

favorable. Stale seedbed preparation is another tool that facilitates early planting. When seedbeds are prepared in the fall, planting can begin after a timely burn-down application. With a narrow planting window, this may allow for planting at the optimum time. Resistant weed problems and early season insect pests can also be reduced.

Weed Control - Use a pre-emergence herbicide. Early weed competition robs yield. While glyphosate has been the mainstay of weed control in recent years, resistant weeds and timely applications present problems. Liberty-Link soybeans are an option to consider. Pre-emergence herbicides give you time to plant your crop before weeds escape. Rotation is another practice that should be included in your farm plan. Rotation between a grass crop and soybeans goes a long way in reducing weed problems.

Insect and Disease control – Timing! Due to numerous insects and diseases that attack soybeans, proper timing of insecticides and fungicides is a must. Scout fields weekly and treat when thresholds are reached. After treating, check results and retreat as needed. Soybean seed quality at harvest is a result of proper timing of insecticides and fungicides. Insects and diseases can reduce photosynthate production, cause pod abortion, and/or plant death. While environmental conditions at harvest affect quality, insect feeding on pods can compromise the integrity of the pods providing sites for disease and moisture to attack the developing seed.

Harvest Aids - Harvest aids can reduce foreign matter and increase harvest efficiency. Weed problems may result in shattering losses and further delays due to wet weather. Weeds could also be more serious in following years because of the extra time weed seeds have to reach maturity. Harvest aids reduce these problems and may also aid in the desiccation of soybeans. Mature pods on soybean plants with green leaves and green stems are a major problem in soybeans grown in the South. Proper timing of harvest aids is essential. Research has shown harvest aids could be applied to determinate and indeterminate varieties when all seeds separate easily from the pod membrane in the top four nodes. Applying harvest aids earlier resulted in reduced yields. Check all areas of the field. Use recommended rates when applying harvest aids.

Marketing Plan - Good record keeping produces sound marketing plans. If you don't feel comfortable marketing your soybean crop look for help. There are experts in designing marketing strategies.

Program 7SB-1

▶ **Anthem™: New Soybean Herbicide** **From FMC Corporation**

Presented by Dr. Rusty Mitchell

Technical Support Lead, Southern Region, FMC Corporation

Anthem™ (F9310) is a new herbicide under development by FMC Corporation. Anthem is a premix of pyroxasulfone plus fluthiacet-methyl and can be applied preplant, preemergence and postemergence for control of difficult to manage grass and broadleaf weeds in soybeans. Anthem will be formulated as a 2.15 pound per gallon suspoemulsion liquid.

Anthem has been evaluated in private and university soybean weed management research programs during the past two years for its potential fit as a grass and broadleaf weed control herbicide in soybeans. Results presented herein are a compilation of experiments conducted in 2011 by private and university personnel with Anthem applied preemergence and early-postemergence at a rates ranging from 0.084 to 0.134 lb ai/A for crop tolerance, weed efficacy and subsequent effects on yield. Trials were conducted across various soil types and geographic locations of major soybean growing areas and comparisons were made against commercial standard preemergence and postemergence herbicides for soybeans.

Anthem was evaluated at 0.134 lb ai/A applied preemergence, 0.1 lb ai/A applied postemergence, and 0.084 to 0.1 lb ai/A applied pre and/or postemergence in a treatment combination or an overlap system with an Authority® based herbicide applied preemergence. Visual evaluations included crop response at 14 and 28 days after crop emergence for preemergence applications and 7 and 21 days after postemergence applications. Weed control ratings for preemergence application were taken just prior to a glyphosate postemergence treatment.

Excellent soybean tolerance was observed with Anthem. Preemergence applications of Anthem demonstrated excellent crop safety across all trials and was comparable to other standard preemerge herbicides. Crop response from postemergence applications was low and reported as minor leaf speckling likely associated with the fluthiacet-methyl. Soybean injury in the form of stand reduction or stunting was not observed. At 14 days after treatment (DAT), Anthem treated soybeans resulted in less than 5% discoloration / necrosis and recovered from the initial discoloration by 28 DAT.

Anthem applied preemergence provided excellent control (> 90% at 14-28 DAT) of several grass weeds including barnyardgrass (*Echinochloa crus-galli*), broadleaf signalgrass (*Urochloa platyphylla*), large crabgrass (*Digitaria sanguinalis*), goosegrass (*Eleusine indica*) and giant foxtail (*Setaria faberi*). Anthem also provided control of several key broadleaf weed species including palmer amaranth (*Amaranthus palmeri*), red root pigweed (*Amaranthus retroflexus*), entireleaf morningglory (*Ipomoea hederacea*), common purslane (*Portulaca oleracea*), hemp sesbania (*Sesbania herbacea*), and velvetleaf (*Abutilon theophrasti*). Excellent grass and broadleaf control was also noted when tank-mixed with glyphosate and applied postemergence.

These data support acceptable soybean tolerance to Anthem when applied preemergence or postemergence and effective residual grass and small seeded broadleaf weed control including glyphosate resistant palmer pigweed. A program approach that includes one of the Authority products in a tank-mix or sequential application provides additional broad spectrum broadleaf control utilizing multiple classes of chemistry for effective resistance management in a conventional or GMO soybean production system.

Program 2SB-2

► Management Strategies For Soybean Diseases In Reduced Tillage Production Systems

Presented by Dr. Boyd Padgett

Extension/Research Plant Pathologist, LSU AgCenter

Soybean is plagued by numerous diseases that impact yield and quality. To circumvent losses associated with diseases, an effective plan should be in place prior to the onset of disease epidemics. An effective disease management strategy incorporates the following components: disease identification, cultural practices, genetic resistance, and fungicides. Proper disease identification is crucial for effective management. This will determine which cultural practices should be implemented, variety selection, and the choice of fungicide application and timing.

The major diseases in Louisiana soybean include aerial blight, anthracnose, *Cercospora* leaf blight, charcoal rot, frog-eye leaf spot, pod & stem blight, and purple seed stain. Other diseases of less importance are bacterial pustule, downy mildew, *Phytophthora*, powdery mildew, red crown rot, and rust. A basic understanding of pathogen biology will enable an individual to develop an effective management strategy.

DISEASE IDENTIFICATION AND DEVELOPMENT OF THE MAJOR DISEASES AFFECTING LOUISIANA SOYBEAN

Aerial blight can spread rapidly in soybean if not properly managed. The disease is caused by the fungus *Rhizoctonia solani* and is favored by warm overcast days and extended periods of leaf wetness. Initial symptoms appear as water-soaked greasy blotches on leaves (usually in the lower to mid canopy). As the disease progresses, white cottony fungal mycelium may cause adjacent leaflets to adhere together. The foliage becomes brown, blighted, and pods may have reddish-brown lesions. When the disease is severe, pods may be aborted. The disease is usually evident during the early reproductive stages of growth and later. The potential for risk is increased when soybean is rotated with rice.

***Cercospora* blight/purple seed stain** is caused by the fungus *Cercospora kikuchii*. Seedling infection can result in plant death. Foliar symptoms are usually not evident until soybean is in the mid to late reproductive growth stages. Initial symptoms appear as small chocolate brown