Texas A&M AgriLife Extension

Texas IPM
Partners with Nature

WEST PLAINS IPM UPDATE

News about Integrated Pest Management in Hockley, Cochran, and Lamb Counties from Kerry Siders

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Cotton Root-knot Nematode

The root-knot nematode (Meloidogyne incognita) is widely distributed throughout much of the southern High Plains and is capable of causing significant yield loss. Since 1996 I have soil sampled irrigated cotton IPM Program scouting fields in Hockley and Cochran Counties for root-knot nematodes. Eighty – one percent of all samples have contained a damaging level of root-knot. The remaining 19% are fields which are either routinely rotated with another crop such as peanuts or have employed very effective chemical control measures. Symptoms associated with root-knot damage consist of poor vigor, stunting, yellowing of leaves and wilting. A characteristic feature of root-knot nematodes is the formation of galls that occur on the roots .

In addition, infected plants may exhibit nutrient deficiency-like symptoms, as M. incognita females feed on cotton roots and disrupt the plant's ability to acquire water and nutrients. The amount of damage observed is more severe when nematode populations are high. Furthermore, this damage may be enhanced by other stresses such as drought or herbicide injury.

Several cotton varieties with partial resistance to root-knot nematodes are now available. The varieties FiberMax 2011GT and 1911GLT, Stoneville 4946GLB2, Deltapine 1554NR B2RF and 1558NR B2RF, and Phytogen 367WRF and 417WRF have been evaluated and are known to have partial resistance and/or improved tolerance. There are others which are sold as tolerant/resistant varieties.

The variety Phytogen 417WRF greatly reduces nematode reproduction and may be an option for fields that are severely infested.

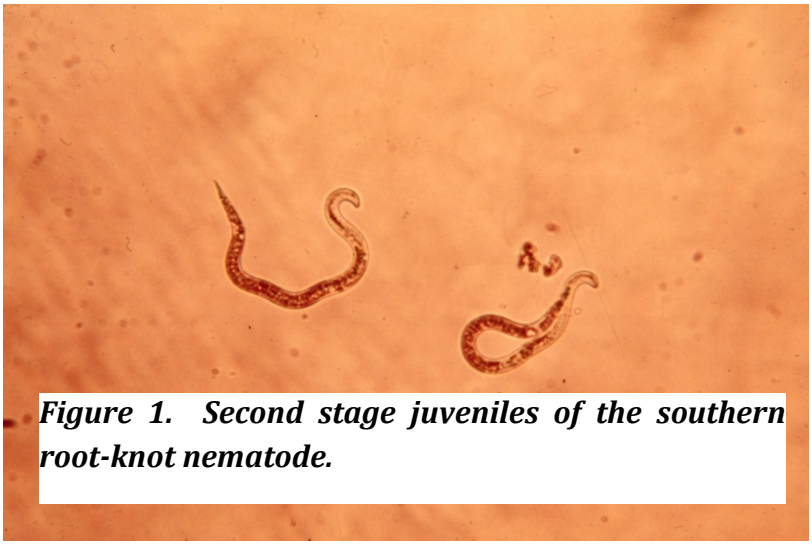

Figure 1. Second stage juveniles of the southern root-knot nematode.

Sampling at the end of the growing season will provide the most reliable results of knowing what level of infestation is present in a field, as nematode populations are highest at that time of the year. To learn more about sampling go to this document:

http://24benefi37g1f8w8w3ohxam1.wpengine.netdna-cdn.com/files/2011/11/Nematodesampling.pdf .

Crop rotation with a non-host is a good way to reduce nematode densities, but M. incognita populations can build up quickly the next year cotton is planted. With the loss of Temik 15G, chemical management options for nematodes are limited. Performance of the seed treatment nematicides, such as Acceleron-N, the Aeris Seed Applied System and Avicta Complete Cotton are somewhat inconsistent and should not be used as stand-alone in high-risk fields. A new product called Velum Total from Bayer has been tested as an in-furrow applied liquid and is available this year for commercial use. Foliar applications of Vydate® are labeled for use in cotton, however, production issues still are causing Vydate to be unavailable for this early portion of the growing season. Research I have conducted here in Hockley and Cochran Counties has shown that Vydate is most effective when applied soon after emergence when 2-3 true leaves are present at a 17 ounce broadcast rate per acre. This would be followed by another 17 ounce application 7 days later. A band application can be made in order to save on chemical cost as long as a uniform application can be made. The soil fumigant Telone II has been used to successfully manage nematodes in the High Plains; however, usage is limited. This is due to availability and cost of the product, as well as constraints that affect application (i.e. specialized equipment and adequate soil moisture at the time of application). Other new products are being tested for efficacy against cotton nematodes, but data is limited at this time.

Figure 2 Root-knot nematode damage on cotton roots.

Private Pesticide Applicators Training

The Texas A&M AgriLife Extension Service will offer the required private Pesticide Applicators Training (PAT) in Levelland on April 28 and again on May 26, 2016 in Littlefield. This training is required by Texas Department of Agriculture before taking the exam for obtaining the license. A private pesticide applicator is a person who uses or supervises the use of a restricted-use or state limited-use pesticide or a regulated herbicide for the purpose of producing an agricultural commodity. This license is not for those receiving monetary compensation for a pesticide application.

To participate in a training individuals must call 806-894-3159 by 3pm the day prior (Wednesday) to the training in Levelland or 806-385-4222 ext 235 by 3pm the day prior (Wednesday) to the training on May 26 in Littlefield. The trainings will begin promptly at 1pm at the Extension Offices (see addresses below). There is a $60 fee for training materials. This is only the required training. Testing will be conducted at a separate time and location.

Future PAT Trainings:

- June 27 Morton Extension Office 200 W. Taylor Avenue
- July 28 Levelland Extension Office 1212 Houston Street
- August ***TBA*** Littlefield Extension Office, Courthouse, Room B-5
- September 22 Morton Extension Office 200 W. Taylor Avenue
- October 27 Levelland Extension Office 1212 Houston Street
- November ***TBA*** Littlefield Extension Office, Courthouse, Room B-5
- and December 19 Morton Extension Office 200 W. Taylor Avenue

Texas A&M AgriLife Extension seeks to provide reasonable accommodations for all persons with disabilities for any educational meetings. Please contact us to advise us of the auxiliary aid or service that you will require a week in advance of a training.

Sugarcane Aphid Update:

Texas was notified yesterday (April 11, 2016) by EPA that the use of sulfoxaflor (Transform by Dow) has been authorized for Section 18 for use against the sugarcane aphid on sorghum. Here are the conditions, modifications and restrictions set out by EPA for Texas:

1. The Texas Department of Agriculture (TOA) is responsible for ensuring that all provisions of this specific exemption are met. TOA is also responsible for providing information in accordance with 40 CFR 166.32(b). Accordingly, a report summarizing the results of this program must be submitted to EPA Headquarters and the EPA Region 6 office within 6 months following the expiration of this exemption or prior to requesting another specific exemption for this use in the following year. In accordance with 40 CFR l 66.32(a), these offices shall also be immediately informed of any adverse effects resulting from the use of this pesticide in connection with this exemption.

2. The unregistered product, Transform™ WG (50% a.i. sulfoxatlor), manufactured by Dow AgroSciences, may be applied. All applicable directions, restrictions, and precautions outlined in the Section 18 use directions submitted to the Agency by Dow AgroSciences on December 7, 2015 must be followed except as modified in this authorization document.

3. Foliar applications may be made by ground or air at a rate of 0.75-1.5 oz of product (0.023-0.047 lb a.i.) per acre. A maximum of 2 applications may be made per year, resulting in a seasonal maximum application rate of 3.0 oz of product (0.09 lb a.i.) per acre per year.

4. Retreatments are prohibited within 14 days of application and a restricted entry interval (REI) of 24 hours must be observed for all applications.

5. Pre-harvest interval (PHI): Do not apply within 14 days of grain or straw harvest or within 7 days of grazing, or forage, fodder, or hay harvest.

6. A maximum of 3,000,000 acres of sorghum fields (grain and forage) may be treated in Texas.

7. To prevent exposure to bees that may forage on treated sorghum during bloom, the following pre-bloom restriction must be on the Section 18 label: "Do not apply product 3 days pre-bloom or until after seed set."

8. The following Environmental Hazards Statement must be on the Section 18 label:

   "This product is highly toxic to bees exposed through contact during spraying and while spray droplets are still wet. *This* product may be toxic to bees exposed to treated foliage for up to 3 hours following application. Toxicity is reduced when spray droplets are dry. Risks to pollinators from contact with pesticide spray or residues can be minimized when applications are made before 7:00 am or after 7:00 pm local time or when the temperature is below 55 degrees Fahrenheit (°F) at the site of application."

9. To minimize spray drift and potential exposure of bees when foraging on plants adjacent to treated fields:
   - Applications are prohibited above wind speeds of 10 miles per hour (mph).
   - Applications must be made with medium to course spray nozzles (i.e., with median droplet size of 341 µm or greater).

10. Applications made in accordance with the above provisions are not expected to result in combined residues of sulfoxaflor, including its metabolites and degradates, in or on sorghum commodities in excess of the following time-limited tolerances: sorghum, forage at 0.40 ppm; sorghum, grain at 0.30 ppm; and sorghum, stover at 0.90 ppm; and the established permanent tolerance for aspirated grain fractions at 20 ppm. The Agency has determined that these levels are adequate to protect the public health. Time-limited tolerances in connection with this action have been established in 40 CFR 180.668(b).

11. This specific exemption expires 1 year from date of issuance, as given above.

12. Following the expiration of this emergency exemption, any unused unregistered product must be either returned to the manufacturer or distributor in unopened containers or disposed of in accordance with the Resource Conservation Recovery Act.

13. This is the third year that TDA has requested an exemption for this use. Due to the introduction of this invasive pest in sorghum, EPA has determined that for next year, this use is eligible for the streamlined review under the re-certification program (40 CFR 166.20(b)(5)).

See You On The Radio

IPM Radio Program Aglife on Fox Talk KJTV, radio 950 AM, on Wednesdays from 1:00 to 2:15 pm.

Texas A&M AgriLife Extension in Hockley County Report on KLVT Levelland, High Plains Radio Network, radio 1230 AM, Wednesdays from 7:30 am to 7:45 am.

West Plains IPM Update is a publication of the Texas A&M AgriLife Extension Service IPM Program in Hockley, Cochran, and Lamb Counties.

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TEXAS IPM

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