Corn & Soybean News

March 2024

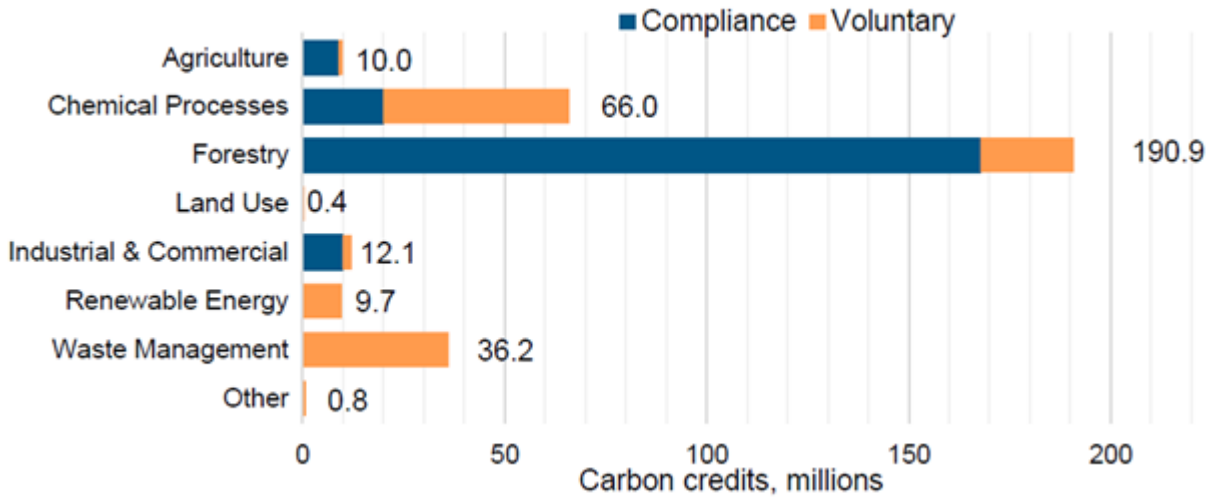
Volume 6, Issue 03

Martin-Gatton College of Agriculture, Food and Environment | Grain and Forage Center of Excellence

The Shift in Agricultural Carbon Markets in the U.S.

The landscape of carbon markets in agriculture is beginning to shift, albeit still the "wild west." Companies are still offering carbon programs to row crop producers for which they are compensated for adopting carbon sequestering practices (e.g., no-till and cover crops) that generate carbon credits. These carbon credits are then sold to companies that must comply with state greenhouse gas (GHG) emissions regulations or to companies with voluntary GHG emission reduction pledges. Figure 1 illustrates that carbon credits issued from agricultural projects remain a small portion of the overall carbon credits issued by sector. Furthermore, most carbon credits from agriculture over the past ten years come from the dairy industry, not from row-crop carbon sequestration practices.

Figure 1. Carbon credits issued by scope for projects in the United States, 2013-2022



Source: USDA (2023). Report to Congress: A General Assessment of the Role of Agriculture and Forestry in U.S. Carbon Markets

New carbon programs geared toward agriculture continue to launch in the U.S., even in the wake of enhanced public scrutiny. The scrutiny comes as companies are allegedly using carbon credits to "greenwash." Greenwashing is where companies mislead the public by making exaggerated or false environmental claims. This has resulted in lawsuits and federal policies (e.g., Federal Trade Commission) aimed at preventing misrepresentation of a company's claimed GHG emission reductions. This has led to companies shifting their strategy to reduce their GHG emissions to what is known as carbon insetting.

Carbon insetting is where companies look within their supply chain to reduce their GHG footprint. A common strategy is sourcing raw ingredients that are produced using sustainable practices (a.k.a. regenerative practices and climate-smart practices). For example, Nestlé plans to source 50% of its key ingredients, which are produced using regenerative agriculture methods, by 2030. Some companies have a more aggressive sourcing strategy where they plan to only work with growers that use sustainable agricultural practices. Numerous companies that use corn and soybeans as a raw ingredient have carbon insetting strategies to meet their GHG reduction goals.

So, what does this mean for row-crop producers in Kentucky? In addition to carbon companies continually offering payments for generating carbon credits, new financial opportunities have emerged through carbon insetting. Now, instead of dealing with a carbon credit project developer, you may be approached by an end user or someone representing the end user (e.g., a bourbon company or ethanol plant) who is looking to source corn and soybeans that are produced using sustainable, regenerative, or climate-smart practices. As Kentucky is the home of no-till agriculture, and many farmers already use cover crops, there is ample opportunity in Kentucky for companies looking to source sustainable raw ingredients, where the opportunity was slim to qualify to participate in a carbon credit program due to the concept of additionality. One of the looming questions is, will companies pay a premium for corn and soybeans produced using sustainable agricultural practices? Early indications suggest yes, but the verdict is still out, so stay tuned.

Dr. Jordan Shockley
UK Extension Economist (859) 218-4391 jordan.shockley@uky.edu X@Shock_N_AgMgmt

Producing 100 Bushels/acre Soybeans – What Does it Take?

Producer reports of 100-bushel soybean yields are getting more common, especially among yield contest winners. These reports raise the question – what does it take to produce 100-bushel yields? What can a producer do to reach this yield level?

One suggestion is to just have patience. Soybean yields have been increasing steadily since the 1930's and it seems reasonable to expect them to continue increasing in the future unless climate change puts the kibosh on yield growth.

In 1982 I wrote an article for the 'Soybean News' entitled 'Why don't 50-bushel beans make 70?". In 1982 the average state yield in Kentucky was 31.5 bushels/acre; it was 55 bushels /acre in 2023, a 75% increase. Seventy-bushel yields that I fantasized about in 1982 are now common. In fact, average state yields in some states are approaching 70-bushels/acre (Illinois reached 65-bushels/acre in 2021).

Fifty-bushel yields were bragging yields in 1982, but no one brags about them today. Yield growth, a result of better varieties and improved management practices, continuously pushes yields higher, so eventually 100-bushel yields will be common. Just have patience and you will eventually see 100-bushel yields on your farm.

If you are not a patient type, you could speed up progress in Kentucky by moving to Union County. Union County has the highest soybean yields of any county in Kentucky. The average yield in Union County (2003 – 2022) was 52.6 bushels/acre, nearly 3.0 bushels above the next highest county (Davies) and a whopping 15 bushels above the two lowest yielding counties (Marshall and McCrackin). So, 100-bushel yields will probably be common in Union County before they appear regularly in other counties. Union County's advantage is largely a result of better soils that store more water than most soils in other counties.

Water is especially important when shooting for exceptionally high yields. Water stored in the soil reservoir serves as a buffer between the intermittent rainfall and the continuous, unrelating use by the crop. The larger the reservoir, the longer the crop can grow unstressed without rain. A large reservoir also reduces year-to-year variation in yield, which in Marshall and McCracken counties was roughly twice that of Union County when measured by the coefficient of variation (CV = 26 and 14%, respectively).

What other options are available if you lack patience and do not want to move to Union County? Since it is unlikely that you can get 100-bushel yields if the crop experiences water stress, you may want to invest in an irrigation system. It is possible, but not likely, that the rainfall in any given year will be adequate and perfectly distributed so that the soybean crop is never stressed. Irrigation can fill in the rainfall gaps and minimize water stress. If irrigation is not possible, you can always polish up your rain dance and hope for the best.

Once water is taken care of, the rest is just a matter of doing a good job applying the best management practices that we normally use to produce soybean. As usual, the best management practices start with selecting a good high-yielding variety with a strong package of disease resistance, followed by planting early, getting an adequate stand and controlling weeds, diseases and insects. Planting on fertile soil with the appropriate pH and adequate levels of P and K is essential. One thing that, in my opinion, is very clear – there are no unique management tricks, no silver bullets, that will produce 100-bushel soybean yields.

We all know that applying the best management practices to a crop with plenty of water will not necessarily produce 100-bushel yields. Why not? That is a good question without, in my opinion, a good answer. We could blame it on temperature and solar radiation levels, the uncontrollable aspects of the environment, but that is not very satisfying or useful. The bottom line is - no one knows for sure how to reliably produce 100-bushel soybean yields year after year.

Another important question is – does it make any sense to strive for 100 bushel yields? We must not forget that, in the final analysis, the bottom line is more important than super-high yields. Spending money on additional inputs to chase the high yield rabbit may not be a profitable strategy.

One hundred-bushel soybean yields will be more common as time passes and improvement in varieties and management practices continue to drive yields upward. In other words, it is just a matter of time unless or when climate change puts the brakes on yield growth. Chasing record high yield may not be the best road to riches. Realism is probably the best approach for managing soybean yields as stated by writer W.A. Ward (1921 – 1994) – "the pessimist complains about the wind, the optimist expects it to change, and the realist adjusts the sails".

Dr. Dennis Egli
UK Professor Emeritus (859) 218-0753 degli@uly.edu

2024 Corn and Soybean Fungicide Efficacy Guides Now Available

The 2024 fungicide efficacy tables for foliar diseases of corn and soybean, and for soybean seedling diseases have been updated, and are now available through the Crop Protection Network website: https://cropprotectionnetwork.org/

These tables are updated annually based on data provided by United States Extension plant pathologists, with efficacy determined through replicated research trials across a broad geographic area. Kentucky research trial data are included in the development of these national fungicide efficacy ratings.

The ratings in these guides reflect the efficacy of a fungicide against a given disease, and are not rating yield response to a fungicide. It is an applicators legal responsibility to read and follow label directions. Updated tables include:

- Fungicide Efficacy for Control of Corn Diseases
- Fungicide Efficacy for Control of Soybean Seedling Diseases
- Fungicide Efficacy for Control of Soybean Foliar Diseases

Dr. Kiersten Wise
UK Extension Plant Pathologist (859) 562-1338 Kiersten.wise@uky.edu

Dr. Carl Bradley
UK Extension Plant Pathologist (859) 562-1306 carl.bradley@uky.edu **X**@cropdisease

Italian Ryegrass Control Field Tour

Thursday, March 28, 2024
8:30 a.m. to 11:30 a.m.

Please meet at the Caldwell County Extension Office
1025 U.S. Highway 62 West, Princeton, KY
Sign-in begins at 8:30 a.m. CDT

A caravan will proceed to the UKREC in Princeton for plot tours of Italian ryegrass research

Please pre-register by scanning QR Code or clicking link:
https://uky.az1.qualtrics.com/jfe/form/SV_3w9zPIbfbHT33JI

Credits — CCA: 3 CEUs for IPM; KY PAT: 1 CEU for Category 10, 2 CEUs for Category 1A

Italian ryegrass (aka Annual Ryegrass) is rapidly becoming one of the most problematic weeds in no-till corn and soybean production in Kentucky.

Presented by **Dr. Travis Legleiter, UK Extension Associate Professor - Weed Science**, this field tour will highlight the options available to Kentucky farmers for maximum control of this problematic weed in the fall and spring prior to corn and soybean planting.

For more information about the field tour call (859) 562-2569.

Cooperative Extension Service

Agriculture and Natural Resources
Family and Consumer Sciences
4-H Youth Development
Community and Economic Development

MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

Lexington, KY 40506

2024 Grain Crops Science Service Award

The University of Kentucky Martin-Gatton College of Agriculture, Food, and Environment announces the selection of Todd County UK Cooperative Extension agent Curt Judy as the 2024 UK Grain Crops Science Service Award recipient. After four decades of service, this honor highlights Judy's lasting contributions to Kentucky's agricultural community.

Previously known as the UK Wheat Science Service Award, this award now recognizes broader achievements in grain crops science including enhancing grains crops research and education.

"Curt consistently helps supervise UK corn, wheat and soybean yield contests," said Chad Lee, Grain and Forage Center of Excellence director. "He has promoted research to attain high-yielding and high-quality wheat and served on commodity boards. He genuinely enjoys working with producers & helping people."

Judy's commitment to the agriculture community

Judy dedicated approximately 44 years to serving as an extension agent in Crittenden, Christian and Todd counties. A Harrison County native and 1977 UK agronomy graduate, Judy is celebrated for his commitment to agricultural research and education.

Pictured L-R: Maggie Gillum, Curt Judy, Sam McNeill, Chad Lee.

Throughout his career, Judy has been instrumental in supervising yield contests for multiple crops and promoting research for high-quality grains. His collaboration with researchers like Department of Plant and Soil Scence professor emeritus Lloyd Murdock on studies concerning tillage, soil fertility and compaction have been essential to improving agricultural practices.

Judy has also worked on various trial research projects and engaged in soybean cyst nematode education, contributing to the state's grain crops science.

“Curt has been a great agent,” Murdock said. “He has collaborated on many different research projects and has been helpful with off-station field days as well as other educational meetings, just to name a few things."

Judy also developed a software program in 1999 to assist growers with the Kentucky Agricultural Water Quality Plan, streamlining the compliance process for over 30,000 farm plans. His efforts in educating growers about genetically modified organisms and farm trucking regulations have further demonstrated his impact on Kentucky agriculture.

“He is an outstanding, experienced and knowledgeable agent,” Murdock said. “His clientele and their needs are very important to him and he is highly respected by his clientele, as well as extension and research specialists across the commonwealth.”

Jordan Strickler
Ag Communication Specialist (859) 257-8324 jstrickler@uky.edu

Martin-Gatton College of Agriculture, Food and Environment

April 4, 2024
8 am-2 pm

KATS Kentucky Agriculture Training School

PLANTER CLINIC

Hands-on training covering basic to advanced planter function to maximize planter performance.

University of Kentucky Research and Education Center
1205 Hopkinsville St.
Princeton, KY 42445

- ***Identification of improper planter settings and the resulting consequences on plant performance.***
- ***Considerations for planting in heavy residue***
- ***Discussion of general and advanced planter components and proper maintenance.***

Pre-registration is required at
https://KATSPlanterclinic2024.eventbrite.com
$105
Lunch is included

Credits pending

For more information contact Lori Rogers
270-365-7541 ext 21317 lori.rogers@uky.edu

KENTUCKY Small Grain GROWERS' ASSOCIATION

Save the Date

UK WHEAT FIELD DAY

MAY 14, 2024

Registration 8:30am cst
UKREC Farm, Princeton

UPCOMING EVENTS

Italian Ryegrass Control Field Tour
March 28, 2024

KATS Planter Workshop
April 4, 2024

Wheat Field Day
May 14, 2024

KATS Crop Scouting Workshop
May 21, 2024

KATS Soil Properties & Their Impact on Delivering Water & Nutrients
June 6, 2024

Drone Pilot Certification Workshop (Madisonville)
June 10 & 11, 2024

Pest Management Field Day (IPM Grain Crops)
June 27, 2024

CORN, SOYBEAN & TOBACCO FIELD DAY
July 23, 2024

KATS Field Crop Pest Management & Spray Clinic
August 29, 2024

Cooperative Extension Service
Agriculture and Natural Resources
Family and Consumer Sciences
4-H Youth Development
Community and Economic Development

Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, or physical or mental disability. University of Kentucky, Kentucky State University, U.S. Department of Agriculture, and Kentucky Counties, Cooperating.

LEXINGTON, KY 40546

Disabilities accommodated with prior notification.