Pest & Crop

April 26, 2002 - No. 6

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Insects, Mites, and Nematodes

Cool Temperatures Slow Alfalfa Growth, Not Weevil Feeding - *(John Obermeyer, Rich Edwards, and Larry Bledsoe)* -

- Northern Indiana alfalfa fields should be scouted earlier than normal this year
- Larvae continue to hatch, don't treat too soon unless necessary
- Early treatment requires products and rates that provide residual activity

Surveys of west central and northwestern Indiana alfalfa fields this past week (see "Alfalfa Weevil Larval Survey") reveal that weevil feeding has reached high levels in many fields. Weevil damage and subsequent populations continue to progress faster than anticipated with the given heat unit accumulations. This should be a warning to growers throughout northern Indiana counties.

Many pest managers have or will soon apply insecticides to suppress this feeding frenzy. If possible, insecticides should not be applied until 400 heat units (base 48∞F) have accumulated (see "Weather Update"). At this level, most weevil eggs have hatched and the majority of larvae can be controlled. If treatments are necessary before this time, use products and/or rates that will give long residual control while carefully considering the harvest restrictions. Refer to the recommended insecticides for alfalfa weevil larval control in *Pest&Crop* #4, April 12, 2002.

Alfalfa Weevil Larval Survey
4/19/02 & 4/23/02
(Ron Blackwell)

County (Fields) Sampled	Stem Ht. (in.)	Predominant Larval Instar	Total # Larvae*	% Tip Feeding
Benton	8.6	2nd	140	48%
Newton 1	10.4	3rd	33	8%
Newton 2	11.4	2nd	45	20%
Newton 3	12.5	3rd	61	32%
Newton 4	14.1	3rd	32	24%
Tippecanoe 1	9.8	3rd	53	36%
Tippecanoe 2	11.0	3rd	102	80%
Warren 1	10.6	4th	42	44%
Warren 2	10.1	3rd	46	40%
Warren 3	9.3	3rd	63	64%
Warren 4	9.2	**	**	68%

*Number per 25 stems, extracted by Berlese funnel.
**Information not available.

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Bean Leaf Beetle Waking Up from Winter's Nap - *(John Obermeyer Rich Edwards, and Larry Bledsoe)* -

- Early emerging soybean should be scouted for bean leaf beetle
- Cotyledons and young leaves are prime feeding targets
- Use treatment thresholds to make control decisions

A small percentage of soybean has been planted and is beginning to emerge. Emerging plants in these fields may serve as "trap crops" for bean leaf beetles. Beetles likely overwintered successfully this year due to the mild winter and now are seeking wild and cultivated legumes to feed on.

One of the most critical times for soybean damage is from emergence through the establishment of the first trifoliolate. If cotyledons are being destroyed before the unifoliolate leaves fully emerge or if the growing point is severely damaged, reduced yields are likely. However, once trifoliolate leaves have unrolled, soybean can tolerate up to about 40% defoliation without yield loss.

For cotyledon- and unifoliolate-stage soybean, refer to the following threshold values:*

Crop Value ($/bu)	Control Cost, $/acre				
	6.00	8.00	10.00	12.00	16.00
	Beetles per plant				
5.00	3	4	5	6	8
6.00	3	4	5	5	7

* Table modified from the University of Nebraska

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White Grub Concerns? - (*John Obermeyer, Rich Edwards, and Larry Bledsoe*) -

- White grubs may be observed during tillage operations
- Early corn planting and cool soils increase likelihood of grub damage
- Identification of the grub species is important
- No rescue treatments are available for economic populations

Grubs are often seen during tillage or planting operations or are observed close to the planted seed when farmers check for germination and/or seed/seedling condition. If corn is slow to emerge, it is often assumed that the grubs are feeding on the seed/seedling. However, cool soils are likely the reason for slow plant emergence. Additionally, grubs are less active in cool soils than they are in warmer soils, so little feeding occurs early when we have cool conditions.

Annual white grubs, e.g. Japanese beetle, do much of their feeding in late summer and early fall when field crops generally have massive root systems and are less susceptible to economic root damage. After overwintering, grubs move to the upper soil profile in the spring when there is a relatively short period of time from initiation of feeding activity to pupation in late May or early June. In the spring, they feed mostly on dead and/or decaying matter, but if seedling roots are nearby they will feed on them. The length of this period and grub populations will govern to a large degree as to whether economic damage will occur.

Corn planting after the first week in May reduces the chance of economic Japanese beetle grub damage. Producers who find grubs should collect several to take to their county extension educator, crop consultant, or agriculture chemical/fertilizer dealer for positive identification. Depending on the species, the numbers observed, the time of the year, and the crop to be planted control may or may not be warranted. Since rescue treatments are not available, the most effective way to control the grubs is to apply a soil insecticide at planting. If an economic grub population is observed in a field that has already been planted and the stand is threatened, a soil insecticide could be used as part of a replant operation. Replanting, however, is not recommended unless a critical level of plants is being significantly damaged or destroyed by grubs. Remember that a number of factors can cause stand reductions. If a stand is declining due to grub activity, make sure that the grubs are still actively feeding on the roots before making a replant decision.

White grub feeding on mesocotyl

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Replanting Corn and Soil Insecticide Restrictions - (*John Obermeyer, Rich Edwards, and Larry Bledsoe*) –

- Rootworm eggs don't normally drown
- Most soil insecticides have one-time use rate restrictions
- Amount of insecticide remaining after flooding is difficult to determine
- Carefully weigh the economic risk/benefit of reapplying soil insecticides

Kevin Black, Growmark, Illinois, brought to our attention an interesting dilemma that some producers in his trade area could be facing due to extremely heavy rains following corn planting. Because areas of fields could be under water for an extended period of time, it is possible that these areas will need to be replanted. These fields are located within high-risk rootworm areas, thus soil insecticides were often used at planting.

Should you reapply a soil insecticide if replanting? It should be understood that even if an area or whole field has ponded, the preexisting rootworm threat has not necessarily diminished. Overwintering rootworm eggs can survive flooded conditions for long periods of time in the spring, however once they hatch, larvae cannot.

Can you reapply a soil insecticide when replanting? Soil insecticides have restrictions as to the amount of product that can be applied per season as stated on the label. Because the label is the law, this is not to be exceeded. Of all the soil insecticides, Lorsban 15G is the only one you can legally reapply, that is if you used the 8-ounce rate both times (16-ounce restriction). The bottom line is that, if you choose to reapply a soil insecticide during replanting, it should be a different active ingredient from what you used the first time (exception is Lorsban 15G). Remember, your granular insecticide boxes will have to be recalibrated for the new product since all products are formulated differently.

How about replanting into existing rows? If areas of the field are drowned out, then planting into, or as close to, the original row is a possibility. The potency of the original soil insecticide may or may not provide sufficient control of rootworm larvae. How much of the original insecticide remains is at best a guess. Flooding can cause physical movement, leaching, hydrolysis, and hasten degradation of the insecticide. Much of this is dependent upon how long the water stands in the field, how fast the water moves out of the field or through the soil profile, and soil temperatures. So, if you're "feeling lucky," relying on the original insecticide prevents another $15+ investment in replanting costs. Agrochemical distributors have also made it known that soil insecticides are in short supply this year. This may ultimately make the decision an easy one.

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Armyworm Worth Watching – (*John Obermeyer*) –

I have spent most of the winter assuring pest managers that the armyworm outbreak of 2001 would not duplicate itself for another 50 years, give or take a decade or two. This week, Ron Blackwell, Survey Entomologist, called me down to the lab to show me an impressive number of armyworm moths captured April 19 in Whitley County (see "Black Light Trap Catch Report").

Just the facts: 1) a one-time moth arrival does not an outbreak make, 2) weather conditions last year were the complete opposite — early dry spring, and 3) insect pathogenic spores should be quite plentiful and waiting to infect larvae.

Certainly we are going to continue monitoring future moth arrivals and numbers. It is truly a wait and see situation at this point. Stay tuned and watch future issues of *Pest&Crop* for updates.

Bug Scout

It's one way to get rid of grubs!

Black Cutworm Adult Pheromone Trap Report
Week 1 = 4/11/02 - 4/17/02 Week 2 = 4/18/02 - 4/24/02
(Ron Blackwell)

County	Cooperator	BCW Trapped		County	Cooperator	BCW Trapped	
		Wk 1	Wk 2			Wk 1	Wk 2
Adams	Roe/Price Ag Services	3	3	Knox	Smith/Growers Co-op (Whtlnd 2)	5	8
Bartholomew	Ludwig/Growers Service	2	15	Lake	Kliene (1)	12*	17*
Bartholomew	Weinantz Farm/Pioneer	9	7	Lake	Kliene (2)	14*	18*
Benton	Schellenberger/Jasper Co. Co-op	7	6	Marshall	Barry/Marshall Co. Co-op	10	7
Clay	Smith/Growers Co-op (Bzl)	6	12*	Newton	Babcock/Jasper Co. Co-op	5	8
Clay	Smith/Growers Co-op (CC)	10*	0	Parke	Rule/Midland Co-op	6	14
Clinton	Blackwell/Purdue	20*	23*	Porter	Mueller/Agriliance	8	6
Decatur	Miers Farm/Pioneer	6	9	Putnam	Nicholson Consulting	4	6
Elkhart	Kauffman/Crop Tech (1)	0	7	Randolph	Jackson/Davis-Purdue Ag Center (S)	1	4
Elkhart	Kauffman/Crop Tech (2)	1	2	Randolph	Jackson/Davis-Purdue Ag Center (N)	3	2
Fayette	Schelle/Falmouth Farm Supply	13	1	Rush	Peggs/Pioneer	13*	10
Gibson	Hirsch Farms	0	2	Shelby	Hudson	0	13
Fountain	Mroczkiewicz/Syngenta	2	1	Sullivan	Smith/Growers Co-op (W)	8	2
Fountain	Hutson/Purdue	7	4	Sullivan	Smith/Growers Co-op (E)	9	2
Hamilton	Dobbins/FMC	8	0	Tippecanoe	Obermeyer/Purdue	16	40*
Hendricks	Whicker/Midland Co-op	4	2	Tipton	Johnson/Pioneer	11*	22*
Henry	Schelle/Falmouth Farm Supply	3	1	Vermillion	Hutson/Vermillion Co. Ext. (N)	14*	1
Jasper	Manning/Jasper Co. Extension (S)	0	0	Vermillion	Hutson/Vermillion Co. Ext. (S)	5	3
Jasper	Manning/Jasper Co. Extension (Ctrl)	4	3	Vigo	Smith/Growers Co-op	7	0
Johnson	Truster/Ag Excel Inc.	5	0	Warren	Shields/Jasper Co. Co-op	7	8
Knox	Smith/Growers Co-op (Oaktown)	12*	1	White	Reynolds/Orville Redenbacher 1K	12	2
Knox	Smith/Growers Co-op (Edwardsport)	4	5	White	Reynolds/Orville Redenbacher 2P	12	5
Knox	Smith/Growers Co-op (Whtlnd 1)	4	1	Whitley	Walker/NEPAC	3	0

* = Intensive Capture.... An intensive capture occurs when 9 or more moths are caught over a 2-night period.

Black Light Trap Catch Report
(Ron Blackwell)

County/Cooperator	4/16/02 - 4/22/02						
	VC	BCW	ECB	GC	CEW	FAW	AW
Dubois/SIPAC	0	0	0	0	0	0	8
Jennings/SEPAC	0	0	0	0	0	0	1
LaPorte/Pinney Ag Center	0	0	0	0	0	0	0
Lawrence/Feldun Ag Center	0	2	0	0	0	0	24
Whitley/NEPAC	1	4	0	0	0	0	280

BCW = Black Cutworm ECB = European Corn Borer GC = Green Cloverworm
CEW = Corn Earworm AW = Armyworm FAW = Fall Armyworm VC = Variegated Cutworm

Agronomy Tips

Rainy Days, Soggy Soils, & Idle Planters - (*Bob Nielsen & Tony Vyn, Agronomy Dept., Glenn Nice, Botany & Plant Pathology Dept.*) -

While only about 20% of Indiana's corn crop is typically planted by 30 April (1983-2001 crop reporting data, Indiana Ag. Stats. Service), farmers have been spoiled the last couple of years with excellent weather and soil conditions in late March and early April. Consequently, many farmers throughout the state were already well into planting by this time last year. Not so in 2002. Rain and snow during the past four weeks have delayed the start of corn and soybean planting throughout Indiana.

None of this is news to the regulars down at the Chat 'n Chew CafÈ, but the frustration level is beginning to build among those who are faced with a significant acreage of corn yet unplanted, let alone that of soybean. While there is plenty of time to begin corn planting within the prime planting window of late April and early May, the risk is mounting that the finish of corn planting may occur in mid-May or later when yield losses to delayed planting increase significantly due to the shortened available growing season and accompanying stress factors. What can growers do to minimize that risk?

By the time the end of April rolls around, growers should concentrate primarily on planting corn and less so on performing related field activities such as tillage and pre-plant fertilizer or herbicide applications. This advice is particularly applicable if the time spent accomplishing these other field activities would otherwise limit the completion of the planting operation in a timely fashion. In particular,

- If you were aiming for pre-plant nitrogen applications, consider switching to a sidedress nitrogen application strategy using either 28% UAN liquid nitrogen or anhydrous ammonia fertilizer sources. An additional benefit to sidedress fertilizer strategies is that applying nitrogen fertilizer after corn emergence reduces the time frame for nitrogen loss caused by leaching or denitrification, resulting in more available nitrogen to the growing crop. The primary risk associated with a sidedress fertilizer strategy is that rainy June weather may prevent timely nitrogen applications before the crop becomes too tall for ground-driven application equipment.

- If you practice conventional tillage, reduce the number of pre-plant tillage trips. Today's planters do not require tabletop smooth seedbeds. If shallow tillage was performed last fall, consider planting into the stale seedbed without any additional tillage this spring. If no tillage was done after last season's soybean harvest, consider no-till planting the corn into the soybean stubble. See Tony Vyn's related article on tillage in a wet spring (P&C Newsletter, 26 Apr).

- If you were aiming for pre-plant incorporated herbicide applications, consider switching to pre-emerge or post-emerge application strategies. The arsenal of corn herbicides suitable for pre-emerge or post-emerge applications is much larger than years ago. The primary risk associated with pre-emerge or post-emerge strategies is that rainy weather after planting may prevent timely herbicide applications before the weeds become too large for effective control or the crop develops beyond the herbicide label restrictions for crop growth stage.

- Minimize herbicide application down time and headaches by taking advantage of the current soggy soil down time to scout your fields and identify the major weeds (primarily winter annuals) that are already growing. If you will be applying burndown herbicides, make sure you have the products readily available that will most effectively control the weeds identified by your field scouting activity. Calibrate and perform last minute preventive maintenance on your spray equipment. Make sure you have enough and the right chemical products to accomplish the job to avoid those unexpected trips to the dealer during planting.

- Minimize the risk of planter equipment down time by using these days of rain and soggy soils to go over the planter and tractor one last time to ensure that everything is working properly. This includes any last minute calibrations of starter fertilizer and insecticide applicators. Also make sure you understand all the ins and outs of any electronic controls associated with the planter (seed monitors, variable seed drives, fertilizer controls, GPS receivers, etc.) to minimize valuable time spent during planting trying to figure out why some @#$!%! electronic component is not working properly.

- If you use some type of air planter AND your seed corn this year ranges from very small to large or very large kernel hybrids, make sure you are prepared for any necessary seed disc/drum switches and/or adjustments in air/vacuum pressure when you switch from one seed lot to another. Write the necessary information down in your pocket notepad or palm computer now so that you won't waste time thumbing through the operator's manual during planting or, worse yet, ignore the planter adjustments altogether.

Finally, if you are already wondering whether to switch to earlier maturity hybrids because of the late start of the planting season, the short answer is "Don't worry yet." A decision to switch hybrid maturities is not necessary for most Indiana corn growers until planting is delayed to late May or later.

Some Related Online References:

• Fertilizing corn can wait, planting crop can't (Purdue Univ.)<http://www.agriculture.purdue.edu/aganswers/2002/4-23_Fertilizing_Corn.html>

• Postemergence broadleaf control in corn (Univ. of Missouri)<http://ipm.missouri.edu/ipcm/archives/v12n6/index.html>

• Early season weed control in corn (Univ. of Missouri)<http://ipm.missouri.edu/ipcm/archives/v12n5/index.htm>

• Dealing With Dandelions (Ohio State Univ.)<http://corn.osu.edu/archive/2002/apr/02-08.html>

• Burndown Considerations for 2002 (Univ. of Illinois)<http://www.ag.uiuc.edu/cespubs/pest/articles/v200202.html>

• Burndown Madness (Purdue University)<http://www.entm.purdue.edu/Entomology/ext/targets/p&c/P&C2002/P&C2_2002.pdf>

• New Herbicide Labels (Ohio State Univ.)<http://corn.osu.edu/archive/2002/apr/02-07.html>

• Effectiveness of burndown herbicides for winter annual and perennial weed control in corn and soybeans (Michigan State Univ.)<http://www.msue.msu.edu/ipm/CAT01_field/FC04-26-01.htm>

• Equipment maintenance: Planters (Iowa State Univ.)<http://www.ent.iastate.edu/ipm/icm/2002/4-8-2002/>

• Sprayer Calibration Pays Dividends (Ohio State Univ.)<http://www.ag.ohio-state.edu/~corn/archive/2001/apr/01-10.html>

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Got GPS Toys? Put Them to Work! - (*Bob Nielsen*)

Maybe you were one of those fortunate few that received some GPS toys from Santa this past Christmas. Perhaps he left you a new pocket PC outfitted with a WAAS-enabled DGPS receiver and some nifty field mapping software? Maybe these new GPS toys helped you justify the purchase of that new ATV so that you could map a few field boundaries while you cruise around the farm?

Now that you've mapped the boundaries of every field on your farm (and maybe your neighbor's fields, too) with these toys and grid soil sampled down to the nearest half acre, what else is there to do with these high-priced high-tech gadgets? The current delay to the start of corn and soybean planting offers an opportunity for georeferencing (mapping) potential yield limiting factors now before you get going on some serious planting.

- Got ponded areas or seriously wet spots in your fields? Map those boundaries for future tile drainage decisions or for future crop scouting activities.

- Got large patches of Canada thistle or other nasty perennial weeds popping up everywhere? Map the boundaries for future site-specific herbicide applications (what we used to call spot spraying.) Annotate those mapped boundaries with ratings of the severity of the weed problem so that you can prioritize your spraying schedule.

- Got tile blowouts or sinkholes from recent goose drownders? Map those spots so that you remember where they are when you get around to fixing them or to help you avoid them with the tractor and planter when you plant that field.

- Got distinct areas of wonderfully green winter annual weeds that have been attracting every black cutworm (BCW) moth in the country this spring? Map those areas for future site-specific monitoring of BCW larvae feeding activity on the corn that will eventually be growing in those fields.

Once you've mapped these yield limiting factors, don't stop for the season. Put these GPS-enabled mapping and scouting devices to work throughout the year as other yield limiting factors develop.

Successful yield map interpretation depends on more than just soil maps and intensive soil nutrient sampling. There are a gozillion factors that influence the yield of corn and soybean, the combinations of which change every year. Successful site-specific crop management depends on site-specific identification of as many of these yield-limiting factors as is humanly possible.

Online Sources of Information:

- Assorted brands of pocket PCs:
  - o <www.mobileplanet.com>

- Field mapping & scouting software:
  - o <www.farmworks.com> (Farm Site Mate™)
  - o <www.esri.com/software/arcpad> (ArcPad™)
  - o <www.starpal.com> (HGIS Starpal™)

- WAAS-enabled DGPS receivers for pocket PCs:
  - o <www.farmworks.com> (Navman™ DGPS receiver for Compaq iPAQs™)
  - o <www.teletype.com> (WorldNavigator™ DGPS receiver for pocket PCs)
  - o <www.trimble.com> (full size and handheld DGPS receivers)
  - o <www.garmin.com> (handheld DGPS receivers)
  - o <www.magellangps.com> (handheld DGPS receivers)

The usual disclaimer: The inclusion or exclusion of products, brand names, or Web sites in this article should not be construed as anything other than a representative list that could be used to assemble a portable GPS-enabled mapping/scouting system and does not constitute endorsement or lack thereof by Purdue University or its Extension Corn Specialist!

Don't forget, this and other timely information about corn can be viewed at the Chat 'n Chew CafÈ on the World Wide Web at <http://www.kingcorn.org/cafe>. For other information about corn, take a look at the Corn Growers' Guidebook on the World Wide Web at <http://www.kingcorn.org>.

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Tillage Options for Corn in a Wet Spring – (*Tony J. Vyn*) -

If wet soil conditions continue to delay corn planting operations in 2002, farmers may be well advised to reconsider their intended tillage practices. The alternatives to consider first are those that will help facilitate completion of corn planting by May 5, or as soon as possible thereafter. However, in their rush to plant farmers should not compromise on trying to achieve optimum seed and seedling root environments for corn in its early growth stages. The options below present alternatives Indiana farmers should consider this spring based on their present field situations. The recommendations result from our 30-year history in tillage research.

Situation 1: Full-width tillage completed last fall, but fields untouched since then.

A single pass of secondary tillage is required wherever soil surface undulation is too rough to permit optimum planter speeds or accurate planting at a uniform depth. The secondary tillage pass should be shallow (average depth not to exceed 3") and should be performed within 24 or 48 hours of planting to minimize excessive moisture loss from the seed zone. There is rarely a yield benefit associated with a second secondary tillage pass; it is best to concentrate on using the proper equipment and adjustments to achieve satisfactory conditions in the first pass. However, if fall tillage operations (such as those after fall disking, disk-ripper combination tools, and fall mulch-finisher combination tools) resulted in a reasonably level surface with minimum surface crusting, corn should be planted without secondary tillage. The latter concept is known as "stale seedbed planting"; it has resulted in corn yields similar to those with full primary and secondary tillage on both fine- and medium-textured soil in the last 3 years of Indiana research (and even prior to that in other regions with similar spring conditions).

Situation 2: Strip-tillage completed last fall, but fields untouched since then.

These are the simplest fields to manage from a corn planting perspective in wetter than normal springs. The strip-tilled "berms" in the row are relatively residue free and dry as fast as chisel plowed fields. Furthermore, soil erosion control is not sacrificed (relative to no-till) since fields still have 75% of the residue cover left after no-till. The big advantage with this system is that planting can proceed as soon as the top 2" of soil in the row zone is sufficiently dry. Planting may even occur sooner on these fields than on chisel-plowed fields because the latter requires time for secondary tillage. Farmers with moderately to poorly drained soils should consider expanding the acreage of strip tillage this fall as a hedge against planting delays in a wet spring.

Situation 3: No fall tillage at all, and soybean stubble still undisturbed.

These fields should all be considered as serious candidates for no-till corn this year if suitable planting equipment is available. Many of these fields may already be intended for no-till (since over 20% of Indiana's corn acreage was no-till planted in 2000 and 2001). The traditional urge to cultivate some of these fields prior to corn planting should be avoided where possible because such tillage also involves risks in wet springs of cloddy seedbed formation. In the last 3 years, corn yields have not been any higher after single-pass spring cultivation on soybean stubble versus those after no-till on the same soybean stubble. However, rotary harrows are sometimes beneficial on clay soils in enabling earlier

corn planting because they disturb the "matted" crop residue and "scratch" the soil surface to a depth of 1" or less. Spring strip tillage in advance of planting is risky on high clay context soils, and should only be done with tined row cleaners and (or) mole knives (i.e. not with multiple coulters per row), and should be performed at shallow depths if at all.

Situation 4: One pass of secondary tillage already completed, rain delays since.

In most cases, these fields should be planted without any further secondary tillage. The only justification for performing additional secondary tillage is (a) if the field in question has developed a thick surface crust (more likely when soils have high silt contents and are low in organic matter or structural stability) and (b) planting at a uniform depth would otherwise be difficult. This recommendation to plant directly is somewhat analogous to the "stale seedbed planting" suggested above. Our recent experiences are that corn planting is generally delayed if more secondary tillage is performed, and corn yields are not improved by more tillage (relative to planting as soon as the top 2" of soil are dry).

Situation 5: Soil surface undulating because of prior anhydrous ammonia applications.

In some areas in Indiana, farmers were successful in completing all or a portion of their pre-plant nitrogen application. If ridges persist, these should be leveled with minimum depths of full-width tillage. Shallow cultivation or rotary harrows may be the best options.

Situation 6: Corn intended to follow grain corn, but no tillage performed since harvest.

On sandy soils, no-till would still be a feasible system if properly managed (e.g. suitable planter and if new corn rows are positioned 6" away from prior corn rows). On most other soils, some level of tillage would be beneficial even if it would take more time before planting. However, new combination tillage tools should be considered since disk-cultivator-harrow combination tools in a single-pass system have resulted in yields similar to those after spring chisel plowing plus secondary tillage. There is no need to do primary tillage first if tillage implements are available to handle the residue and create a level seedbed in one pass.

General Comments

Our results after 27 years indicate that no-till corn yields average within 3% of those with conventional tillage. Even first-year no-till can be successful with proper equipment, nutrient and pest management. Corn yields are often influenced more by the planting operation itself than by the selection of the tillage system. Planting should not be rushed with damp soil conditions in early May if significant in-furrow smearing or poor seed closure results. Such conditions are particularly deleterious when late May weather is hot and dry. In-row seed firmers may improve plant stand in wetter portions of fields but are not substitutes for proper management (i.e. waiting for appropriate soil moisture conditions at planting). Timing of planting relative to seedbed conditions and adjustments of the planter are crucial importance.

Summary

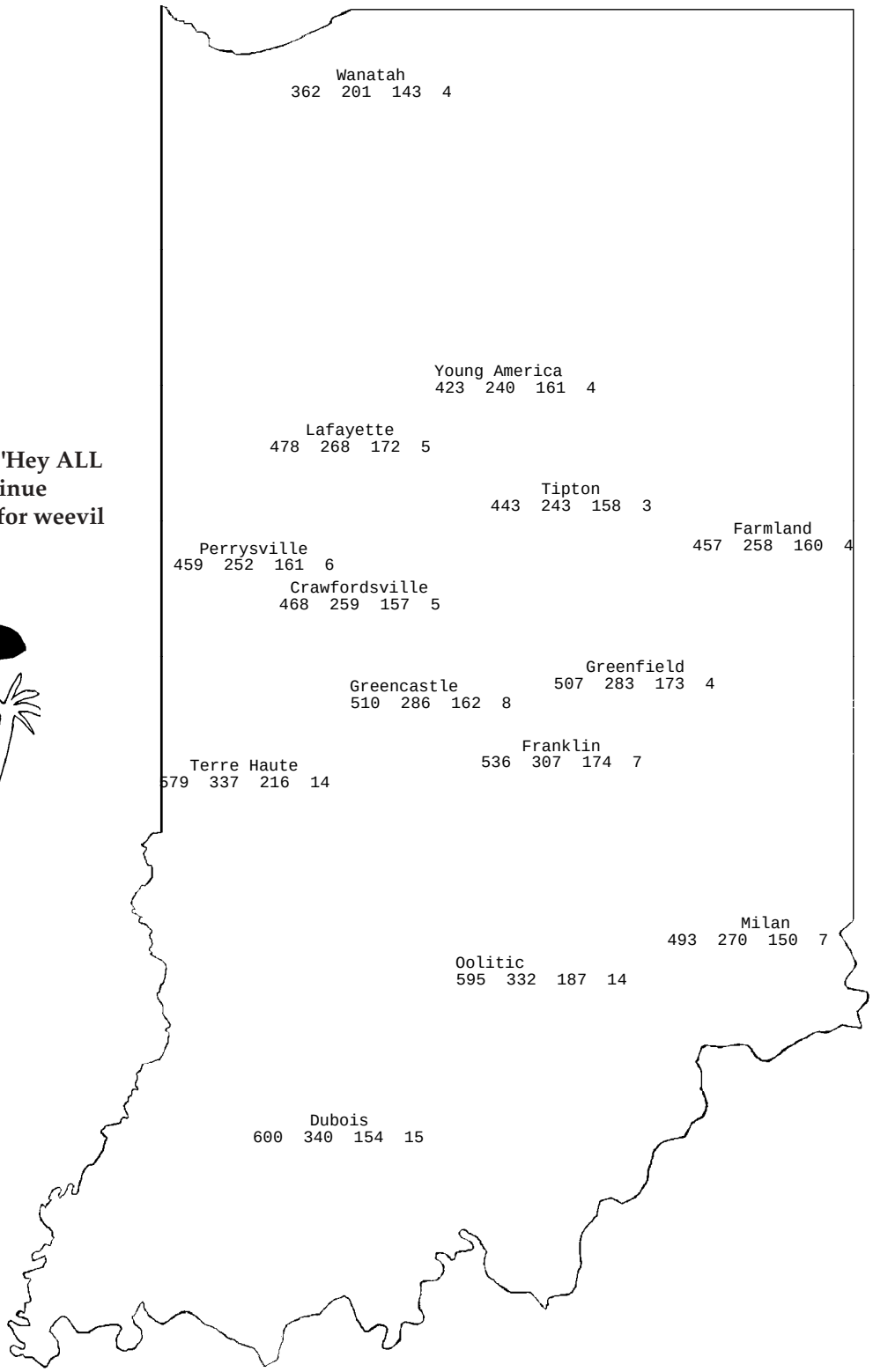
The spring of 2002 may be a challenging one in terms of soil moisture conditions, but it should also prompt renewed thinking about the merits of soil-conserving, cost-conserving, and time-conserving tillage systems. New tillage options developed in the last decade also provide new alternatives to reduce late-planting risks on poorly drained soils. The best alternatives will vary with your soil and current field situations.

Weather Update

Temperature Accumulations from Jan. 1 to April 24, 2002

MAP KEY			
Location			
HU41	HU48	HU50	GDD(2)

HU41 = heat units at a 41°F base from Jan. 1, egg hatch begins by 600
HU48 = heat units at a 48°F base from Jan. 1, for alfalfa weevil development (begin scouting at 200)
HU50 = heat units at a 50°F base from date of intensive moth capture, for black cutworm development (larval cutting begins about 300)
GDD(2) = Growing Degree Days from April 21 (2% of Indiana's corn planted), for corn growth and development



Bug Scout says, "Hey ALL of Indiana...continue scouting alfalfa for weevil feeding!"

4" Bare Soil Temperatures 4/24/02

Location	Max.	Min.
Whitford Mills	53	50
Wanatah	64	47
Columbia City	58	41
Winamac	62	43
Bluffton	50	46
W Laf Agro	45	41
Tipton	56	50
Farmland	52	47
Crawfordsville	53	47
Liberty	56	45
Terre Haute	64	45
Oolitic	61	54
Dubois	74	49

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Extension Entomology Office
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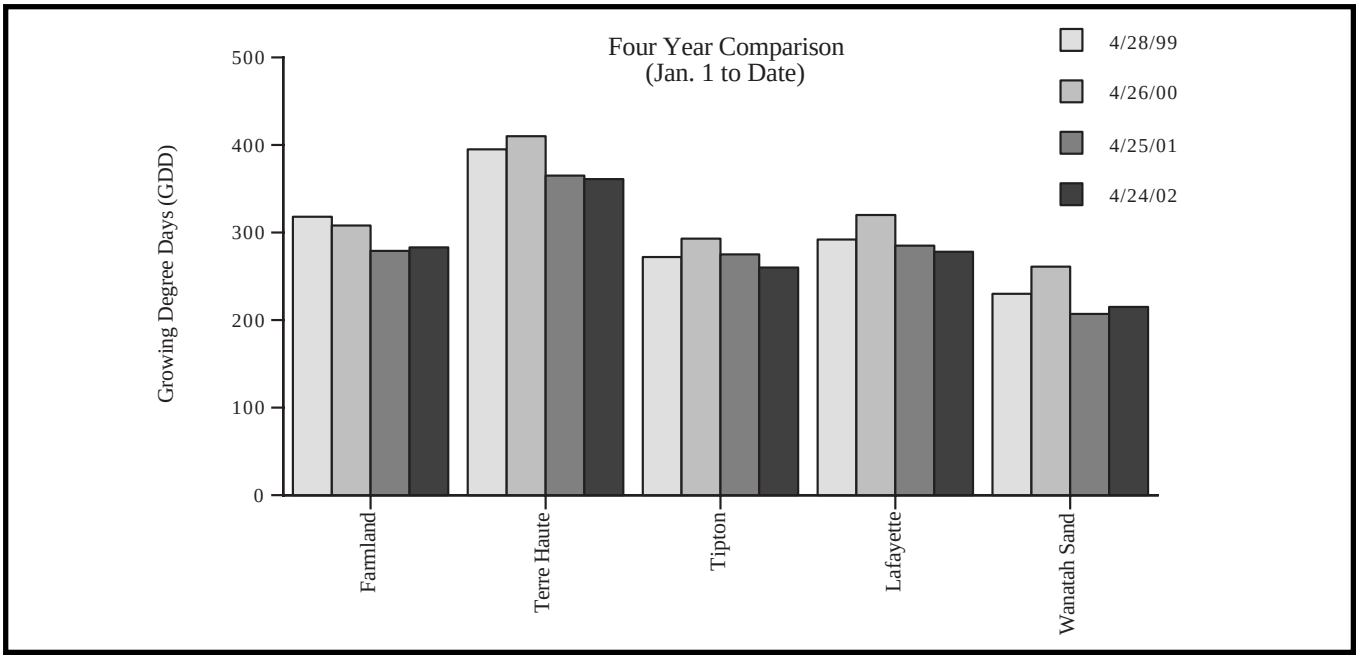
West Lafayette, IN 47907-1158

http://www.entm.purdue.edu/Entomology/ext/targets/newslett.htm



The ***Pest Management and Crop Production Newsletter*** is produced by the Departments of Agronomy, Botany and Plant Pathology, and Entomology at Purdue University. The Newsletter is published monthly February, March, October, and November. Weekly publication begins the first week of April and continues through mid-September. If there are questions or problems, contact the Extension Entomology Office at (765) 494-8761.