerly *Ceratobasidium stevensii*).
- Infected leaves wilt, turn brown, and remain attached to branches by a network of fungal strands (rhizomorphs).
- Silvery-tan rhizomorphs (aggregation of thread-like fungal structures) and tan to brown sclerotia (fungal overwintering structure) develop on the surface of branches (Figure 2) and fruit.
- Disease is favored by moist, shady conditions.
- Generally not a problem in well-managed apple orchards where a fungicide program is followed.





**Figure 1.** Thread blight kills foliage mid-branch; note how leaves at the branch tip are still alive. (Photo: John Hartman, UK)



**Figure 2.** Tan fungal threads (rhizomorphs) and sclerotia (arrows) on branches are diagnostic for this disease. (Photo: John Hartman, UK)

### Management Options

#### To prevent thread blight

- Selectively prune branches to improve air circulation and sunlight penetration within trees.
- Orchardists should follow a fungicide spray program. Thread blight can be managed with fungicides beginning in mid-June when the fungus becomes active; studies have shown that Merivon, Pristine, and Topsin-M can help reduce disease incidence and severity when used as preventatives.
- Avoid planting apple and susceptible landscape plants in low lying, shaded locations.

#### When thread blight is present

- Once established in an orchard, thread blight can be difficult to eliminate due to long term survival of the sclerotia.
- Where disease occurrences are minimal, prune and destroy infected branches.

## Cucumber, Corn, and Bean Salsa

- 2-3 large cucumbers
- 2 tomatoes
- 1 yellow bell pepper
- 1 small red onion
- ¼ cup chopped fresh cilantro
- ½ cup black beans
- ½ cup fresh whole kernel corn, cooked
- 1 ounce package dry ranch dressing mix
- ¼ cup cider vinegar
- ¼ cup sugar

**Directions:** Wash all vegetables. Finely chop cucumbers, tomatoes, pepper, and onion. **Combine** in a large mixing bowl with chopped cilantro. **Drain** and rinse beans and add to chopped vegetables. **Add** corn. If using canned corn, instead of fresh, drain off liquid prior to adding to vegetables.

In a small bowl, **mix** together ranch dressing packet, vinegar, and sugar. **Pour** dressing over vegetables and **mix** well. **Serve** immediately or refrigerate until chilled.

**Yield:** 10, 1 cup servings.

**Nutrition Analysis:** 50 calories; 0g fat, 130 mg sodium, 7g carbohydrate, 2g fiber, 70% Daily Value for vitamin C.

Recipes developed by County Extension Agents-Family and Consumer Sciences; University of Kentucky Nutrition and Food Science students.

Educational programs of Kentucky Cooperative Extension serve all people regardless of race, color, age, sex, religion, disability, or national origin.



# Economic & Policy Update

E-newsletter Volume 23, Issue 5

Editors: Will Snell & Nicole Atherton



Department of Agricultural Economics  
University of Kentucky



MAY  
2023

A photograph of an agricultural scene. In the foreground, there is a field of yellow flowers. In the background, there are several large metal silos and a tall tower, likely part of a farm or processing facility. The sky is blue.

## Current State of Carbon Market Policies

*Author(s): Jordan Shockley*

*Published: May 30th, 2023*

While traveling across the U.S. discussing carbon markets with various stakeholder groups, one frequently asked question is, “Will the government have its hands in carbon markets?” When this question was asked at the beginning of 2022, my answer was no. The federal government was seemingly taking a hands-off approach to carbon programs in the U.S. Well, things have changed since then, and there are now policies that have passed or are currently being considered pertaining to carbon markets in the agricultural sector. Two important policies in the carbon market space are the Growing Climate Solutions Act (passed) and the proposed rule by the Securities and Exchange Commission (SEC) titled “The Enhancement and Standardization of Climate-Related Disclosures for Investors.”

The Growing Climate Solutions Act is a bipartisan bill passed in the December 2022 Consolidated Appropriations Act, which outlines USDA’s role in reducing barriers in agricultural and forestry-based carbon credits. This authorizes USDA to set up the “Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Programs,” which is a registration list for technical advisors and verifiers of carbon credits. Part of this program will establish a list of widely accepted protocols for technical advisors and verifiers to follow or be removed from the program if they fail to meet the program standards. If the program moves forward, the USDA must also establish an advisory council that will help guide the program. The majority of the advisory council will be made up of farmers, ranchers, and woodlands owners, with participation from other stakeholder groups and organizations. While the Growing Climate Solutions Act did establish some form of guidance and oversight of carbon markets, it fell short of the initial proposal to develop specific protocols for a USDA-Certified carbon credit. To date, the USDA has not implemented the program nor developed the advisory council.

On the other hand, the Securities and Exchange Commission proposed a rule in March 2022 requiring publicly traded companies to disclose their exposure to climate-related risk, including disclosing their own greenhouse gas emissions (found [here](#)). So how does this impact the agricultural sector, specifically farmers and ranchers? The proposed rule states that “a registrant would be required to disclose greenhouse gas emissions from upstream and downstream activities in its value chain (Scope 3), if material or if the registrant has set a greenhouse gas emissions target or goal that includes Scope 3 emissions.” Therefore, any publicly traded company that produces goods from agricultural products and has Scope 3 emissions reduction targets would have to report emissions from agricultural activities at the farm level. Many agricultural organizations, including most national agricultural associations, are pushing back against the proposed rule. A letter to the SEC by the national agricultural associations (found [here](#)) states that “the Proposed Rules would be wildly

burdensome and expensive if not altogether impossible for many small and mid-sized farmers to comply with, as they require reporting of climate data at the local level. When farmers and ranchers cannot afford the overhead required to comply, they will have no choice but to consolidate.” Also in this letter, the national agricultural associations encourage the SEC to consider, among other things, to “remove or substantially revise the Scope 3 emissions disclosure requirements to include an explicit exemption for the agricultural industry.” After receiving public comments on the proposal, the SEC is considering easing portions of the proposed rule, but no new details have been released to date, nor a final approval of the proposed rule.

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# Economic & Policy Update

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## The PRIMER Method

Author(s): Steve Isaacs

Published: May 30th, 2023

The calls or emails start with, “I’m thinking about trying....” and end sometime later with, “What do you think?” For three decades I’ve fielded many of these inquiries. Extension agents get them with incredible frequency. It’s certainly a credit to the Land Grant System and the Cooperative Extension Service that most farm magazine articles about some new topic end with, “For more information, contact your local Extension office.”

Rather than trying to be an expert on every topic, it has proved useful to provide a structure for answering the questions and conducting some analysis. Early in my career I started using a simple acronym, PRIMER, to guide the discussion. In 2000, my colleague in Ag Economics, [Tim Woods](#), and I published the “[PRIMER for Selecting New Enterprises for Your Farm](#).” In publishing parlance this publication has “shelf life.” The principles from 2000 are just as applicable in 2023.

In no particular order of importance, but it makes the acronym easier to remember, the letters represent:

**P**rofitability

**R**esources

**I**nformation

**M**arketing

**E**nthusiasm

**R**isk

Profitability is definitely important unless you want to subsidize the enterprise or call it a hobby. Those are clearly options, but it’s best to know if revenues exceed costs. The publication has two worksheets to help address Profitability.

Resources may be the limiting factor. Or, they may be the reason for considering the enterprise in the first place if there are underutilized resources available. The second statement on the call is often, “I’ve bought this land...” There’s one worksheet to help address the Resource question.

Information is the element that may have changed the most in twenty-some years. The internet has proliferated into the source of all knowledge, it seems. Quantity and quality are different things. There’s another worksheet that inquires about several types of Information, the sources, and the costs.

Marketing is often the most daunting task for many new endeavors and an area for which many are woefully equipped or inclined. There are lots of questions to ask (and answer). There are four worksheets for this important task.

Enthusiasm is the E because Entrepreneurship was too hard to spell, but either way it's important for a new enterprise. This single worksheet really gets at the Why... why would you start this, and just as important, why would you stop. But, why would've messed up the spelling of PRIMER, for sure.

Risk is what you have when you're not sure, and that's what initiated the call in the first place. Risk can take a lot of forms. The final worksheet asks how certain you really are and anticipates what might go wrong.

PRIMER was designed to ask the questions, not answer them. That's often frustrating for those who call wanting easy or simple answers. Sometimes the answer is, "I don't know." Or, "I'm not sure." Both of those responses may be useful. They can tell us something about the difficulty or uncertainty of the new endeavor. The questions that can be answered can serve as the guide to a successful new enterprise.

That's what "I think about it."

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## Spring Tornado Safety

By Jane Marie Wix - National Weather Service Jackson, KY (in coordination with Kentucky Emergency Management)

Each year, the United States experiences an average of 1,200 tornadoes. Many strike rural areas and cause little damage, and most have paths well under one mile in length and winds under 100 mph. However, a few tornadoes can become large and violent, with wind speeds approaching 200 mph, tracking tens of miles and leaving swaths of destruction and death. In Kentucky, tornadoes have occurred during every month of the year and at every hour of the day. However, they occur most frequently from March through June and typically between 3 and 10 PM. Nighttime tornadoes are often more dangerous as they are harder to see and most people are sleeping.

So what do you do if there is a tornado? How do you stay safe?

### **Before a Tornado**

- Have a family tornado plan in place and practice a family tornado drill at least once a year.
- Have a predetermined place to meet after a disaster.
- Learn the signs of a tornado: dark, greenish sky; large hail; dark, low clouds; and loud roaring sounds.
- When a tornado watch is issued, practice your drill and check your safety supplies.
- Increase your situational awareness by monitoring the weather on [weather.gov](http://weather.gov), watching local TV, or listening to NOAA Weather Radio.
- Flying debris is the greatest danger in tornadoes; so store protective coverings (e.g., mattress, helmets, sleeping bags, thick blankets, etc) in or next to your shelter space, ready to use on a few seconds notice.
- Tornado rule of thumb: Put as many walls and floors between you and the tornado as possible!
- If you are planning to build a house, consider an underground tornado shelter or an interior "safe room".
- **In a mobile home: GET OUT!** Go to a neighbor's house, underground shelter, or a nearby permanent structure. Most tornadoes can destroy even tied-down mobile homes.

### **During a Tornado**

- Wear a bicycle or motorcycle helmet to protect your head and neck or cover your head with a thick book.
- **In a house with a basement:** Avoid windows. Get in the basement and under some type of sturdy protection (heavy table or workbench), or cover yourself with a mattress or sleeping bag. Know where very heavy objects rest on the floor above (pianos, refrigerators, dressers, etc.) and do not go under them. They may fall down through a weakened floor and crush you.
- **In a house without a basement, a dorm, or an apartment:** Avoid windows. Go to the lowest floor, in a small interior room (like a bathroom or closet), under a stairwell, or in an interior hallway with no windows. Crouch as low as possible to the floor, facing down. A bath tub may offer a shell of partial protection. Even in an interior room, you should cover yourself

with some sort of thick padding (mattress, blankets, etc.), to protect against falling debris in case the roof and ceiling fail.

- **In a car or truck:** If you are caught by extreme winds or flying debris, park the car as quickly and safely as possible - out of the traffic lanes. Stay in the car with the seat belt on. Put your head down below the windows; cover your head with your hands and a blanket, coat, or other cushion if possible. If you can safely get noticeably lower than the level of the roadway, leave your car and lie in that area. Avoid seeking shelter under bridges.
- **In the open outdoors:** **lie flat and face-down on low ground, protecting the back of your head with your arms. Get as far away from trees and cars as you can.**

### After a Tornado

- Remain calm and alert, and listen to the radio or TV for instructions from authorities.
- Keep your family together and wait for emergency personnel to arrive.
- Carefully render aid to those who are injured.
- Stay away from downed power lines.
- Watch your step to avoid broken glass, nails, and other sharp objects.
- Stay out of any heavily damaged houses or buildings.
- Do not use matches or lighters, there might be leaking natural gas pipes or fuel tanks nearby.



Image Courtesy of the Lexington Herald Leader (Lexington, KY)