Current Issues In Rice Weed Control

Presented by Dr. Bob Scott
Extension Weed Specialist, University of Arkansas, Cooperative Extension Service

The results of numerous research trials, grower concerns, field visits and current topics pertaining to rice weed control will be discussed. These topics will include the evaluation of two new numbered compounds for weed control in rice, glyphosate and glufosinate drift problems in rice, and hybrid rice tolerance to Newpath, Beyond and other rice herbicides. Herbicide resistance will also be discussed including the new discovery of a biotype of barnyardgrass in Arkansas that is resistant to Command herbicide. This biotype has been determined to be resistant to rates of Command that are higher than can be tolerated by rice. Other resistance issues will include: ALS-resistant red rice and the development of other resistant weeds in the Clearfield system, continued increase in acres infested with both Facet and propanil resistant barnyardgrass, and other resistance management issues. In addition, broadleaf weed control in the absence of 2,4-D will be addressed. The impact of reduced tillage programs on rice weed control options will also be discussed.

Fertilizer Management For Rice: Economic Considerations

Presented by Dr. Timothy W. Walker
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Introduction

In recent years, nitrogen (N) has become one of the major inputs with respect to dollar spent per acre of rice produced. Since 2000, N fertilizer and fuel inputs have increased the cost of production by approximately $100 per acre. Growers have been forced to ask the question, "How much can I reduce N-fertilization without losing yield?" Nitrogen fertilizer studies that have been conducted on farms and experiment stations can help address growers concerns of rising N costs.

In Mississippi, as is the case for other rice growing states in the Midsouthern USA, N response studies are conducted each year for experimental breeding lines and newly-released cultivars on soils representative of the rice growing region of the particular state. Recommendations are published by the experiment station and/or extension service upon entry of the cultivar into the public sector. Various means of determining recommendations are employed and factors other than grain yield are considered. Some of the other factors include a cultivar's lodging potential and/or disease resistance, because both are often affected by N fertilization.

The objective of this research was to evaluate the various means of determining N recommendations and to address the aforementioned question, "Can I reduce N fertilization without losing grain yield?"

Materials and Methods

A newly released cultivar, 'CL171AR', was evaluated three site years each on Sharkey clay and Forestdale silt loam soil. Seven N rates ranging from 0 to 256 lb N/a on clay soils and 0 to 226 lb N/a on silt loam soils were applied to 4- to 5-leaf rice immediately prior to flooding. Rice plots were managed according to recommendations from the Mississippi State University Extension Service for drill-seeded, delayed-flood rice cul-