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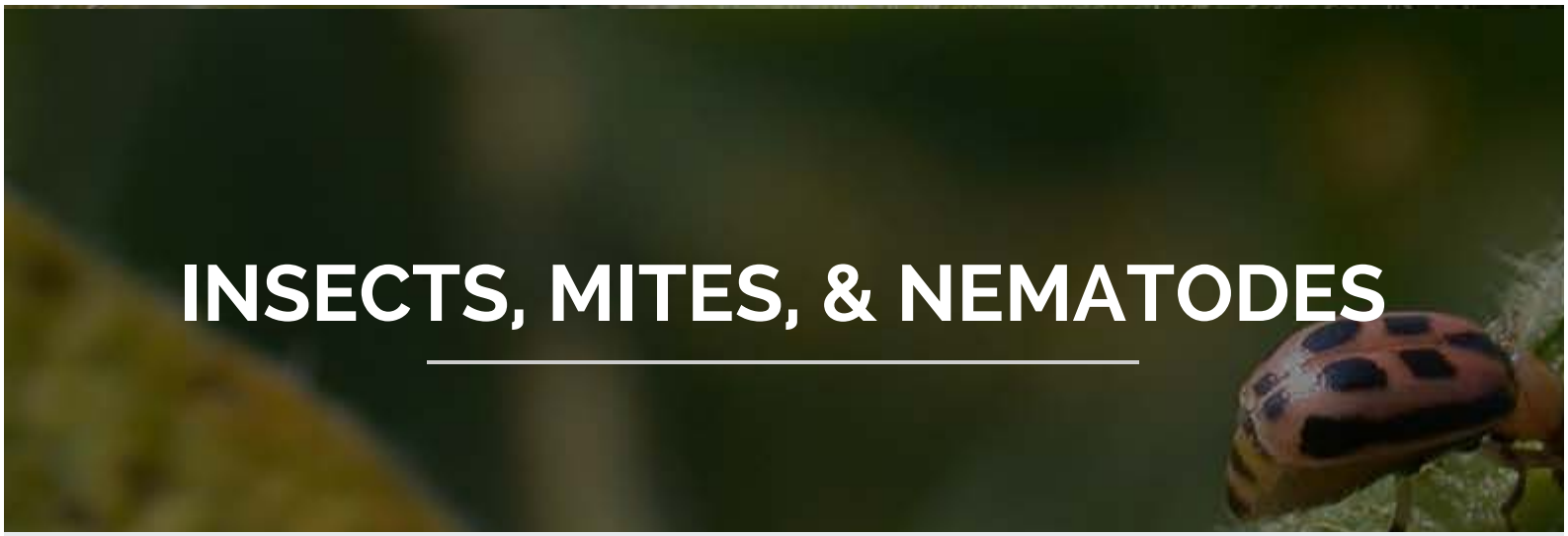

Armyworm Pheromone Trap Report

County/Cooperator	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11	Wk 12
Dubois/SIPAC Ag Center	0	0	1	0	2	1	0	4				
Jay/Davis Ag Center	0	0	2	0	4	1	0	0				
Jennings/SEPAC Ag Center	0	0	0	0	1	0	0	2				
Knox/SWPAC Ag Center		0	0	0	1	0	0	2				
LaPorte/Pinney Ag Center	0	0	3	0	17	35	29	5				
Lawrence/Feldun Ag Center	0	2	0	1	0	11	3	5				
Randolph/Davis Ag Center	0	0	0	0	0	0	0	0				
Tippecanoe/Meigs	0	0	1	0	0	0	0	0				
Tippecanoe/Meigs (Hartstack)				7	548	406	58	13				
Whitley/NEPAC Ag Center	0	1	5	2	17	25	4	0				
Whitley/NEPAC Ag Center (Hartstack)						792	404	137				

Wk 1 = 4/2/15 - 4/8/15; Wk 2 = 4/9/15 - 4/15/15; Wk 3 = 4/16/15 - 4/22/15; Wk 4 = 4/23/15-4/29/15;

Wk 5 = 4/30/15-5/6/15; Wk 6 = 5/7/15-5/13/15; Wk 7 = 5/14/15-5/20/15; Wk 8 = 5/21/15-5/27/15

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WEEDS

Weed Science Field Days at 2 Sites in 2015 – (Bill Johnson, Bryan Young, Joe Ikley, Julie Young, Joey Heneghan, Nick Narre) -

The Purdue Weed Science program will be hosting Weed Science field days at 2 sites in 2015.

Our first field day, Palmer Amaranth Day, will be held on Tuesday, June 30th, at our Palmer Amaranth research site near Rensselaer, IN (the intersection on East 225 North and North 375 East, Rensselaer, IN 47978; GPS: 41° 2'39.49"N, 86°58'57.92"W). Registration will begin at 8:00 EDT. The tours will start at 8:30 and conclude at noon. Enrollment is limited to 60 people for this field day. We have applied for CCA and CCH credit. If you are interested in attending the field day at this site on June 30th, please preregister at the Purdue DTC website https://ag.purdue.edu/agry/dtc/Pages/palmer.aspx.

The second field day, Purdue Weed Day, is scheduled for Thursday, July 2nd at the Throckmorton Purdue Agricultural Center, 8343 US 231 South, Lafayette, IN 47909-9049. Registration will begin at 8:00 AM EDT, and the program will begin at 8:30. We will view the plots on the west side of highway 231 in the morning, and a waterhemp site about 1 mile east of the farm in the afternoon. The farm is located approximately 5 miles south of Lafayette on the corner of county road 800S and U.S. 231 South. For those attending the 2015 Purdue Weed Day at Throckmorton, we have applied for 3 CCH's for category 1A.

Come a little early and have coffee and a doughnut with us. Water and soft drinks will be available during the tour. For those attending the 2015 Purdue Weed Day, we have applied for 3 CCH's for category 1A.

A registration form for the July 2nd field day is located on the Purdue Weed Science Website at http://www.btny.purdue.edu/weedscience/temp/WeedDay2015.html. You may also call Lisa Gross at 765-494-9871. Please register if you plan to attend. This will allow us to maintain a mailing list and to estimate coffee, doughnut and soft drink needs for our Weed Science field days.

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VIDEO: Soybean Seedling Injury Symptoms – (Kiersten Wise, Bill Johnson, and John Obermeyer) -

This video is a follow up to last week's *Pest&Crop* **article, "Soybean Seedling Damage: Is There an Interaction Between the ILeVO Seed Treatment and Pre-emergence Herbicides." Soybean field damage symptoms, from a combination of factors, are shown and discussed, specifically the role of environmental conditions.**

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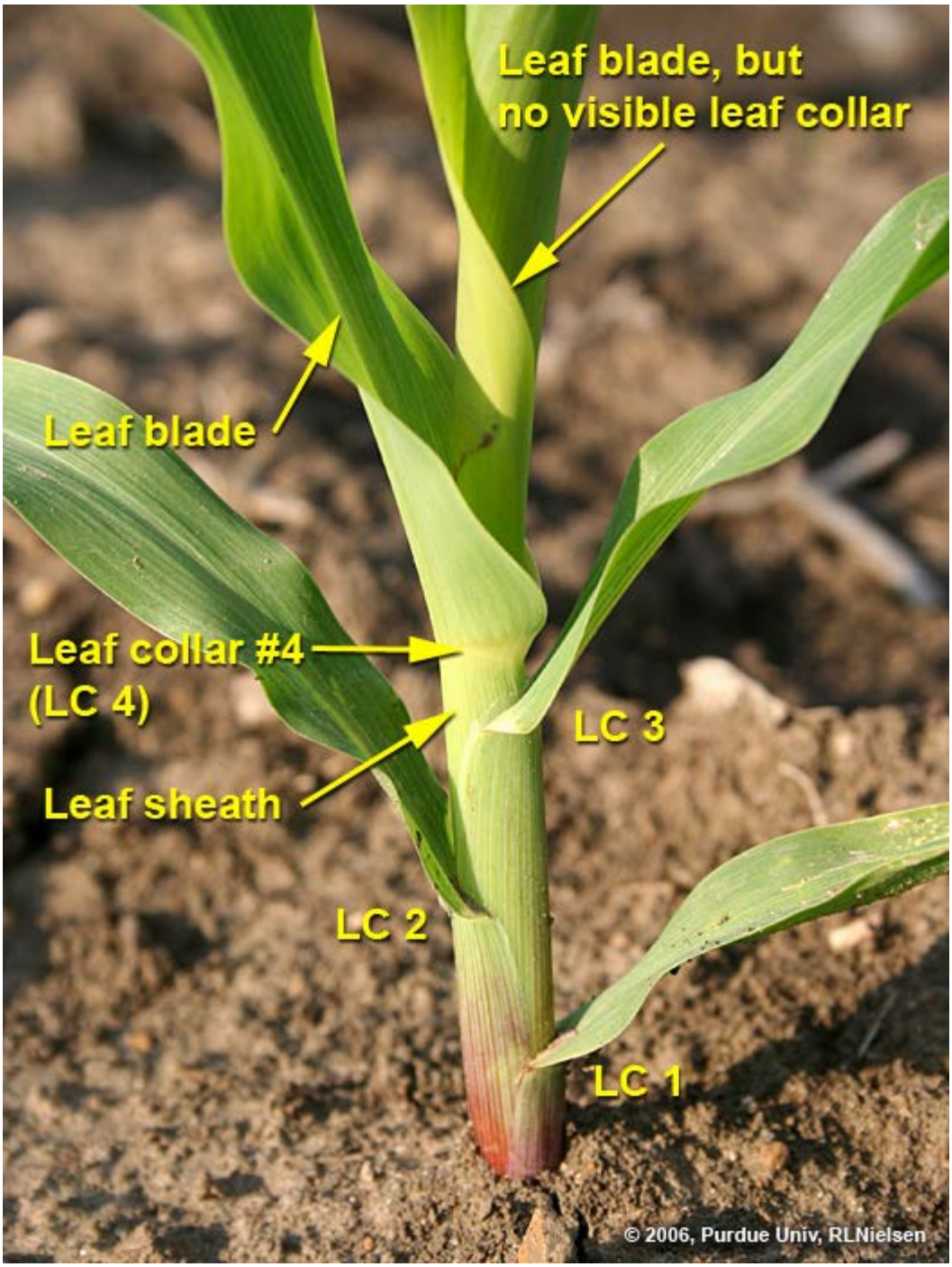
Determining Corn Leaf Stages – (Bob Nielsen) -

Many of us remember standing against the doorframe in our early years while our parents marked our height with a pencil to measure how much we had grown. Some of you may have spent more time in your youth standing in the corner, but that is between you and your parents.

Because it is difficult to transport corn plants from the field to that doorframe to measure their growth, agronomists developed other means to measure the phenology or development of corn. Counting the number of leaves would seem to be a simple way to document corn development, but folks still tend to become confused over this simple strategy. There are two basic methods for leaf staging corn in use today.

Leaf Collar Method. This method determines leaf stage in corn by counting the number of leaves on a plant with visible leaf collars, beginning with the lowermost, short, rounded-tip true leaf and ending with the uppermost leaf with a visible leaf collar (Abendroth et al., 2011). The leaf collar is the light-colored collar-like "band" located at the base of an exposed leaf blade, near the spot where the leaf blade comes in contact with the stem of the plant.

The lowermost, thumb-shaped leaf of a corn plant.



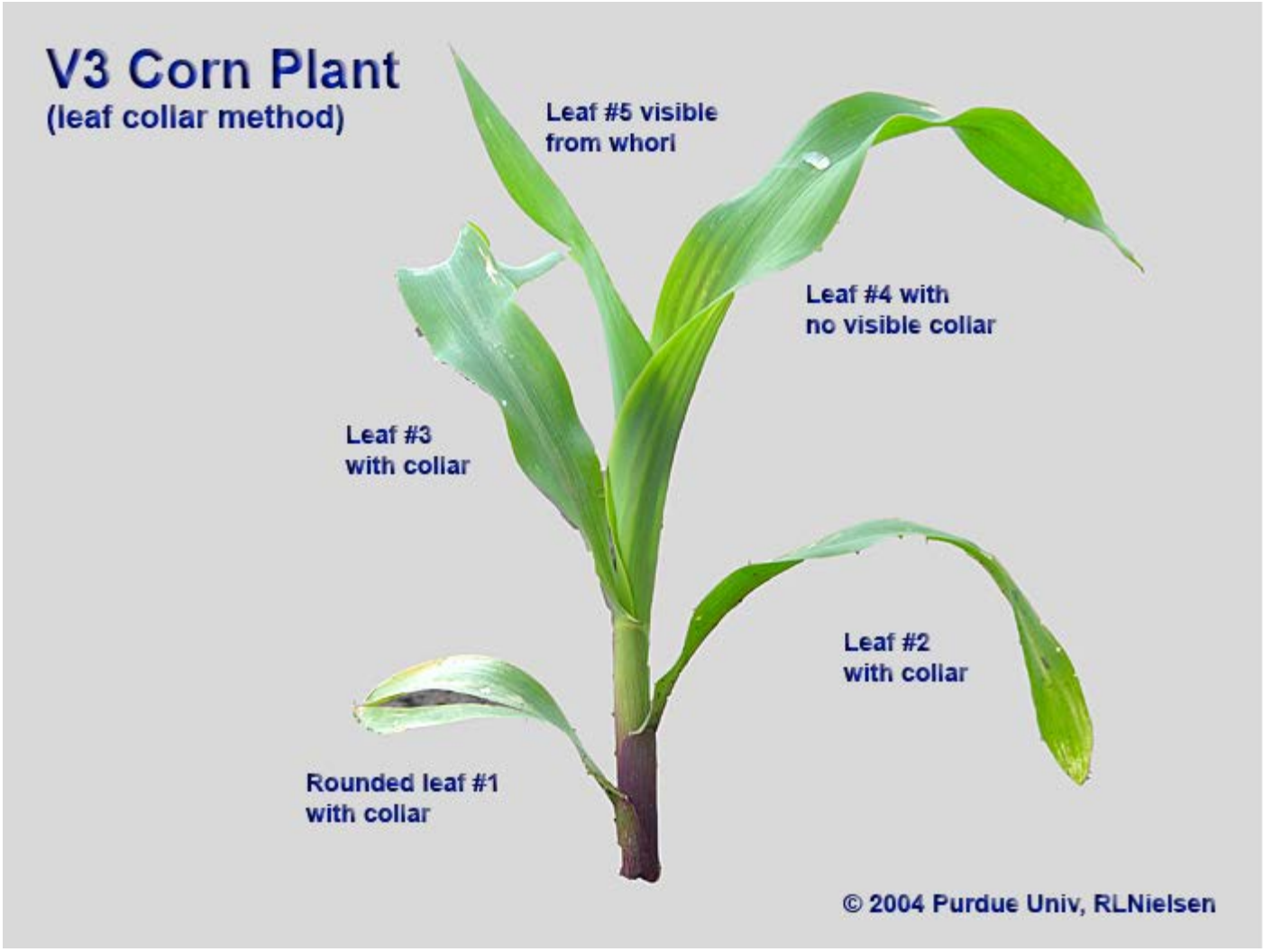
Parts of a corn leaf.

Leaves within the whorl, not yet fully expanded and with no visible leaf collar are not included in this leaf staging method. The exception to this statement may be that leaves with barely visible leaf collars can be counted when you are staging plants early in the day, recognizing that the leaf collar may become completely visible by the end of the day.

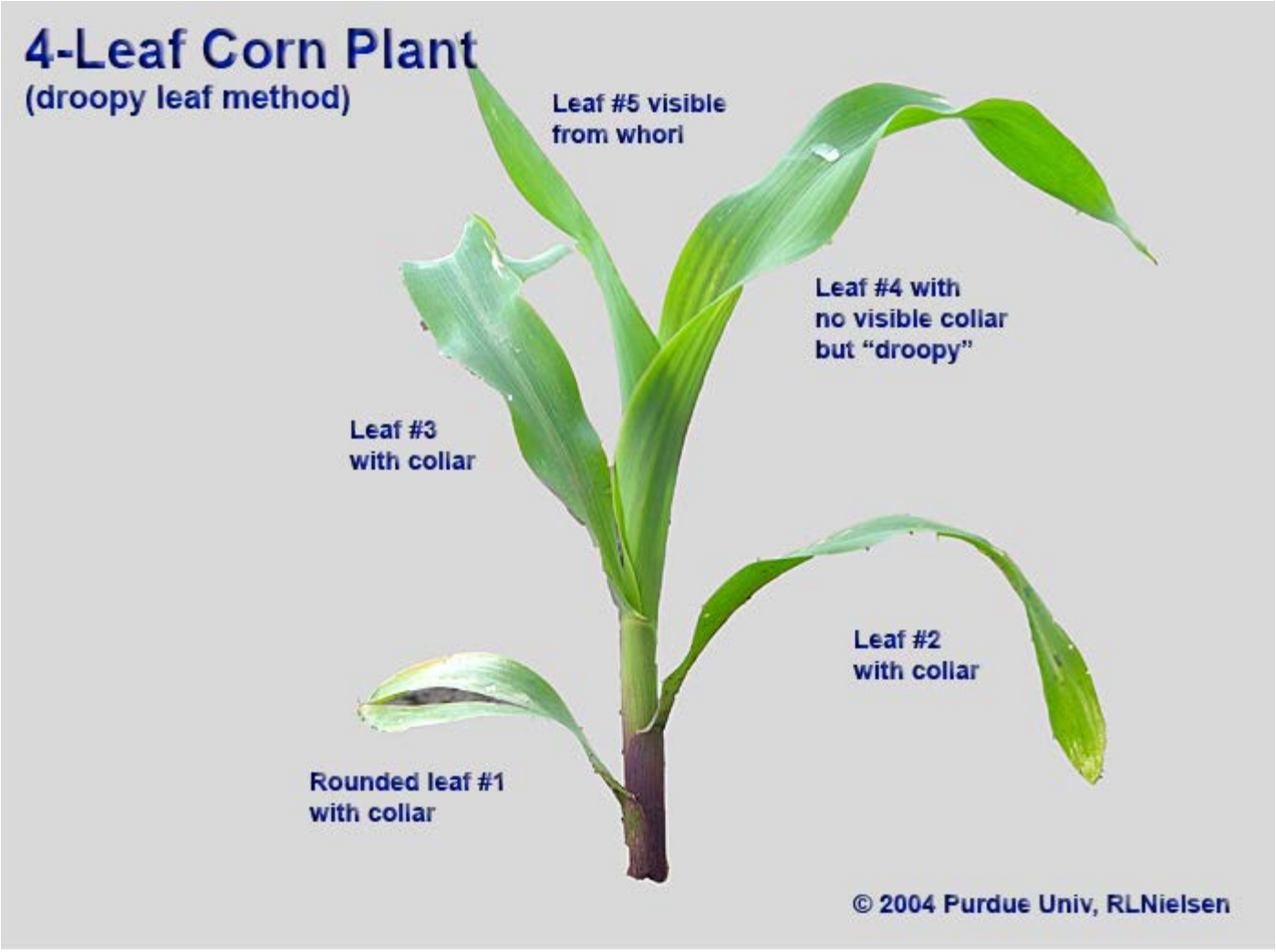
Leaf stages are usually described as "V" stages, e.g., V2 = two leaves with visible leaf collars. The leaf collar method is generally the most widely used method by university and industry agronomists in the U.S.

TIP: Recognize that not all plants in a given field will be at the same leaf stage at the same time due to normal variability among plants for emergence or subsequent exposure to stress. By definition, the specific leaf stage for an entire field is defined by that value that represents the majority of the plants in the field (Abendroth et al., 2011). For example, if half or more of the plants you rate are at the V5 stage of development, then the entire field is assigned a V5 rating.

"Droopy" Leaf Method. Crop insurance adjusters, when assessing damage to a corn crop from weather events such as hailstorms, use this leaf staging method. Like the leaf collar method, this method of leaf staging begins with the short first leaf. Leaf counting then differs, though, by ending not with the uppermost leaf with a visible collar, but at that leaf that is at least 40 to 50 percent exposed from the whorl. In knee-high corn or older, the tip of this "indicator" leaf typically also "droops" or hangs down, hence the name "droopy" leaf method.



Young corn plant staged as V3 according to the collar method.



Same plant, but staged as 4-leaf according to the"droopy" method.

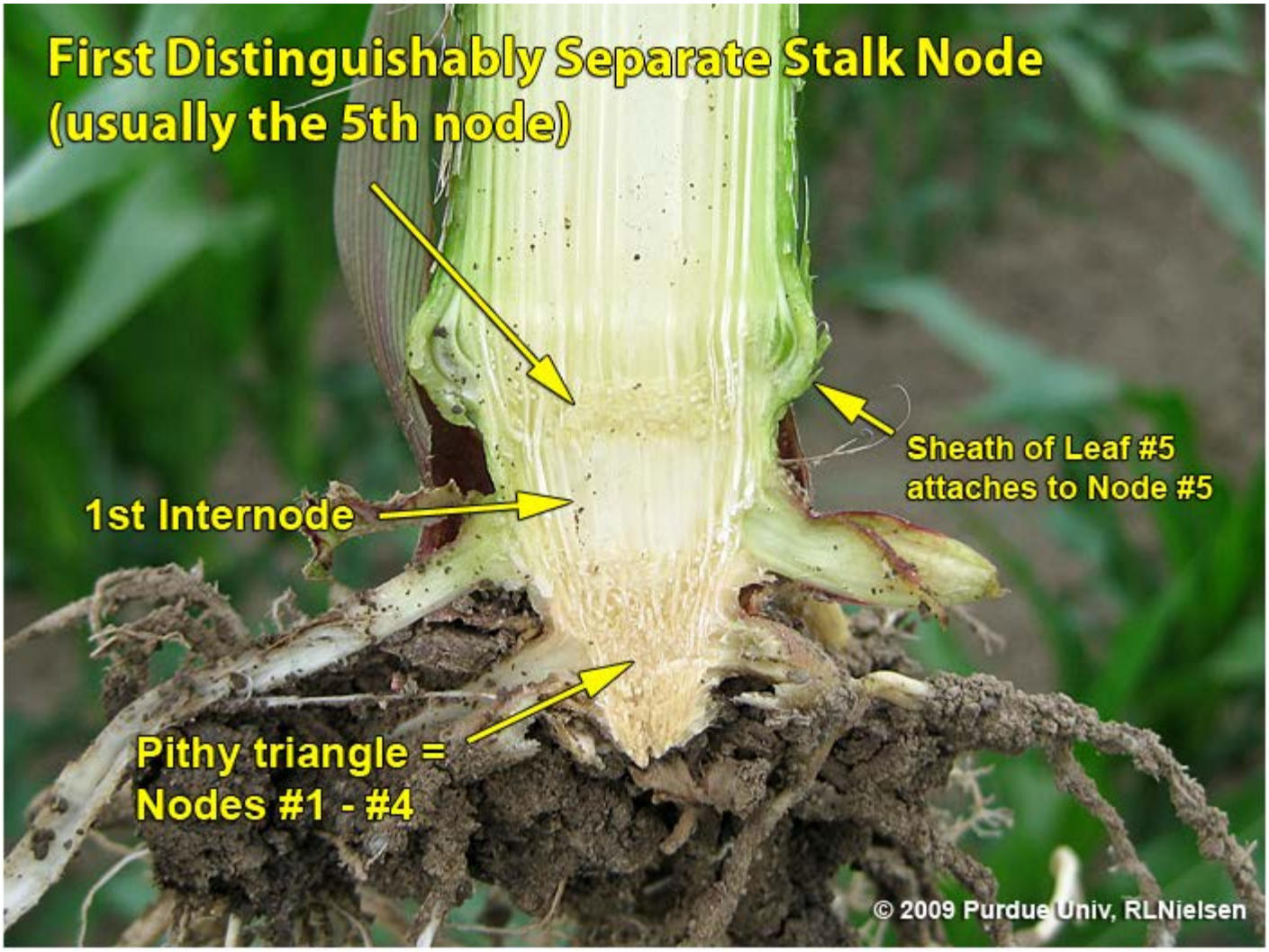
The Two Methods Compared. Both methods assign a leaf stage to a field on the basis of the leaf stage common to the majority of the plants in the field. Up to the 5- or 6-leaf collar stage, the leaf collar method will typically result in a leaf stage value that is one less than the "droopy" leaf method. After corn reaches 18 to 24 inches in height, the leaf collar method will typically result in a leaf stage value that is two less than the "droopy" leaf method.

The usefulness in understanding the differences between these two leaf staging methods lies in the fact that the defoliation/yield loss chart used by hail insurance adjusters is based on the "droopy" leaf method. That chart is reproduced in the Purdue Extension publication ID-179, *Corn & Soybean Field Guide*.**Identifying true "droopy" leaves on shredded, hail-damaged corn plants can be quite difficult, whereas leaf collars are often still identifiable. Thus, you can usually stage a damaged crop by the leaf collar method and then add one or two more leaves to the count in order to use the defoliation chart.**

What About Herbicide Labels? Growers' confusion with leaf staging often originates with less than clearly described growth stage restrictions listed on herbicide labels (Loux et al. 2014). Label restrictions of older post-emergence herbicides typically ignored the short first leaf with the rounded tip and ended with the uppermost leaf that was at least 50% exposed from whorl. In essence, this was a bastardized "droopy leaf" method that resulted in roughly the same numerical leaf stage as the leaf collar method. Newer labels purport to define leaf stages according to the leaf collar method, but there is still some question about whether the short first leaf with the rounded tip is included. If in doubt with these newer herbicides, check with our agricultural chemical technical representative to verify which leaf staging method is appropriate for the herbicide you intend to use.

Staging Older Plants. As corn plants develop, the lower few leaves typically die or are torn away from the stem by the expansion of the stalk or by developing roots. Consequently, growth stage identification can be difficult on older plants when you aren't sure which leaves to begin counting first. But, not to worry, growth staging can still be accomplished!

Typical deterioriation of lower leaves in older corn plants.



Split stalk illustrating the first distinguishable node above the pithy triangle.

First, dig or pull a plant without breaking the stalk. With a knife, carefully split the stalk down the middle, completely through the root ball. Look for the lowermost obvious internode (the whitish area between the "woody" horizontal stalk nodes) above the triangular "woody" base of the stalk. The length of this first internode is typically only 1/2 to 3/4 inch (1.3 to 1.9 cm for you fans of the metric system).

Determine which leaf corresponds with the node immediately above the first noticeable internode by carefully identifying which leaf sheath attaches to the node. This leaf is usually Leaf #5. Once Leaf #5 is identified, then stage the plant by continuing to count the remainder of the leaves with visible leaf collars above Leaf #5. For example, assume you've identified Leaf #5 and there are six more leaves above that one with visible leaf collars, then the plant is at leaf stage V11 (11 leaves with visible leaf collars).

Useful Tip: Even though one or more lower leaves may have "disappeared" due to injury or natural senescence, their absence does not mean they should be forgotten or ignored. In other words, a plant that is assessed at being at the V12 stage as a result of the previously described stalk splitting steps may only have 8 leaves with visible leaf collars if 4 lower ones have already withered away. Do not be misled into thinking the plant is only at the V8 stage.

Related References

Abendroth, L.J., R.W Elmore, M.J. Boyer, and S.K. Marlay. 2011. Corn Growth and Development. Iowa State Univ. Extension Publication #PMR-1009. https://store.extension.iastate.edu/Product/Corn-Growth-and-Development [URL accessed Apr 2014].

Loux, Mark, Doug Doohan, Anthony F. Dobbels, Bill Johnson, and Travis Legleiter. 2014. 2010 Weed Control Guide for Ohio and Indiana (WS-16). Table 6: Rainfast Intervals, Spray Additives, and Maximum Crop Size for Postemergence Corn Herbicides. Purdue Univ. & Ohio State Univ. Coop. Ext. Services. http://www.btny.purdue.edu/Pubs/WS/WS-16 [URL accessed Apr 2014].

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Purdue University. 2010. Corn & Soybean Field Guide(ID-179).To order, call Purdue Extension toll-free at (888) 398-4636 and ask for the Media Distribution Center.

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Slow Crop Development and Tillage Compaction May Create Need For Early Season Irrigation – (Lyndon Kelley, Extension Educator Purdue/MSU) -

Increased use of tillage to help warm soils and the delayed in killing cover crop are two additional reasons we see drier than normal planting condition. "Wet spring conditions forced some producers to work soils wetter than desired resulting compaction and slowed/restricted root growth in some fields" says Lyndon Kelley, MSU / Purdue Extension Irrigation Educator. Late planting and slowed root growth may result in a greater need for June irrigation for developing crops as we enter into the typical drier weather of summer.

Irrigation water applied at ½ to ¾ inch will wet dry soil down to 6 inches to replace water loss to tillage. An inch of irrigation will often be needed in a field that has not received rainfall since the cover crop was destroyed. Monitoring newly emerged crops that were "irrigated up" is essential. It is important to water enough to keep roots growing down into the moisture. Most years' rainfall is plentiful enough to replenish water lost to tillage or cover crop, but a dry layer 6 inches to 8 inches down can greatly hinder crops development, and needs to be replenished by rain or irrigation.

Early season irrigation can be both the cause and solution to soil crusting and emergence problems. Depending on soil type, crop residue, and irrigation application equipment early season irrigation can create some soil crusting accelerated by rapid surface drying. Small applications of water 0.2 to

0.3 inch may help to allow emergence of seed through the crust.

Many herbicide options can be assisted by a timely rain or irrigation. Applications of 0.3 to 0.5 inch of water will move activated soil applied herbicides if rainfall does not occur within two days after herbicide application. Irrigating in herbicides can also create the problem of different levels of weed control between the dry corners and the irrigated portion of the field. Timely and directed scouting for weeds in dry corners will be needed later in the season.

Early season irrigation can be more accurately scheduled from monitoring soil moisture in the root zone rather than checkbook irrigation scheduling system for newly emerged crops. Later in the season checkbook irrigation scheduling will show its advantages over scheduling by soil moisture in the root zone alone. To learn more about checkbook irrigation scheduling click on the following link: http://msue.anr.msu.edu/county/info/st._joseph - on the right hand side, click on 'programs' then scroll to and open 'Irrigation' to be directed to the Irrigation page.

root is a good indication of the need for early season irrigation. Soil below the roots should still be able to form and hold if adequate moisture is present. USDA offers an easy to use guide on hand feel method of soil moisture motoring.
http://msue.anr.msu.edu/uploads/236/43605/lyndon/FeelSoil.pdf.

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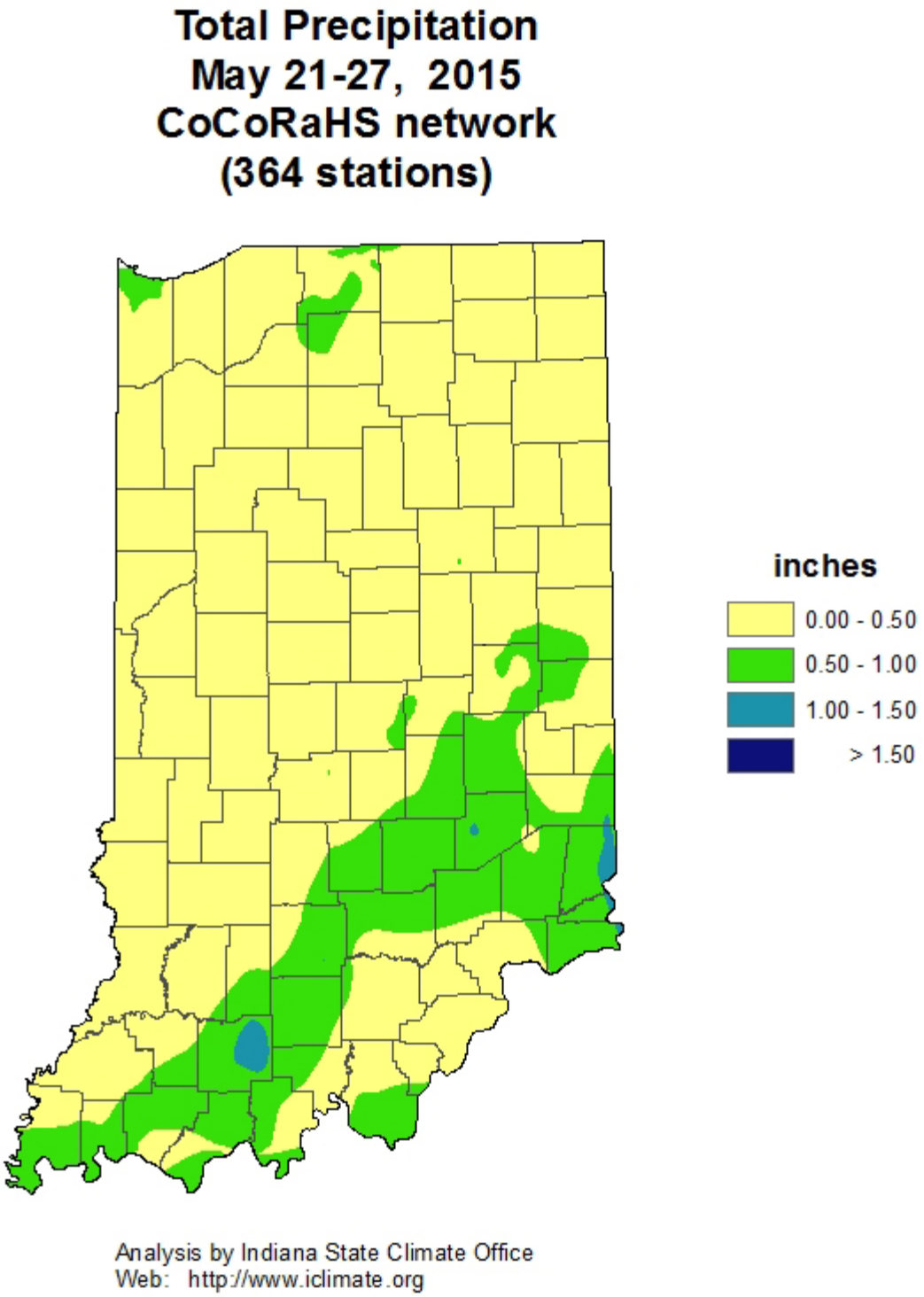
Precipitation


Total Precipitation
May 21-27, 2015
CoCoRaHS network
(364 stations)
inches
0.00 - 0.50
0.50 - 1.00
1.00 - 1.50
> 1.50
Analysis by Indiana State Climate Office
Web: http://www.iclimate.org

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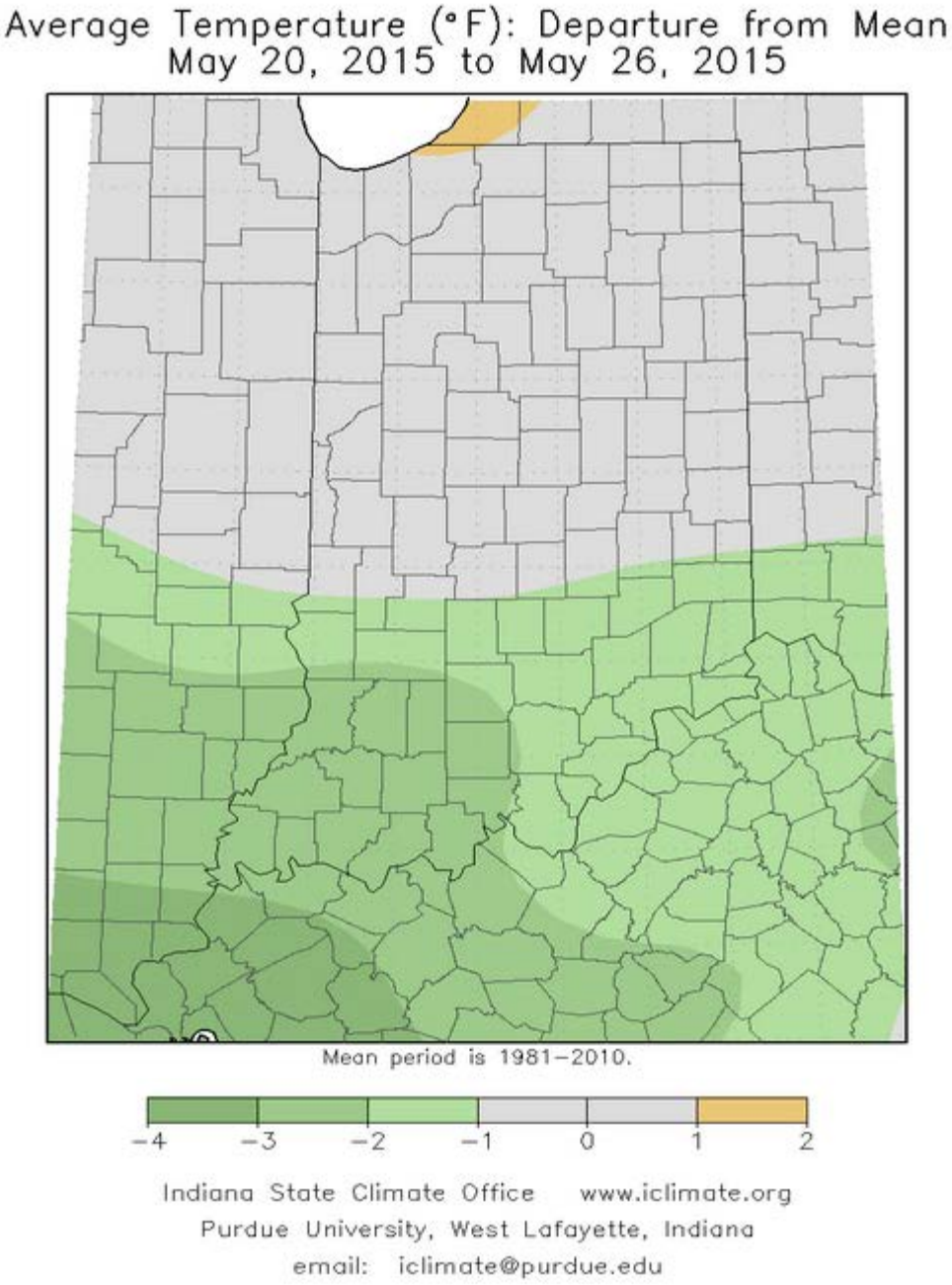
Temperature



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