

Row Crop News

Jefferson County Cooperative Extension Service
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In This Issue:

SOYBEANS

-Poor Nodulation

PIGWEEED ESCAPES

MAPPING FIELDS

ASR

INSECTS

*-Fall Army Worms
-Earworms &
Stinkbugs*

UPCOMING EVENTS

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POOR NODULATION IN SOYBEANS

We have seen many instances of poor nodulation in soybeans over the last three weeks. There are several factors that may impact the formation of nodules on soybean roots, one of which is the presence of high levels of residual nitrogen. As most of you know, soybeans are able to “fix” nitrogen from the atmosphere into a form that can be utilized by the plant. The nitrogen is actually fixed by bacteria occurring in the nodules typically associated with soybean roots. Nodulation is inhibited by the presence of residual nitrogen in the soil as the plant thinks it has an ample nitrogen supply. High levels of residual nitrogen may be present in soils where soybeans follow crops that require high nitrogen inputs, such as corn or wheat/bean double crop. Once the residual nitrogen is used up, nodules should begin to form following a period of yellowed beans. If nodules fail to form, applications of nitrogen will be necessary to meet the plant requirements.

Other factors that may inhibit nodulation include low soil pH and low levels of available molybdenum (moly or Mo). Soils with a pH lower than 5.8 should be limed following soil test recommendations. Low soil pH will also limit the availability of molybdenum present in the soil. Under these conditions, molybdenum should be added with the seed to ensure that the plant has a sufficient supply.

Remember to inoculate soybean seeds, particularly in areas where soybeans haven’t been grown in three to five years. For questions about nodulation problems, contact your county Extension agent at 870-534-1033.



Fig.1 *Lack of nodulation on roots of soybeans following corn.*

THEY'RE EVERYWHERE!!!
(Continued Reports of Pigweed Escapes)

We are continuing to get calls about pigweeds escaping multiple glyphosate applications. Some of these applications include tank mixes. This has been a growing problem over the last few years and appears to be getting worse. Windy conditions earlier this year, as well as the rush to get crops in the ground following all the rain this spring, allowed some of these pigweeds to obtain almost unmanageable sizes. Pigweeds are more likely to be controlled by glyphosate, if applications are made when the plant is less than 3 to 4 inches tall. This will undoubtedly result in multiple applications as new pigweed seeds will likely germinate after a pesticide application.

Where pigweeds have escaped multiple application of a herbicide program, the only control option may be cold steel. Sharpen up those hoes and plows. Remember to remove plants that have seeded out from the field so seeds don't impact next year's field situation.

Consider many of the options that have been provided in the publication, *Herbicide Resistance - A Growing Problem in Arkansas* that was a collaborative work from Extension and industry in 2005. Supplies of this publication are limited, but we can provide you the basic information for various crops.

Rotate crops. Use new chemistries that haven't been used in a particular field.

Use tank-mix partners with glyphosate products. The tank-mix partner rate of application should be high enough to stand alone and kill troublesome weeds.



Fig. 2 Extreme case of pigweed escaping herbicide program in soybean field.

In some fields, it appears that dusty weeds prevented uptake of herbicide(s) and thus appeared to have come through sprays. Be sure to have properly-calibrated spray rigs where dusty turnrows are adjacent to areas to

be sprayed for weeds. Also, where drought-like conditions exist and weeds are wilting, there may be some "escapes," and this applies to all types of weeds, not just pigweeds.

MAPPING FIELDS FOR FALL SOIL SAMPLING

Now is the time to begin planning for fall soil sampling. Many soybean stands are far enough along to show "problem areas." These areas may include nutrient-deficient areas or areas with low soil pH. Areas with low fertility or low pH will require higher fertilizer or lime applications in the spring while the more productive areas may require minimum or no fertilizer or lime. Marking "problem areas" and sampling separate from more productive areas in the field may result in cost savings, come fertilizer application time. Yield monitors during harvest may provide additional information to aid in sectioning off fields for soil sampling.

Plants are also showing or beginning to show symptoms of nematode infections. These areas should be marked for fall sampling to identify the type and determine the quantity of nematodes present. Marking these areas while the symptoms are evident will also aid in delineating the infected area.



Fig. 3 Area in center of photo infected with root-knot nematode in soybean field.

ASIAN SOYBEAN RUST

As of July 16, there are no reports of Asian Soybean Rust (ASR) in the state. However, active populations are present in south Louisiana and southeast Texas. **Cliff Coker** (*U of A Extension plant pathologist*) stated that it is not a matter of "if" but "when" we will see it in Arkansas. With all the late-planted beans in Arkansas, as well as surrounding states, he indicated that we should see some impacts from ASR in late September into October. We will continue to monitor for ASR in the county and will track its path as it moves in from the south. For the latest information on the location and

spread of Asian Soybean Rust, see the website:
<http://www.sbrusa.net>.

INSECTS

Soybean insect pests are surprisingly low up to this point. Time will tell. With the late soybean crop, we are probably in for a heavy insect year, especially stink bugs. Keep on top of your scouting program.

-Fall Army Worms (FAW): We were called out the other day to view a large population of fall army worms coming off some dying grass in a recently sprayed soybean field. The young soybean plants had very little defoliation and minimum “window panning.” However, the worms were numerous and were beginning to feed on the soybean plants. The fall army worms were not the typical brown strain that we are accustomed to seeing in cotton and soybeans but were the grass strain. This strain, as seen in the photos below, is green. The good news is that they are easier to control with insecticides. A low rate of pyrethroid will control them. Be sure to keep a close eye on pastures and grasslands, as they are the primary target for this strain.



Fig. 4 Fall Army Worms (green) on blade of grass



Fig. 5 Fall Army Worms (green) on soybean leaf

We have recently found FAW damage in non-Bt corn and in late-planted grain sorghum. Where corn or grain sorghum is in the “whorl stage,” we don’t generally

recommend treating for corn earworm or FAW. Once tassels show or heads emerge, however, treatment may be necessary.



Fig. 6 Fall Army Worm (FAW) in corn field



Fig. 7 Fall Army Worm (FAW) in grain sorghum field

-Earworm and Stinkbugs: More reports are coming in this week of sprays for treatment levels of stinkbugs. In addition, some fields have FAW and corn earworms feeding on plants. In some older soybeans, worms are now being reported feeding on pods. Refer to Extension’s “*MP 144, Insecticide Recommendations for Arkansas 2008*,” for threshold information and products to use by insect species.



UPCOMING EVENTS



“The Race for 100” Entry Deadline Approaches ARKANSAS SOYBEAN ASSOCIATION

1501 N Pierce, Suite 100

Little Rock, Arkansas 72207

501.666.1418 or 800.247.8691

501.666.2510 (FAX)

swsoy@aristotle.net (email)

(Announced July 14, 2008 by Dawn Howe)

LITTLE ROCK – Arkansas soybean producers are urged to enter “The Race for 100” Yield Contest. The contest, with a prize of \$50,000 for the first soybean producer in Arkansas to achieve 100 bushels per acre, is funded by the Arkansas Soybean Promotion Board (ASPB). The

contest is administered by the Arkansas Soybean Association and the University of Arkansas, Division of Agriculture.

Contestants are urged to turn in their entry forms before the **August 1, 2008** deadline. The first Arkansas producer or producers (in the event more than one producer exceeds the 100 bushels, the prize will be split evenly among the winners) will receive a \$50,000 prize. The harvested area of 5–7 acres must have been planted in soybeans in at least one of the last three production years prior to 2008, and the contestant must have paid the appropriate check-off assessments on soybeans.

“This goal is very achievable,” according to **Gary Sitzer**, “Race for 100” committee chairman. *“Recent record yields in Missouri have shown producers the yields soybeans are capable of producing.”*

In addition to seeing if it can be done, the soybean industry leadership wants to know what it takes to accomplish the feat from a management standpoint. Production information will be shared with other producers at grower meetings following the award presentation at the Arkansas Soybean Association Annual Meeting in January, 2009.

Dr. Jeremy Ross, Extension soybean specialist, said county Extension agents will verify yields for the contest. He believes the contest goal of producing 100 bushels is possible. *“If we have an exceptional summer with some of the ground we have in the state, it’s doable. But everything has to be just right for it to happen,”* he said. *“Contestants have to be exceptional farmers and have good land to get another 15 or 20 bushels out of their crop.”*

Producers may also enter the **ARSA Yield Challenge** sponsored by Riggs Ag Products, Cullum Seed, and BASF. Entry forms and additional details about the contests can be obtained from local county Extension offices and the Arkansas Soybean Association at **800-247-8691** or swsoy@aristotle.net. Soybean check-off funds will be used in the “Race for 100 Yield Contest.”

**August 13 - Rice Research and Extension Center
Stuttgart Field Day**
(Tentative program follows)

**RREC Field Day Program
Stuttgart, Arkansas
13 August 2008**

Field Tours

Tours start at 7:30 a.m. - Last tour leaves at 9:30 a.m.

Tour A - One hour via trailers, leaves *every half hour* starting at 7:30 a.m.

- 1) **Breeding** - Clearfield Lines; Potential Conventional - Gibbons, Moldenhauer
- 2) **Fertility** - Minimum N and other fertilizer to keep costs down - Slaton, Norman
- 3) **Biomass Energy** - Sadaka
- 4) **Soybean** - Lespedeza Worm - Lorenz; Asian Soybean Rust - Monfort

Tour B- One hour via bus, leaves 8:30 a.m. & 9:30 a.m.

- 1) **Row Rice** – Agronomics - Anders; Smut-Brooks
- 2) **Weeds** – Levees - Norsworthy; Soybean Herbicides - Scott, Ross

USDA Lab Tour - One hour via trailer, leaves 8:00 a.m. & 9:00 a.m.

Topics: Genetic Markers, Cooking Quality, Diseases, Vitamin A

Extension Activities

Three tents will have family-oriented activities:
ATV Use; Wildlife; Food Preparation

Inside Program (Granary)

Posters - View All Morning:

- Authors must be present with poster from 9-10 a.m.
- Each poster will have a written summary handout, author contact information

10:45 a.m. – Welcome - *C.W. Deren* (UA)

USDA Update- *Anna McClung* (USDA)

Board Updates (Corn, Soybean, Wheat, Rice)

Featured Speaker- *Andrew McKenzie* (UA)

What is “Basis” and what does it mean to the farmer?

Comments from the Division of Agriculture –
Dr. M.J. Shult (UA vice-president for agriculture)

EAT !!!