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Insects, Mites, And Nematodes

Trochanter Mealybug: Perhaps a Reason for Yellowing of Soybeans - (*Christian Krupke and John Obermeyer*)

It has been a couple of years since last mention, but the trochanter mealybug is still on the radar. This was first found in Indiana in 2009, though we have not had any reports since.

These are insects in the same group as aphids – plant-sucking, relatively sedentary creatures. Similar to other mealybugs in appearance, these small, whitish insects live beneath the soil surface and feed on plant juices. The above-ground symptoms are similar to K-deficiency – yellowing of foliage and stunting. If you have soybeans that



Potassium deficiency symptoms could be a sign of mealybugs below (*Photo credit: Ohio State University*)



Mealybugs, white fluffy mass on the soybean root

If you have the yellowing foliage and stunting symptoms in soybeans and think you have mealybugs, please let us know – we are hoping to obtain samples from around the state to find out the range and extent of this insect in Indiana.

A close-up photograph of a brown, woody plant branch. The branch is heavily infested with numerous white, cottony, woolly alydids. These insects are clustered together, covering a significant portion of the branch's surface. Some individuals show a reddish-brown coloration beneath the white woolly covering. The background is blurred, showing more of the plant's structure.

Close-up of mealybugs on soybean root



Black Light Trap Catch Report - (John Obermeyer)														
County/Cooperator	6/21/11 - 6/27/11							6/28/11 - 7/4/11						
	VC	BCW	ECB	WBC	CEW	FAW	AW	VC	BCW	ECB	WBC	CEW	FAW	AW
Dubois/SIPAC Ag Center	0	0	0	0	0	0	6	0	1	0	0	0	0	5
Jennings/SEPAC Ag Center	0	2	0	0	0	0	7	0	1	0	0	0	0	3
Knox/SWPAC Ag Center	0	0	0	0	0	0	8	0	0	0	0	0	0	0
LaPorte/Pinney Ag Center	0	0	0	0	0	0	12	0	0	0	1	0	0	9
Lawrence/Feldun Ag Center	0	1	0	0	0	0	33	0	0	0	0	0	0	4
Randolph/Davis Ag Center	0	2	0	0	0	0	0	0	10	0	2	0	0	0
Tippecanoe/TPAC Ag Center	0	164	0	0	0	0	117	0	9	0	0	0	0	2
Whitley/NEPAC Ag Center	0	5	0	0	0	0	15	0	2	0	1	0	0	9

VC = Variegated Cutworm, BCW = Black Cutworm, ECB = European Corn Borer, SWCB = Southwestern Corn Borer, WBC = Western Bean Cutworm, CEW = Corn Earworm, FAW = Fall Armyworm, AW = Armyworm

Western Bean Cutworm Adult Pheromone Trap Report Week 1 = 6/20/11 - 6/22/11 Week 2 = 6/22/11 - 6/29/11 Week 3 = 6/30/11 - 7/6/11				
County	Cooperator	WBC Trapped		
		Week 1	Week 2	Week 3
Adams	Kaminsky/New Era Ag		0	0
Adams	Roe/Mercer Landmark - Pleasant Mills	0	0	0
Allen	Anderson/Syngenta Seeds	0	0	5
Allen	Gynn/Southwind Farms - Ft. Wayne	0	0	0
Benton	Babcock/Ceres Solutions - Boswell	0	0	0
Boone	Dennis Carrell - Lebanon		0	0
Clay	Bower/Ceres Solutions - Brazil	0	0	0
Clay	Bower/Ceres Solutions - Clay City	0	0	0
Clinton	Rick Foster/Purdue Entomology - Rossville	0	0	5
DeKalb	Hoffman/ATA Solutions	0	0	0
Dubois	Eck/Purdue CES - Jasper	0	0	0
Fayette	Schelle/Falmouth Farm Supply	0	0	
Fountain	Mroczkiewicz/Syngenta - Rob Roy		0	0
Fulton	Jenkins/North Central Coop - Kewanna	1	7	4
Fulton	Jenkins/North Central Coop - Rochester	5	2	20
Hamilton	Beamer/Beck's Hybrids - Atlanta	0	2	2
Hamilton	Beamer/Beck's Hybrids - Sheridan	0	0	0
Hamilton	Lawson/Syngenta - Sheridan			0
Hendricks	Lawson/Syngenta - Danville		0	0
Hendricks	Lawson/Syngenta - Brownsburg		0	2
Hendricks	Nicholson/Nicholson Consulting		0	0
Henry	Lawson/Syngenta - New Castle			0
Henry	Schelle/Falmouth Farm Supply	0	0	
Jasper	Childs/Heritage Seed - Fair Oaks		5	35
Jasper	Flora/Ceres Solutions - Pleasant Ridge 1		13	56
Jasper	Flora/Ceres Solutions - Hanging Grove 1		6	15
Jasper	Flora/Ceres Solutions - Medaryville 1		9	5
Jasper	Flora/Ceres Solutions - Medaryville 2		11	9
Jasper	Flora/Ceres Solutions - Newland 1		10	3
Jasper	Flora/Ceres Solutions - Tefft 2		1	9
Jasper	Flora/Ceres Solutions - Tefft 1		5	17
Jasper	Flora/Ceres Solutions - Wheatfield 1		3	9
Jasper	Flora/Ceres Solutions - Kniman 1		9	11
Jasper	Flora/Ceres Solutions - Fishers		6	23
Jasper	Flora/Ceres Solutions - Rensselaer NE		3	8
Jay	Shrack/RanDel AgriServices - Dunkirk	0	0	0
Jennings	Bauerle/SEPAC - North Vernon	0	0	0
Knox	Bower - Ceres Solutions - Frichton	0	0	2
Knox	Bower - Ceres Solutions - Oaktown	0	0	0
Knox	Bower - Ceres Solutions - Vincennes	0	0	0
Knox	Hoke/SWPAC	0	0	0
Lake	Kleine/Kleine Farms - Cedar Lake	0	1	3
Lake	Moyer- Shelby	0	3	6
Lake	Moyer- Schneider	0	0	5
LaPorte	Barry/Kingsbury Elevator		0	
LaPorte	Rocke/Agri Mgmt Solutions - House	0	0	2

Western Bean Cutworm Adult Pheromone Trap Report				
Week 1 = 6/20/11 - 6/22/11 Week 2 = 6/22/11 - 6/29/11 Week 3 = 6/30/11 - 7/6/11				
County	Cooperator	WBC Trapped		
		Week 1	Week 2	Week 3
LaPorte	Rocke/Agri Mgmt Solutions - LaCrosse	0	1	0
Montgomery	Stine/Nicholson Consulting	0	1	
Newton	Moyer - Lake Village	0	0	1
Newton	Ritter/Purdue CES - Morocco	0	0	1
Porter	Flora/Ceres Solutions - Dunns Bridge		8	17
Porter	Leuck/PPAC - Wanatah N	0	0	3
Pulaski	Flora/Ceres Solutions - Francesville 1		4	7
Pulaski	Rocke/Agri Mgmt Solutions - Francesville	0	0	2
Pulaski	Rocke/Agri Mgmt Solutions - Medaryville	1	5	4
Putnam	Nicholson/Nicholson Consulting - Greencastle	0	0	0
Randolph	Boyer/DPAC - Farmland	0	0	0
Rush	Schelle/Falmouth Farm Supply	0	0	
Starke	Wickart/Wickert Agron Svc. - N. Judson	0	0	2
Sullivan	Bower/Ceres Solutions - Sullivan	0	0	2
Tippecanoe	Bower/Ceres Solutions - West Point	1	6	32
Tippecanoe	Nagel/Ceres Solutions - Otterbein	0	1	2
Tippecanoe	Obermeyer/Purdue Entomology - Agron Farm	0	0	1
Tippecanoe	Westerfeld/Monsanto	0	0	1
Whitley	Walker/NEPAC - Columbia City	0	1	0

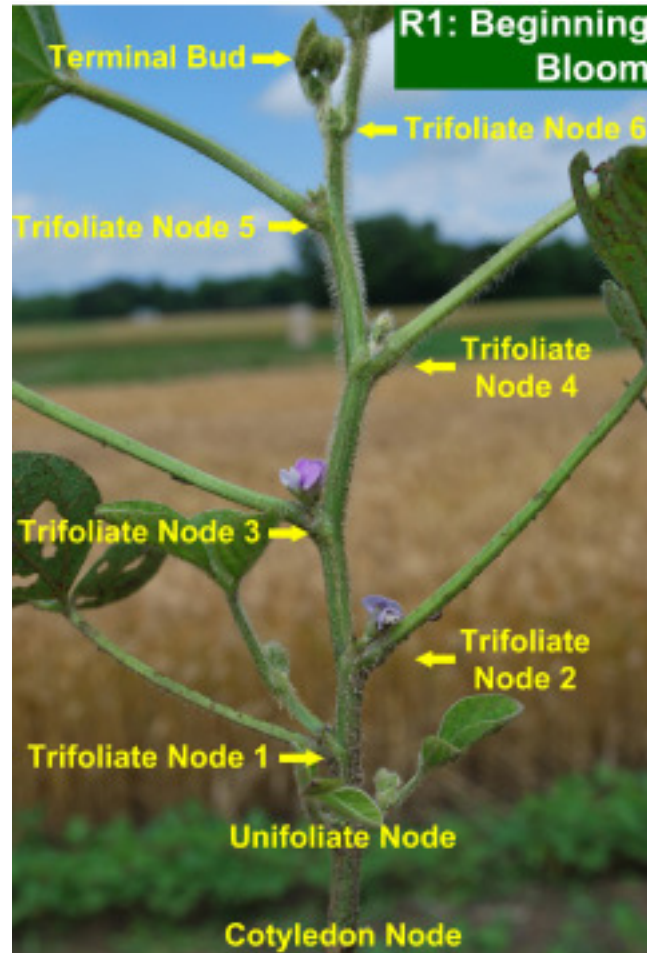
Agronomy Tips

Soybean Early Reproductive Growth Stages - (Shaun N. Casteel)

Soybean development in Indiana ranges from just planted to flowering. As of the 3rd of July, 94% of the soybeans had emerged and 3% were blooming. The rate of bloom is about 10% less than the 5-year average and 20% less than last year's fast pace. Management decisions are based on the growth stage, the time of the year, and pest (weeds, insects, disease) occurrence. We will overview the early reproductive stages of soybean for proper scouting.

Reproductive Growth Stages:

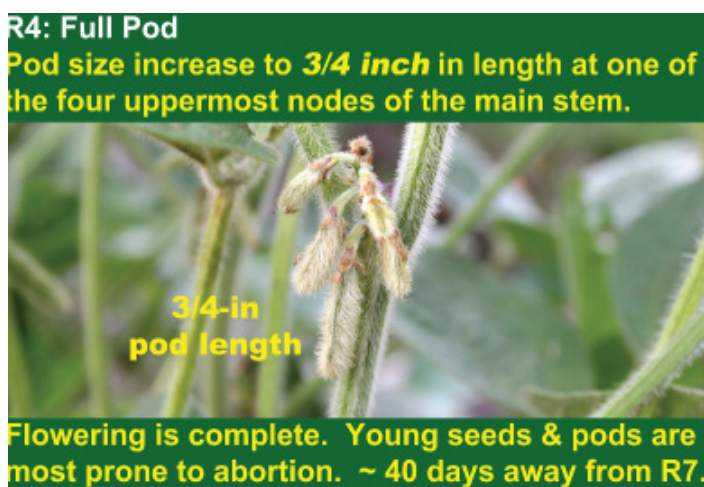
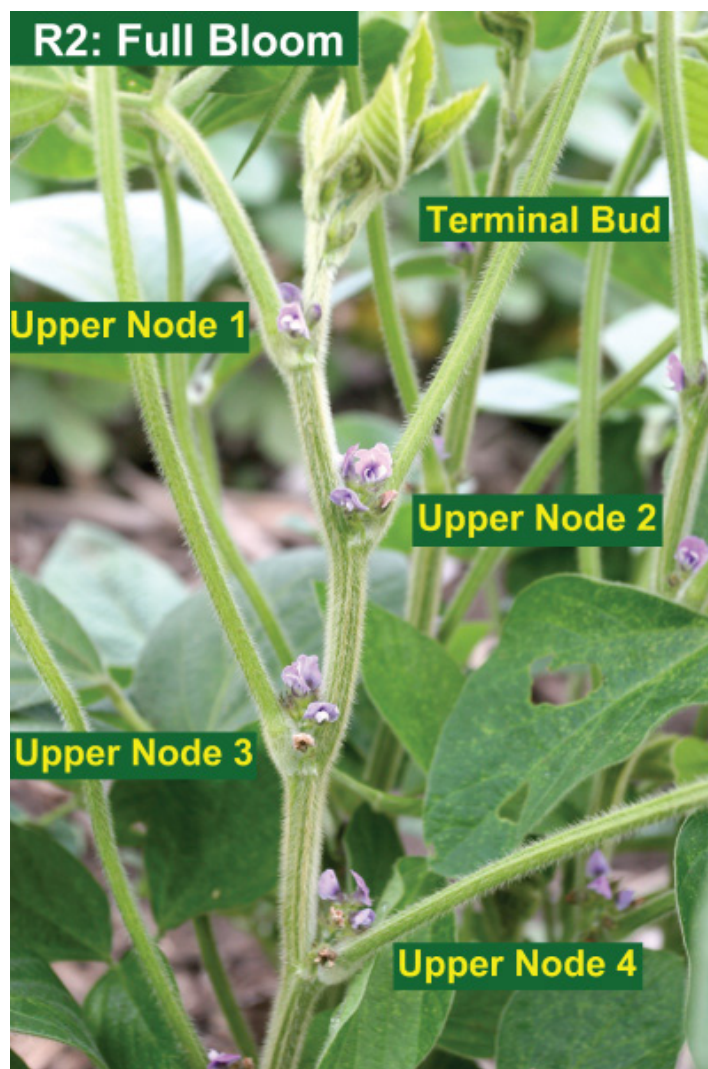
R1 – Beginning Bloom is defined as any open flower(s) on any of the main stem nodes. Flowering normally begins at the third to sixth main stem node (including the cotyledon and unifoliate nodes). A node is the point where the lateral leaf branch attaches to the main stem. It will form a bump, which is helpful in determining the nodes of the cotyledons and the unifoliate. Cotyledons and unifoliate eventually abscise as vegetative growth progresses up the plant. These nodes will have a bump on opposite sides of the stem followed by alternating nodes of the trifoliates (see R1 picture). Flowering begins around six to eight weeks after emergence and it is both temperature and photoperiod responsive. Vertical root growth rate increases rapidly. Approximately 65 days away from the beginning of physiological maturity (R7).



The R1 soybean pictured has six trifoliates. The first flower was initiated at trifoliolate node 2, which is node 4 when cotyledon and unifoliolate nodes are included. This plant would be classified as V6 (vegetative stage 6) if there was no open flowers on the main stem.

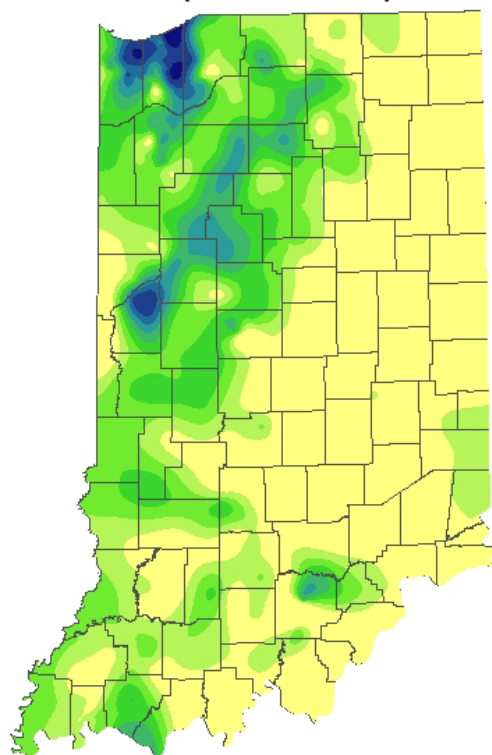
R2 – Full Bloom is where any open flower is located at one of the two upper most nodes of the main stem. Plant has accumulated ~25% of the total dry weight and ~50% of the total node number. Rapid dry weight and nutrient accumulation begins and continues until physiological maturity. Nitrogen fixation rate increases as does the plant's nitrogen demand. Approximately 60 days away from the beginning of physiological maturity (R7).

Growth Stage	Duration Median	Duration Range
	# of Days	
R1: Beginning Bloom	4	1 to 7
R2: Full Bloom	10	5 to 15
R3: Beginning Pod	10	5 to 15
R4: Full Pod	10	4 to 26
R5: Beginning Seed	15	11 to 20
R6: Full Seed	20	9 to 30



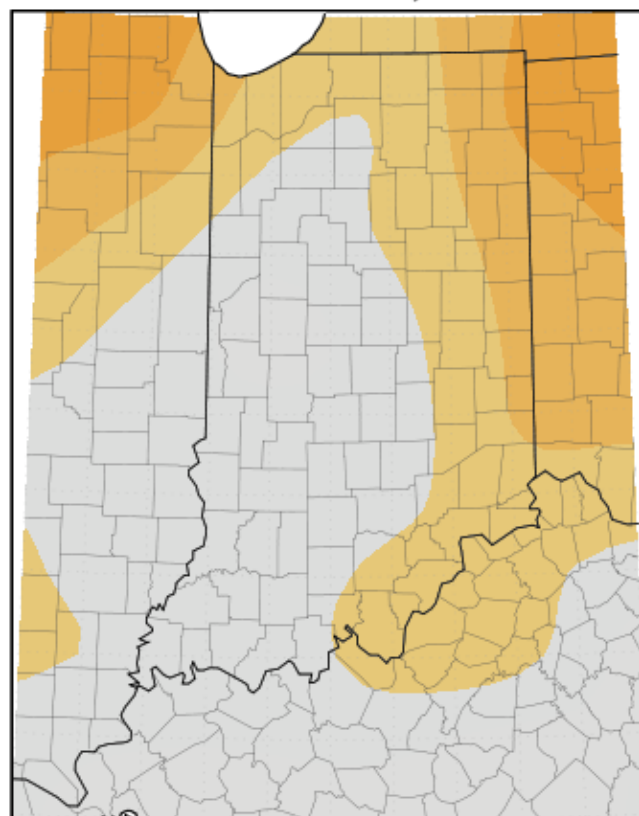
Weather Update

Total Precipitation June 30 - July 6 CoCoRaHS Network (447 stations)



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

Average Temperature (°F): Departure from Mean June 29, 2011 to July 5, 2011



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