

[Home](#)

[Current
Year](#)

[Past
Years](#)

[Subscribe](#)

PURDUE
UNIVERSITY.

Pest & Crop Newsletter

Purdue Cooperative Extension Service

IN THIS ISSUE

Issue 25, September 17, 2015 • USDA-NIFA Extension IPM Grant

[CLICK HERE FOR A PDF VERSION OF THIS ISSUE](#) 

Insects, Mites, and Nematodes

[Why Are Some Corn Kernels Red Streaked?](#)

[Corn Earworm Trap Report](#)

[Agronomy Tips](#)

[VIDEO: Effects of Excessive and Persistent Rainfall During Rapid Corn Growth](#)

[Bits & Pieces](#)

[Pest&Crop 2015 Survey](#)

[Weather Update](#)

[Moisture and Temperature Accumulations](#)



INSECTS, MITES & NEMATODES

Why Are Some Corn Kernels Red Streaked? – (John

Obermeyer and Christian Krupke) -

Kernel red streak (KRS) is commonly observed, but not well understood. KRS is triggered by the wheat curl mite, *Aceria tosichella*, feeding on the kernel's pericarp or seed coat. These mites are known to be blown in on winds from maturing wheat in the summer and use corn as an alternative host until small grains are available in the fall. In the Great Plains states, wheat curl mite can occasionally vector economically damaging viruses, including the wheat streak mosaic virus. Fortunately this viral disease is seldom a problem in Indiana's small grains (due to planting dates and less favorable climate).

What little literature exists on KRS often describes the reddish discoloration as being caused by a "toxin" being injected into the kernel's pericarp by the feeding mite. Unfortunately, when phytochemical processes were not understood years ago, they were given catch-all terms, such as "toxin." Obviously, the word "toxin" carries many negative connotations, especially in today's society. The "toxin" is in fact the plant's version of an immune response to a foreign substance entering the disrupted cell, not a by-product that would compromise the nutritional value of the grain.

There are two suspected mechanisms causing the red streaking. One is the triggering of anthocyanin, a red pigment, in the pericarp as a response to mite feeding. Hybrids vary greatly in how much and where anthocyanin accumulates (e.g., purple seedling corn under cool, wet conditions). The other is the elicitation of another red pigment, phlobaphene, that determines cob (white vs. red), pericarp (great variability as shown with Indian corn), and silk (yellow vs. pink) coloration. Both pathways are genetically controlled. In other words, the mite feeding and injecting saliva is disrupting the normal plant chemical and genetic processes causing plant responses, one of which results in abnormal pigment coloration. This does not affect plant nutrition, and certainly does NOT create a poison or "toxin" that would be harmful to end products of the grain (e.g., animal/human feed, starch, oil, etc.). These kernels look different, but are as tasty as any others!

Kernel Red Streak



Kernel Red Streak

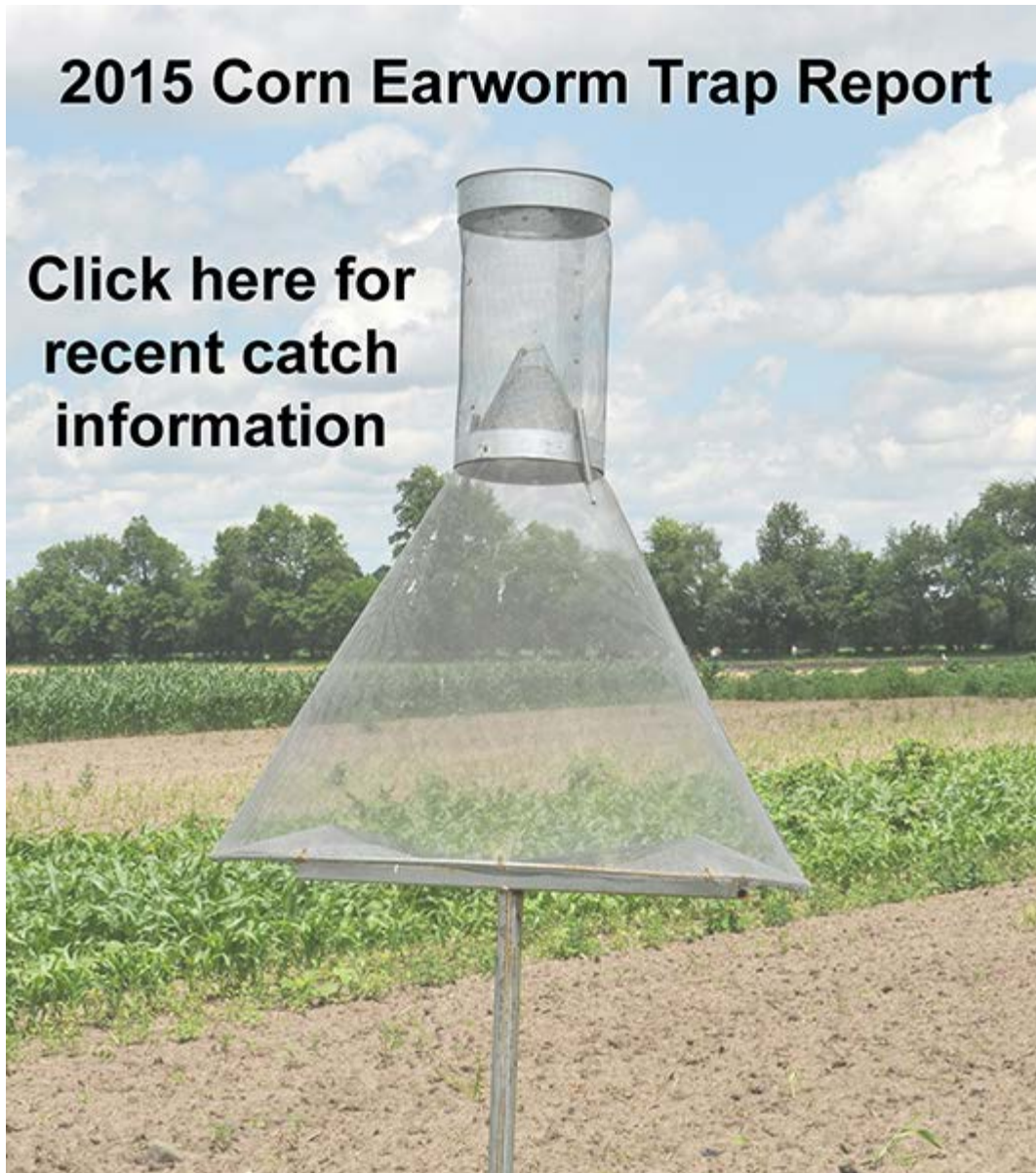


Kernel Red Streak



Kernel red streak.

[back to top](#)



Corn Earworm Trap Report.

[back to top](#)





AGRONOMY TIPS

Effects of Excessive and Persistent Rainfall During Rapid Corn Growth – (Bob Nielsen) –

Frequent and excessive rainfall throughout much of northern Indiana early in the 2015 growing season resulted in ponded fields, saturated soils, root damage / death, and severe stunting of corn plants. The amounts and duration of the rains was almost unprecedented, certainly beyond the experiences of many farmers and agronomists. This video discusses the end-of-season consequences to plant size, ear size, relative ear placement, and kernel maturity. More information that addresses crop damage by excessive rain, ponding, and floods is available online at

<https://www.agry.purdue.edu/ext/corn/cafe/flood>.

Click on the following video:



[back to top](#)



Bits & Pieces

Pest&Crop 2015 Survey – (John Obermeyer) –

Dear Pest&Crop Readers:

We need your HELP. We want the Pest&Crop to better serve your needs. Please take a couple minutes now for this confidential, online survey. Thank you for your Time! Click the following link:

<http://tinyurl.com/ggql2d9>

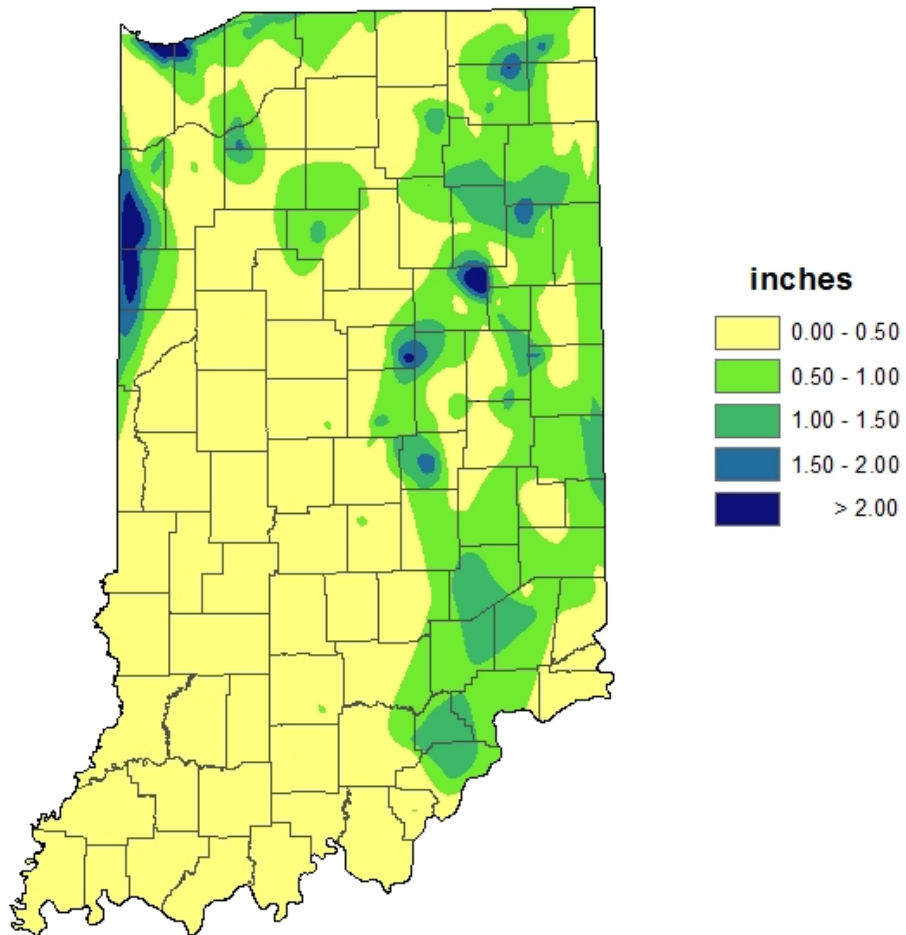
[back to top](#)



WEATHER UPDATE

Precipitation

**Total Precipitation
September 10 - 16, 2015
CoCoRaHS network
(380 stations)**

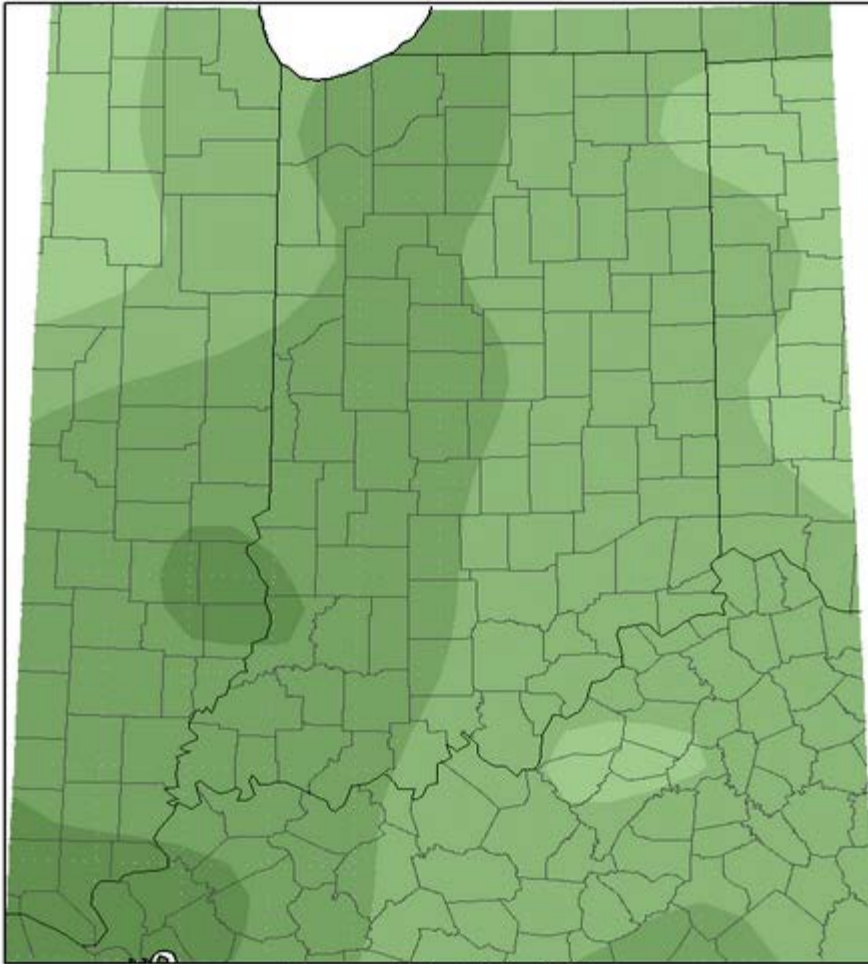


Analysis by Indiana State Climate Office
Web: <http://www.iclimat.org>

[back to top](#)

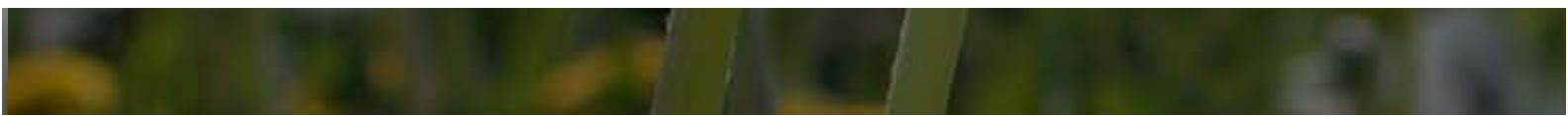
Temperature


Average Temperature (°F): Departure from Mean
September 9, 2015 to September 15, 2015



Indiana State Climate Office www.iclimate.org
Purdue University, West Lafayette, Indiana
email: iclimate@purdue.edu

[back to top](#)





Pest&Crop Newsletter

Purdue Cooperative Extension Service

THANKS FOR READING

Contact Information

□ Purdue Extension Entomology

901 W. State Street

West Lafayette, IN, 47907

□ (765) 494-8761

□ luck@purdue.edu

□ [@PurdueExtEnt](#)

□ [PurdueEntomology](#)

1-888-EXT-INFO

Subscribe

If you would like to be alerted by e-mail when the current issue of the Pest&Crop is available online, please enter your e-mail address and click the submit button.

Name:

Email Address:

Word Verification:

Please enter the verification code as seen to continue.



[Reload Image](#) | [\(Audio\)](#)

DISCLAIMER:

It is the policy of the Purdue University Cooperative Extension Service that all persons have equal opportunity and access to its educational programs, services, activities, and facilities without regard to race, religion, color, sex, age, national origin or ancestry, marital status, parental status, sexual orientation, disability or status as a veteran. Purdue University is an Affirmative Action institution. This material may be available in alternative formats.

[back to top](#)

[Purdue University](#) | [College of Agriculture](#) | [Entomology](#) | [Extension](#)

[Copyright © 2015, Purdue University, all rights reserved, site author Entomology Extension](#)

Website developed by the Entomology Department at Purdue University

[An equal access/equal opportunity university](#)