

Integrated Pest & Crop Management



MU IPM's Pest Monitoring Program

By Steven Kirk

As the days grow longer and the weather begins to warm our agriculture sector begins to ponder the implications of the coming spring. Among the many things on the minds of our producers is the anticipation of how pests may play a role in the coming year's agricultural production. The University of Missouri's

the southern and southeastern portions of the state monitor Southwestern Corn Borer, Tobacco Budworm, Beet Armyworm and Soybean Looper.

A new feature in 2008 allows individuals the opportunity to sign up to receive electronic Pest Monitoring Alerts when potentially significant insect captures have been reported by our trapping staff. This information is provided to help pest managers make sound pest management decisions. To subscribe to the IPM Pest Monitoring Alerts visit our web site at: <http://ppp.missouri.edu/pestmonitoring/subscribe.htm>. At the site, fill in the required fields and then mark the boxes next to the insects of interest and click submit. When pest numbers reach significant numbers you will automatically be notified via email. Notification of insect captures in pheromone traps do not indicate that treatment is necessary, but indicate that fields in your area may be at risk and should be scouted.



(ABOVE) The University of Missouri IPM Pest Monitoring Website.

Plant Protection Programs offer many helpful ways to assist farmers and landowners in managing their pest problems. Among these is the "IPM Pest Monitoring Network" web site located at: <http://ppp.missouri.edu/pestmonitoring/index.htm>.

Monitoring for pest outbreaks is a cornerstone of Integrated Pest Management (IPM). IPM stresses scouting practices rather than calendar-based treatments to detect pests and determine if action is necessary. MU's IPM Pest Monitoring Network provides farmers, landowners and pest managers with an up-to-date tally on several economically important insect species captured in pheromone traps throughout Missouri.

Over 30 trappers monitor nearly 50 insect traps around the state. By visiting our web site farmers and pest managers can view trap counts that are updated every few days. These include Black Cutworm, True Armyworm, Japanese Beetle, European Corn Borer, Corn Earworm and Fall Armyworm monitored throughout the state. In addition, traps located in

Steven Kirk
KirkS@missouri.edu
(573) 882-5612



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Weed Management Considerations for 2009

By Kevin Bradley



(ABOVE) Fields like this that received heavy rains and/or flooding last year are likely to have dense weed populations because postemergence herbicide applications were never made.

As you prepare for the 2009 season, there are a few issues related to weed management that you can begin planning for right now.

First, the floods and heavy rains last season meant some soybean fields never got sprayed with a postemergence herbicide at all. Other fields in low-lying areas were totally abandoned because the crop was lost to standing water. Weeds still came up in these fields and produced abundant supplies of weed seed that were eventually deposited onto the soil. These will be a problem to deal with in 2009. If you had either of these scenarios last year, it's a good idea to plan for a heavier-than-normal population of weeds this season. A preemergence residual herbicide in either corn or soybean is one way to reduce these weed populations dramatically.

Another thing to be on the lookout for this season is any new

to find palmer amaranth infestations (also called palmer pigweed) in a central Missouri field, and also in several west central and northwest Missouri fields. In all cases, the palmer amaranth was within site of the river and my guess is that past flooding events introduced this weed into those areas.

Palmer amaranth is a very competitive pigweed species, one that has evolved resistance to glyphosate in much of the southeastern U.S., and one that we don't want spread throughout Missouri! While we know we have populations of palmer amaranth in the boot heel and sporadically along the western edge of Missouri, we have not historically had a problem with this weed in any other areas of the state. If you have or think you may have palmer amaranth in your fields, please give me a call or send me an e-mail (bradleyke@missouri.edu), we'd like to know more about the distribution of this weed in Missouri.

One final thing to consider is that the time for spring burndown applications is fast approaching, if not already here. Although we haven't had as much problem with horseweed or marestalk in Missouri as many other states, there are areas in Missouri where horseweed is a real problem and I have been getting more and more calls about this weed each year. If you have this weed, it is very important to pay attention to the timing of your burndown herbicide application. Ideally, burndown herbicide applications should be made before horseweed plants reach 6-inches in height and 2,4-D ester should be added as a tank-mix partner with the primary burndown herbicide. Also, for our winter annual weed spectrum in Missouri, I believe that 2,4-D is a good addition to your burndown herbicide regardless of whether horseweed is present or not. A more detailed publication providing specific recommendations for the management of horseweed and glyphosate-resistant horseweed biotypes can be found at: <http://www.glyphosateweeds crops.org/>.



In the picture above, palmer amaranth is on the left while waterhemp (our most common pigweed species in Missouri) is on the right. Palmer amaranth has much wider, diamond-shaped leaves with long petioles.

weeds that may have "found their way" onto your land due to the floods from last year. Landowners with fields in the Missouri and Mississippi river bottoms should really be mindful of this possibility. In my travels at the end of last season, I was surprised

Kevin Bradley
BradleyKe@missouri.edu
(573) 882-4039

Missouri Cotton Growers – Beware of Root-knot Nematode

By Allen Wrathers

Crop-threatening levels of root-knot nematodes (RKN) are present in some cotton fields in southeast Missouri. The symptoms of RKN injury will initially be visible 6-8 weeks after cotton emergence and may include yellow-green leaf color, stunt, and these plants may wilt more quickly than healthy plants during a hot afternoon. Plants injured by these nematodes will have swollen areas, galls, visible on infected roots 6-8 weeks after emergence. Farmers and/or consultants should be cautious about diagnosing the cause of yellow-green leaf color and stunt of midseason cotton because other factors such as low soil pH and drought may cause this, but only RKN causes galls on roots.

Cotton farmers can take action to protect their crop against these nematodes during 2009, but their options are limited. There are no cotton varieties highly resistant to RKN although some varieties are more resistant than others. Growers should consider using a nematicide such as Telone prior to planting, Temik at planting, or a seed treatment such

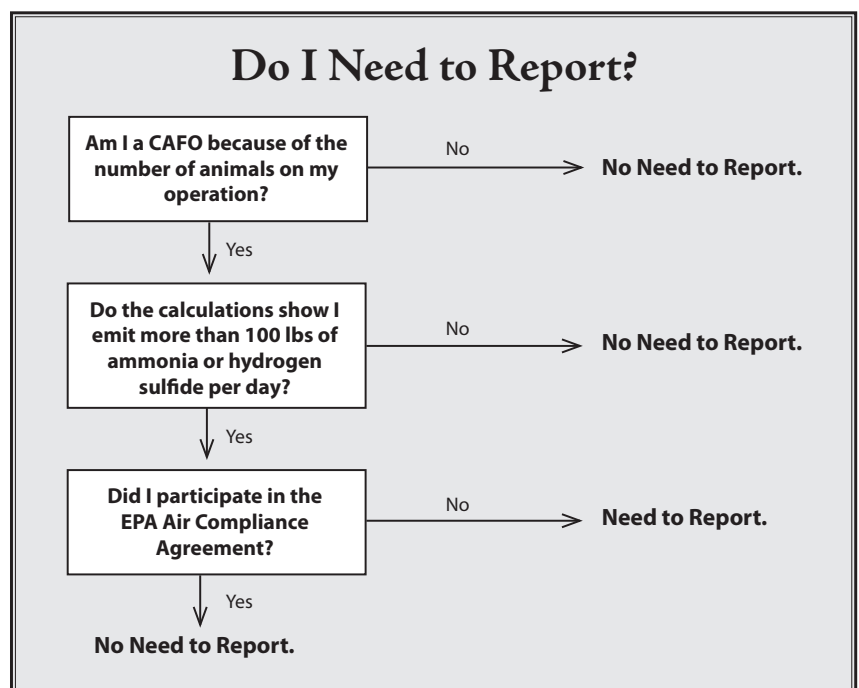
as Avicta or AERIS. The crop may be sprayed with Vydate a few weeks after emergence for nematode suppression, but a nematicide such as Temik should have been applied at planting. There are advantages and disadvantages to the use of each of these products.

Following these suggested procedures will give cotton farmers a better chance of producing higher yields and greater profits in 2009. For more information contact Allen Wrather at the University of Missouri Delta Center (Phone: 573-379-5431, E-mail: wratherj@missouri.edu) or check the Delta Center Web Page (aes.missouri.edu/delta).

Dr. Allen Wrather
WratherJ@missouri.edu
(573) 379-5431

Correction: EPCRA and Gas Emission Reporting

An article in February's IPCM, (print version) "EPCRA and Gas Emission Reporting...Does it Affect Me?" featured a table visualizing the requirements for reporting. In the last category labeled "Did I participate in the EPA Air Compliance Agreement," the arrow pointing toward "No" should have been met with "Need to Report" rather than "No Need to Report" which was incorrect.



Weather Data for the Week Ending March 3, 2009

By Pat Guinan

| Station | County | Weekly Temperature (oF) | | | | | | Monthly Precipitation (in.) | | Growing Degree Days‡ | |
|---------------------------|----------------|-------------------------|-----------|--------------|-------------|------|-------------------------------|-----------------------------|-------------------------------|--------------------------|-------------------------------|
| | | Avg. Max. | Avg. Min. | Extreme High | Extreme Low | Mean | Departure from long term avg. | Feb. 1- Feb. 28 | Departure from long term avg. | Accumulated Since Apr. 1 | Departure from long term avg. |
| Corning | Atchison | 36 | 14 | 65 | 0 | 26 | -8 | 0.33 | -0.62 | * | * |
| St. Joseph | Buchanan | 38 | 17 | 66 | 5 | 28 | -8 | 0.49 | -0.65 | * | * |
| Brunswick | Carroll | 42 | 21 | 65 | 9 | 32 | -4 | 1.32 | -0.33 | * | * |
| Albany | Gentry | 39 | 17 | 64 | 4 | 28 | -6 | 0.29 | -0.95 | * | * |
| Auxvasse | Audrain | 42 | 24 | 68 | 17 | 33 | -3 | 2.43 | +0.61 | * | * |
| Vandalia | Audrain | 42 | 25 | 66 | 18 | 33 | -3 | 3.09 | +1.15 | * | * |
| Columbia-Jefferson Farm | Boone | 43 | 25 | 70 | 18 | 34 | -4 | 3.08 | +0.91 | * | * |
| Columbia-South Farms | Boone | 43 | 25 | 70 | 17 | 34 | -4 | 3.21 | +1.04 | * | * |
| Williamsburg | Callaway | 43 | 25 | 69 | 17 | 33 | -4 | 1.91 | -0.67 | * | * |
| Novelty | Knox | 40 | 23 | 63 | 15 | 30 | -5 | 1.65 | -0.01 | * | * |
| Linneus | Linn | 42 | 22 | 64 | 15 | 31 | -4 | 1.25 | -0.18 | * | * |
| Monroe City | Monroe | 40 | 24 | 64 | 16 | 31 | -5 | 1.74 | +0.13 | * | * |
| Versailles | Morgan | 44 | 22 | 73 | 11 | 34 | -6 | 2.65 | +0.63 | * | * |
| Green Ridge | Pettis | 42 | 19 | 69 | 8 | 32 | -5 | 1.81 | -0.03 | * | * |
| Lamar | Barton | 47 | 23 | 72 | 10 | 35 | -5 | 1.96 | -0.29 | * | * |
| Cook Station | Crawford | 47 | 26 | 73 | 12 | 36 | -4 | 2.39 | +0.07 | * | * |
| Round Spring | Shannon | 49 | 25 | 72 | 10 | 36 | -4 | 2.02 | -0.39 | * | * |
| Mountain Grove | Wright | 45 | 25 | 70 | 13 | 35 | -4 | 2.28 | -0.83 | * | * |
| Delta | Cape Girardeau | 48 | 30 | 69 | 20 | 38 | -4 | 2.46 | -0.98 | * | * |
| Cardwell | Dunklin | 50 | 32 | 72 | 21 | 40 | -3 | 4.24 | +0.48 | * | * |
| Clarkton | Dunklin | 49 | 31 | 72 | 21 | 39 | -5 | 2.59 | -0.68 | * | * |
| Glennonville | Dunklin | 50 | 33 | 71 | 23 | 40 | -3 | 2.68 | -0.55 | * | * |
| Charleston | Mississippi | 48 | 32 | 69 | 20 | 39 | -3 | 3.01 | -0.79 | * | * |
| Portageville-Delta Center | Pemiscot | 49 | 33 | 69 | 22 | 40 | -3 | 4.72 | +1.01 | * | * |
| Portageville-Lee Farm | Pemiscot | 49 | 33 | 70 | 22 | 40 | -3 | 4.80 | +1.16 | * | * |
| Steele | Pemiscot | 49 | 32 | 72 | 20 | 40 | -4 | 3.52 | -0.35 | * | * |

* Complete data not available for report

‡Growing degree days are calculated by subtracting a 50 degree (Fahrenheit) base temperature from the average daily temperature. Thus, if the average temperature for the day is 75 degrees, then 25 growing degree days will have been accumulated.

Pat Guinan
 Commercial Agriculture Program
 573.882.5908
 GuinanP@missouri.edu