

AGRICULTURE & NATURAL RESOURCES

# *Carlisle County ANR Newsletter October, 2023*

**Cooperative Extension Service**

Carlisle County  
65 John Roberts Road  
Bardwell, KY 42023-0518  
(270) 628-5458  
Fax: (270) 628-3722  
extension.ca.uky.edu

## **Dates to Remember:**

*WAVE Ag Day Luncheon-Oct 19-site to be determined*

*Women in Ag Program-Nov. 9-Young Center-Clinton*

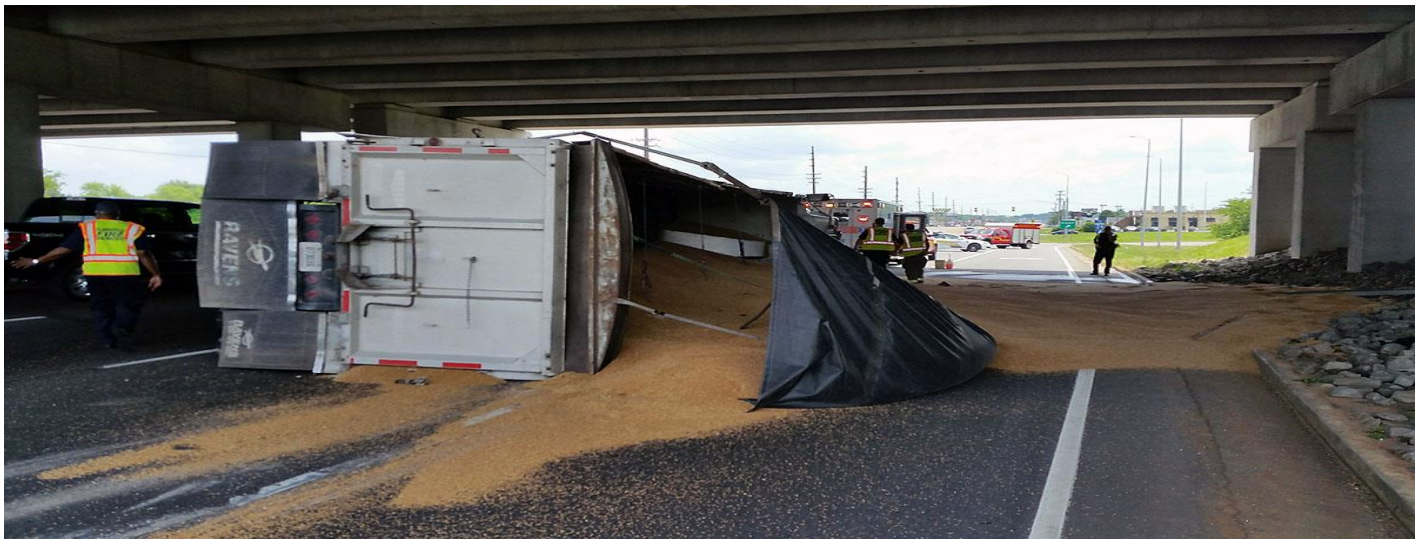
*Winter Grain Meeting for Producers-Dec. 13, Amberg Shop in Hickman-stay tuned*

*Commodity Conference- Jan. 18, 2024-Bowling Green*

*Winter Ag Conference-Feb. 9, 2024- Lowry Farm-stay tuned*

***Welcome Cole Bell to Carlisle County as the new 4-H agent***

***Stay Safe during the Harvest Season!!!!!!***



## Have you seen this disease in your soybeans –Let me know if you did see it.

University of Kentucky

College of Agriculture, Food & Environment

Extension Plant Pathology



Martin-Gatton  
College of Agriculture, Food and Environment  
Cooperative Extension Service

Plant Pathology Fact Sheet

PPFS-AG-S-25

# Red Crown Rot of Soybean

Carl A. Bradley  
*Plant Pathology  
Extension Specialist*

Kelsey Mehl  
*Plant Pathology  
Extension Associate*

## INTRODUCTION

Red crown rot is a soybean disease that was first confirmed in Kentucky in 2021 and first confirmed in the neighboring state of Illinois in 2018. Historically, red crown rot had been considered a disease that occurred in states further south than Kentucky (i.e., Louisiana and Mississippi). From measurements conducted within a few Kentucky soybean fields in 2021, small areas affected by red crown rot had grain yields that were approximately 70% less than non-symptomatic areas of these fields. Although the current distribution of red crown rot in Kentucky appears to be limited, the disease has the potential to cause major yield losses.

## SYMPTOMS & SIGNS

Symptoms of red crown rot can occur on leaves, lower stems, and roots of soybean plants.

On leaves, symptoms first appear as chlorotic (yellow) flecks that occur between veins (FIGURE 1). These chlorotic flecks may continue to develop into interveinal chlorosis (yellowing between the leaf veins, while veins remain green) and interveinal necrosis (dead areas between the leaf veins, while veins remain green) (FIGURE 2). Leaf symptoms are caused by a phytotoxin produced by the causal fungus, which moves through the plant and accumulates in leaves. These leaf symptoms generally are not observed until soybean plants reach the reproductive stages of development (beginning flowering and beyond).



**FIGURE 1.** YELLOW (CHLOROTIC) FLECKS OCCURRING ON SOYBEAN LEAFLETS BETWEEN THE MAIN VEINS, CAUSED BY RED CROWN ROT. **FIGURE 2.** INTERVEINAL CHLOROSIS (YELLOWING BETWEEN THE VEINS) AND NECROSIS (DEAD TISSUE BETWEEN THE VEINS) ON SOYBEAN LEAFLETS, CAUSED BY RED CROWN ROT.

Lower stem and root symptoms may be observed prior to leaf symptoms. Infections result in a reddish discoloration of lower stems (areas just above the soil line) and roots (FIGURE 3). During the late soybean development stages (pod and seed development and later), white fungal growth (mycelia) may develop on roots and lower stems, and fungal fruiting structures (perithecia) also may develop (FIGURE 3). Perithecia are red to reddish-orange, spherical, and less than 1/16 inch in diameter (FIGURES 3 & 4).



**FIGURE 3.** RED DISCOLORATION OF LOWER SOYBEAN STEM AND ROOTS CAUSED BY RED CROWN ROT, AND WHITE MYCELIA (WHITE FUNGAL GROWTH) AND RED, SPHERICAL FRUITING BODIES (PERITHECIA) PRODUCED BY THE RED CROWN ROT FUNGUS.

**FIGURE 4.** REDDISH-ORANGE SPHERICAL FRUITING BODIES (PERITHECIA) ON A SOYBEAN ROOT, PRODUCED BY THE RED CROWN ROT FUNGUS.

**FIGURE 5.** A PATCH OF PREMATURELY DEAD SOYBEAN PLANTS SEVERELY AFFECTED BY RED CROWN ROT.

Areas of symptomatic plants in fields generally occur non-uniformly within patches. Soybean plants that are severely affected by red crown rot may die prematurely, while non-affected plants remain green (FIGURE 5).



### CAUSE & DISEASE DEVELOPMENT

Red crown rot is caused by the fungus *Colonectria ilicicola*. This fungus overwinters and survives in the soil as specialized structures known as microsclerotia. The fungus may begin to infect soybean roots shortly after planting. The greatest infection of roots occurs when soil temperatures are between 77°F and 86°F. The fungus has a broad host range, which includes alfalfa and peanut as other agriculturally important hosts.

### DISEASES WITH SIMILAR SYMPTOMS

Red crown rot can be confused with other soybean diseases, which can make diagnosis difficult. The most accurate diagnosis requires a laboratory analysis, and symptomatic soybean samples from Kentucky fields can be submitted to the University of Kentucky Plant Disease Diagnostic Laboratory through your local Kentucky county Extension office.

Potential look-alike diseases that have symptoms of interveinal chlorosis/necrosis on soybean leaves include sudden death syndrome (SDS), southern stem canker, and brown stem rot. Of these three diseases, only SDS and southern stem canker are currently known to occur in Kentucky, while brown stem rot occurs further north than Kentucky. Although these diseases have similar leaf symptoms to red crown rot, red crown rot generally can be distinguished by the reddish discoloration of lower stems and roots. Observance of the red, spherical perithecia on lower stems and roots is also distinctive to plants affected by red crown rot.

Lower stem and root symptoms caused by *Rhizoctonia* root rot also can potentially be confused with symptoms caused by red crown rot. *Rhizoctonia* root rot may cause reddish-brown lesions on roots and hypocotyls (FIGURE 6); however, these lesions tend to be sunken and girdling, whereas the red discoloration caused by red crown rot generally is not. In addition, *Rhizoctonia* root rot is more likely to first be observed when plants are in the seedling to early-vegetative stages, and red crown symptoms may appear later in the season. Also, perithecia will only be present on lower stems and roots of plants affected by red crown rot.



FIGURE 6. REDDISH-BROWN SUNKEN AND GIRDLING LESIONS ON SOYBEAN HYPOCOTYLS AND ROOTS DUE TO RHIZOCTONIA ROOT ROT.

## DISEASE MANAGEMENT

- Rotating to a non-host crop for 2 or more years may help reduce inoculum levels of the red crown rot fungus in the soil.
- Treating soybean seeds with a fungicide seed treatment that includes red crown rot on the label may help protect against early infections by the red crown rot fungus.
- Planting soybeans when soil temperature is less than 77°F may help reduce infections by the red crown rot fungus.
- Management of soybean cyst nematode (SCN) may help reduce potential interactions between SCN and the red crown rot fungus, which have been shown to have an antagonistic effect on soybean plants when both are present.
- Currently, no commercial soybean varieties are marketed with resistance to red crown rot.
- Additionally, no foliar fungicides include red crown rot on their labels, and fungicides will not be effective in managing red crown rot if applied.

## ADDITIONAL RESOURCES

- An Overview of Soybean Seedling Diseases (CPN-1008)  
<https://cropprotectionnetwork.org/publications/an-overview-of-soybean-seedling-diseases>
- An Overview of Stem Canker (CPN-1006)  
<https://cropprotectionnetwork.org/publications/an-overview-of-stem-canker>
- An Overview of Sudden Death Syndrome (CPN-1011)  
<https://cropprotectionnetwork.org/publications/an-overview-of-sudden-death-syndrome>

*September 2023*

### Acknowledgement

The authors are grateful to Nicole Gauthier, Plant Pathology Extension Specialist, University of Kentucky, for reviewing this publication.

Editor: Cheryl Kaiser, Plant Pathology Extension Support

Photos: University of Kentucky—Carl Bradley (1, 2, 3, 5,6) and Kelsey Mehl (4)

# SIGNS AND SYMPTOMS OF **STRESS**



## WHAT CAN YOU DO?

Do you recognize the signs and symptoms in yourself or someone you know?

### YOURSELF

- ✓ Reach out to a loved one. Talk about how you are feeling.
- ✓ Talk to your friends, clergy, or medical provider.
- ✓ Reach out to a mental health counselor.

### SOMEONE YOU KNOW

- ✓ Listen attentively and without judgement. Try to understand where they are coming from.
- ✓ Share your concerns about his/her behavior, mood, appearance, etc. Ask questions about changes you observe.
- ✓ Encourage them to reach out/tell a family member.

**National Suicide Prevention Line: 1-800-273-8255**

*It's free, confidential and open 24/7*

Revised April 2019



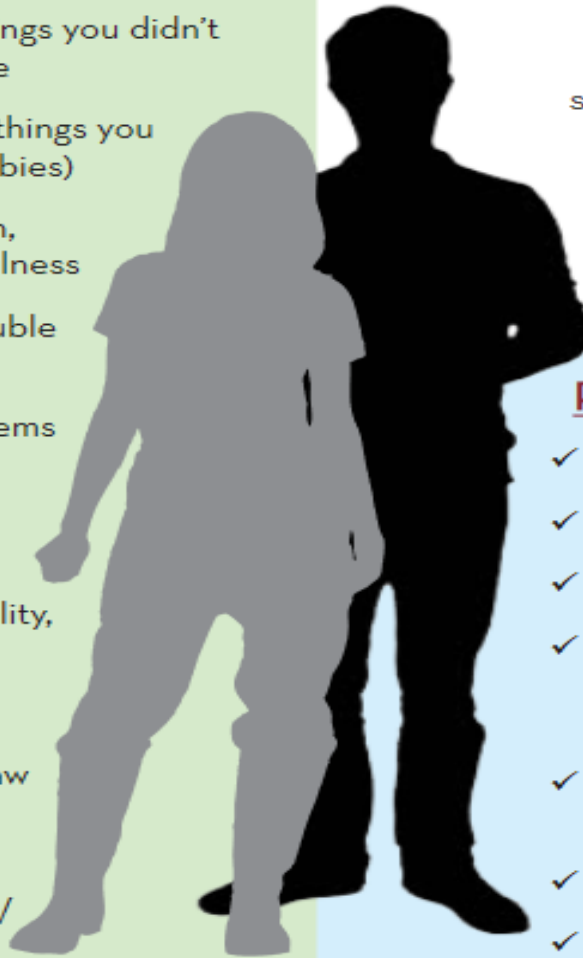
UMASH is funded by the National Institute for Occupational Safety and Health cooperative agreement U54OH010170.

**ADDITIONAL REGIONAL AND NATIONAL  
RESOURCES AVAILABLE AT:  
[umash.umn.edu/stress](http://umash.umn.edu/stress)**

# SIGNS AND SYMPTOMS OF **STRESS**

## BEHAVIOR SIGNS

- ✓ Worrying about things you didn't worry about before
- ✓ Loss of interest in things you used to enjoy (hobbies)
- ✓ Poor concentration, confusion; forgetfulness
- ✓ Uncertainty or trouble making decisions
- ✓ Relationship problems
- ✓ Sad mood
- ✓ Feeling anxious
- ✓ Change in personality, irritability
- ✓ Negative thinking
- ✓ Wanting to withdraw from people and activities
- ✓ Increased smoking/drinking



## WHAT CAN YOU DO?

See the back of this card for help and suggestions - for you or someone you know!

## PHYSICAL SIGNS

- ✓ Poor or disturbed sleep
- ✓ Weight loss or gain
- ✓ Changes in appetite
- ✓ Stomach or gastrointestinal problems
- ✓ Clenching or grinding teeth
- ✓ Chest pain
- ✓ Poor hygiene

**National Suicide Prevention Line: 1-800-273-8255**

*It's free, confidential and open 24/7*

Revised April 2019



UMASH is funded by the National Institute for Occupational Safety and Health cooperative agreement U54OH010170.

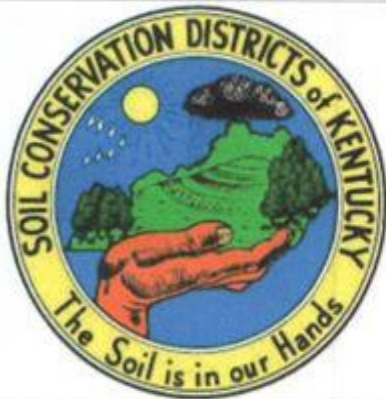
**ADDITIONAL REGIONAL AND NATIONAL  
RESOURCES AVAILABLE AT:  
[umash.umn.edu/stress](http://umash.umn.edu/stress)**

# STATE COST SHARE APPLICATIONS

ARE CURRENTLY BEING ACCEPTED AT  
THE CONSERVATION DISTRICT  
FOR THE UPCOMING FUNDING YEAR.

Practices eligible for cost share are agriculture and animal waste control facilities; animal waste utilization; vegetative filter strips; integrated crop management; pesticide containment; sinkhole protection; pasture and hay land forage quality; heavy use area protection; rotational grazing system establishment; water well protection; forest land and cropland erosion control systems; closure of agriculture waste impoundment; on-farm fallen animal composting; soil health management; precision nutrient management; strip intercropping system; livestock stream crossing and riparian area protection.

Applications will be accepted until October 31, 2023. Cost share rates are a maximum of 75 percent of the actual installation cost of the practice not to exceed \$20,000 per year. Please contact the Conservation District with any questions.



**Carlisle Conservation District**

**65 John Roberts Dr**

**Bardwell, KY 42023**

**270-628-3709**

**[cccd@windstream.net](mailto:cccd@windstream.net)**

# Try to Relax and Plate it up!



## Scalloped Okra and Corn

- 4 cups** sliced fresh or frozen okra
- 4 tablespoons** olive oil
- 1½ cups** cooked corn kernels, drained
- 2 tablespoons** whole wheat flour
- 1 cup** skim milk
- 8 ounces** shredded 2% cheddar cheese
- 1 cup** Italian style dry bread crumbs

- 1. Stir-fry** okra in 2 tablespoons olive oil for 10 minutes. **Place** in baking dish alternating layers with drained corn.
- 2. Prepare** white sauce by heating remaining 2 tablespoons olive oil in saucepan over low heat and blending in whole wheat flour. **Cook** oil and flour mixture 1 to 2 minutes.
- 3. Add** skim milk all at once, cooking quickly and stirring constantly until mixture thickens.
- 4. Stir** in cheese until blended.
- 5. Pour** mixture over vegetables. **Sprinkle** bread crumbs over casserole. Bake at 350° F for approximately 45 minutes, until casserole is heated through and the crumbs have browned.

**Yield:** 8, 1 cup servings  
**Nutrition Analysis:** 220 calories; 9 g total fat; 2 g saturated fat; 0 g trans fat; 5 mg cholesterol; 340 mg sodium; 24 g total carbohydrate; 4 g dietary fiber; 7 g sugars; 9 g protein; 20% recommended allowance for vitamin C; 20% recommended allowance for calcium; 8% recommended allowance for iron.

Buying Kentucky Proud is easy. Look for the label at your grocery store, farmers' market, or roadside stand.



## Kentucky Okra

**SEASON:** June through September

**NUTRITION FACTS:** Okra is a good source of vitamin C, folic acid, and soluble fiber, which helps lower cholesterol, reducing the risk of heart disease. It contains only 20 calories in a ½ cup serving.

**SELECTION:** Select small, crisp, tender pods, 2 to 4 inches long. Pods should be free from blemishes. Pods that have passed their prime will have a dull, dry appearance, contain coarse fibers, and taste stringy.

**STORAGE:** Refrigerate unwashed, dry okra pods in the vegetable crisper, loosely wrapped in perforated plastic bags. Okra will keep only 2 to 3 days before it starts to deteriorate.

**PREPARATION:** Wash okra pods before cooking. Cut off stem end, leaving small pods whole. Cut

**Source:** [www.fruitsandveggiesmatter.gov](http://www.fruitsandveggiesmatter.gov)

large pods in ½-inch slices.

Okra exudes a unique juice that will thicken soups and stews. The taste complements tomatoes, onions, corn, and fish stock.

**FREEZING:** The best method for long-term storage is freezing. Okra must be blanched before freezing to hold the flavor and quality. It will keep in the freezer for one year.

### OKRA

**Kentucky Proud Project**  
County Extension Agents for Family and Consumer Sciences  
University of Kentucky, Nutrition and Food Science students  
May 2011

Educational programs of Kentucky Cooperative Extension serve all people regardless of race, color, age, sex, religion, disability, or national origin. For more information, contact your county's Extension agent for Family and Consumer Sciences or visit [www.ca.uky.edu/fcs](http://www.ca.uky.edu/fcs).





I have had a few calls on CAIP money. The ag development board for Carlisle will meet after we receive our next money from KADF. The board will vote to do a program or wait. If they follow tradition we will do a CAIP program this coming year. We will not know how much money we receive until sometime after April 1, 2024. Below is our current balance in the chart. If you have any questions call or come by and see me-Thanks Chuck



Kentucky Agricultural Development Fund  
County Acct Balances  
9/20/2023



COUNTY	FISCAL YEAR 24 BEGIN BALANCE	DISBURSEMENT	REFUNDS	INTEREST	2024 TOBACCO PAYMENTS	2024 State Support to Limited Allocation Counties	CASH BALANCE	UNPAID GRANTS	AVAILABLE
Adair	\$ 219,762.41	(206,000)	53,133	1,044	0	0	67,940	12,000	\$ 55,939.78
Allen	\$ 191,241.71	(189,805)	16,393	476	0	0	18,306	0	\$ 18,306.19
Anderson	\$ 6,983.20	0	0	61	0	0	7,044	5,000	\$ 2,044.10
Ballard	\$ 149,078.19	0	44,267	1,420	0	0	194,766	10,000	\$ 184,765.92
Barren	\$ 383,768.79	0	28,098	3,377	0	0	415,244	353,850	\$ 61,393.75
Bath	\$ 270,707.29	0	0	2,365	0	0	273,072	0	\$ 273,072.02
Bell	\$ 30,305.12	0	0	5	0	0	30,310	0	\$ 30,309.81
Boone	\$ 106,672.93	0	0	932	0	0	107,605	0	\$ 107,604.73
Bourbon	\$ 438,643.30	(400,000)	24,289	3,999	0	0	66,932	50,000	\$ 16,931.56
Boyd	\$ 32,571.71	0	13,725	41	0	0	46,338	40,000	\$ 6,338.16
Boyle	\$ 207,027.06	(195,000)	0	470	0	0	12,497	5,000	\$ 7,496.63
Bracken	\$ 345,403.68	0	0	3,017	0	0	348,421	0	\$ 348,420.84
Breathitt	\$ 101,148.12	0	2,857	886	0	0	104,891	75,000	\$ 29,891.38
Breckinridge	\$ 412,609.63	0	0	3,604	0	0	416,214	0	\$ 416,213.88
Bullitt	\$ 49,111.53	0	0	429	0	0	49,541	0	\$ 49,540.54
Butler	\$ 118,731.69	(107,743)	0	847	0	0	11,835	10,000	\$ 1,835.46
Caldwell	\$ 83,427.44	0	0	729	0	0	84,156	22,000	\$ 62,156.20
Calloway	\$ 135,946.03	0	0	1,187	0	0	137,134	20,000	\$ 117,133.52
Campbell	\$ 183.00	0	0	2	0	0	185	0	\$ 184.58
Carlisle	\$ 36,844.67	0	0	322	0	0	37,167	0	\$ 37,166.52
Carroll	\$ 24,880.91	0	0	217	0	0	25,098	1,000	\$ 24,098.15
Carter	\$ 137,272.54	(121,471)	0	1,171	0	0	16,973	0	\$ 16,972.99
Casey	\$ 337,913.04	(284,000)	0	1,060	0	0	54,973	51,500	\$ 3,472.55
Christian	\$ 465,000.60	0	0	4,062	0	0	469,062	28,668	\$ 440,394.49
Clark	\$ 69,878.77	(60,121)	40,000	824	0	0	50,582	0	\$ 50,581.93
Clay	\$ 167,709.64	(65,000)	0	1,465	0	0	104,175	65,000	\$ 39,174.64
Clinton	\$ 641.05	0	0	6	0	0	647	0	\$ 646.59
Crittenden	\$ 30,096.10	(45,557)	15,461	116	0	0	116	0	\$ 115.75
Cumberland	\$ 159,241.84	(135,866)	0	1,391	0	0	24,767	0	\$ 24,766.85
Daviess	\$ 130,616.50	(16,225)	0	1,036	0	0	115,428	37,073	\$ 78,354.53
Edmonson	\$ 91,013.46	(85,000)	0	578	0	0	6,592	0	\$ 6,591.52
Elliott	\$ 166,243.59	(154,982)	3,452	1,387	0	0	16,100	0	\$ 16,100.18
Estill	\$ 164,983.03	0	0	1,441	0	0	166,424	7,000	\$ 159,424.23
Fayette	\$ 356,250.75	(4,000)	0	3,097	0	0	355,348	18,000	\$ 337,347.76
Fleming	\$ 327,102.01	0	0	2,857	0	0	329,959	0	\$ 329,959.35
Floyd	\$ 79,279.38	0	0	18	0	0	79,298	79,262	\$ 35.68
Franklin	\$ 156,187.93	(136,306)	0	633	0	0	20,515	18,750	\$ 1,764.74
Fulton	\$ 60,192.10	(60,000)	0	4	0	0	196	0	\$ 195.90
Gallatin	\$ 144,748.14	(80,000)	0	1,264	0	0	66,013	0	\$ 66,012.56
Garrard	\$ 499,811.35	(32,675)	0	4,277	0	0	471,414	0	\$ 471,413.72
Grant	\$ 230,220.99	(220,000)	23,053	2,047	0	0	35,321	5,000	\$ 30,320.99
Graves	\$ 55,687.01	(5,780)	8,672	456	0	0	59,035	53,799	\$ 5,236.13

# University of Kentucky presents 2023 Fall Crop Protection Webinar Series

Beginning Nov. 2, 2023, the University of Kentucky Martin-Gatton College of Agriculture, Food and Environment will present a series of four webinars covering field crop protection. Hosted through the Southern Integrated Pest Management Center, the webinars will feature UK extension pest management specialists discussing weed science, plant pathology and entomology topics. Continuing education credits for Kentucky pesticide applicators and Certified Crop Advisors will be available.

The Thursday morning webinars will take place via Zoom at 10 a.m. EST/ 9 a.m. CST, and pre-registration is required for each webinar. The webinars are open to agriculture and natural resource County extension agents, crop consultants, farmers, industry professionals, and others, whether they reside or work in Kentucky or outside the state.



**Dr. Kiersten Wise**

**Webinar #1: *Do multiple corn fungicide applications pay?***

**November 2, 2023**

**Registration: [https://zoom.us/webinar/register/WN\\_CfQFt0dQ5nq5ifdna5re7A](https://zoom.us/webinar/register/WN_CfQFt0dQ5nq5ifdna5re7A)**



**Dr. Carl Bradley**

**Webinar #2: *What have we learned from nearly two decades of research on soybean with foliar fungicides?***

**November 9, 2023**

**Registration: [https://zoom.us/webinar/register/WN\\_3SvKPhED55WcYhnUnLrvsQ](https://zoom.us/webinar/register/WN_3SvKPhED55WcYhnUnLrvsQ)**



**Dr. Travis Legleiter**

**Webinar #3: *Managing the offensive spread of weeds***

**November 16, 2023**

**Registration: [https://zoom.us/webinar/register/WN\\_SIOzGyibQiOk4A6pTRHGmw](https://zoom.us/webinar/register/WN_SIOzGyibQiOk4A6pTRHGmw)**



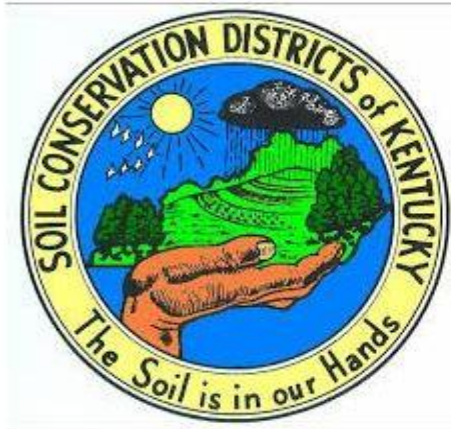
**Dr. Raul Villanueva**

**Webinar #4: *Occurrence of insect in field crops during two years of partial drought and heat wave***

**November 30, 2023**

**Registration: [https://zoom.us/webinar/register/WN\\_AqvCh08TQGCAJXvKxqdwFA](https://zoom.us/webinar/register/WN_AqvCh08TQGCAJXvKxqdwFA)**





Carlisle Conservation District

65 John Roberts Dr

Bardwell, KY 42023

270-628-3709

[cccd@windstream.net](mailto:cccd@windstream.net)

## C.A.I.P 2022

The Carlisle County Conservation District with the cooperation of the Carlisle County Ag Development Council administered the C.A.I.P.-County Ag Investment Program. This is funding that comes to the county based on the tobacco base in the county at the time of the Tobacco Settlement Master Agreement from tobacco companies.

The funds awarded to Carlisle for two years were \$82,639.00. Twenty-one landowners received funding up to \$4000/practice/person totaling approximately \$462,282.68 spent in the county from September 2022 to September 2023.

There are 13 separate practice categories. This year the investment area participation looked like this:

Fencing and On Farm Water	1
Large Animal	1
Farm Infrastructure	6
Forage & Grain Improvement	13

Carlisle County has been offering this program every other year, to build up our funds and be able to offer to more producers. Our next CAIP program will start in 2024 if the Ag Development Board votes to do a program.

Information released by

Chuck Flowers  
Carlisle County Extension Agent  
Agriculture and Natural Resources



**University of Kentucky**  
College of Agriculture,  
Food and Environment  
*Cooperative Extension Service*

Carlisle County  
P O Box 518  
Bardwell, KY, 42023-0518

RETURN SERVICE REQUESTED

NONPROFIT ORG  
US POSTAGE PAID  
Bardwell, KY  
PERMIT 518