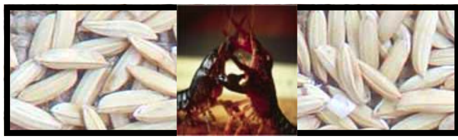

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Rice Research Station News

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May 1, 2014

Rice Net Returns with the PLC Program in the 2014 Farm Bill

The 2014 Farm Bill has passed Congress, and producers will have the opportunity this year to sign up for their choice of one of the authorized farm income support programs. Agricultural producers will actually have several decisions to make when they sign up at their FSA offices. The first decision will be regarding base reallocation. For farms that have program base acres in more than one commodity, producers and landowners will have the opportunity to reallocate their base acres among crops, based on their previous planting history. This will probably not be a major issue for rice producers in south Louisiana because most of the base acreage is classified as rice base.

The second decision concerns the two farm income support programs producers and landowners wish to enroll their farms in. One option, the Agricultural Risk Coverage Program (ARC Program), provides farm income support based on the previous five-year olympic average market revenue per acre. This is a shallow-loss program with rather tight restrictions on payment limits. The second option, the Price Loss Coverage Program (PLC Program), provides farm income support based on market price only and operates similarly to the former target price programs. In the PLC Program, the reference price (i.e. target price) for rice is $14/cwt. or $22.68/bbl. Based on analysis conducted by several different groups, the PLC program is expected to provide the best price protection for rice producers. In addition, producers enrolling rice base acres in the PLC Program will have the opportunity to update rice program yields, an option not available for base acres enrolled in the ARC Program. Payments under both the ARC and PLC programs are decoupled from production, meaning that payments are paid on 85 percent of base acres, regardless of planted crop acres.

A spreadsheet-based decision aid was developed by the LSU AgCenter to assist rice growers and landlords in evaluating the impact of alternative rice rental arrangements on net returns under the 2014 Farm Bill. The Rice Rental Arrangement Net Return Evaluation Model is an Excel-based decision tool developed to assist Louisiana rice producers in evaluating the impacts of alternative crop land rental arrangements on projected net returns above specified rice production costs from the perspective of both the rice producer and the land owner. This decision aid model includes the Price Loss Coverage (PLC) Program option of the Agricultural Act of 2014 (2014 Farm Bill) because this farm program option is the one most likely to be chosen by rice producers in the state. This decision aid can estimate net returns under either a crop share or cash rental arrangement, can accommodate any production cost sharing arrangement and can provide estimates of net returns over a range of rice yields and market prices. The decision aid was sent to agents by email to distribute to their growers. This Excel spreadsheet decision tool can also be downloaded from the LSU AgCenter Rice Economics Web page and can be saved and used on any desktop or laptop personal computer. Go to www.LSUAgCenter.com and then Crops>Rice>Economics.

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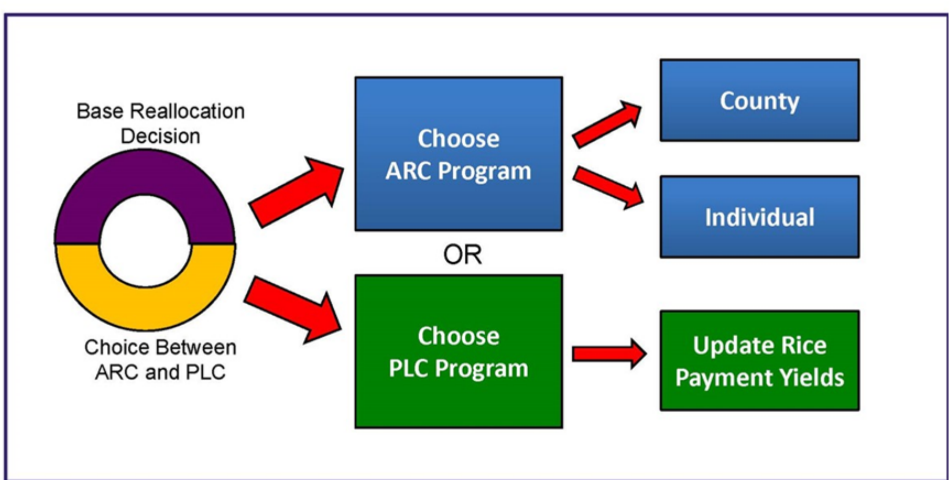
Producer Decisions in the 2014 Farm Bill



The Excel spreadsheet decision tool can be accessed at:

http://www.lsuagcenter.com/en/crops_livestock/crops/rice/economics/

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Special Dates of Interest:

Southwest LA Rice Tour, Fenton area
Thursday, June 5, 2014

South Farm Field Day
Thursday, June 12, 2014
Crowley, LA

Rice Research Station Annual Field Day
Wednesday, June 25, 2014
Crowley, LA

Pest of the Quarter Nealley's Sprangletop

The late Dr. Roy J. Smith (Former USDA Weed Scientist, Stuttgart, Arkansas, reported that weeds interfere with the production and processing of rice in as many as seven different ways: (1) reducing yields and quality; (2) causing increased problems with insects, diseases and other pests by serving as a host; (3) reducing harvesting and processing efficiency; (4) reducing irrigation efficiency; (5) consuming energy in the process of control; (6) reducing land value and productivity; and (7) interfering with normal market strategies due to weed seeds and debris in the harvest grain. These are important reasons to control weeds in rice production. Failure to control weeds can result in severe reductions in the total farm income from rice.

Red rice has been reported to be one of the 10 most troublesome weeds of rice in the United States. Red rice was reported as a weed in rice in North and South Carolina in 1846, Louisiana in 1900, Arkansas in 1906, and Texas in 1907. In 1898, W.R. Dodson, with the Louisiana Agricultural Experiment Station, reported that all rice producers in Louisiana are familiar with red rice. Strawhull and blackhull are two biotypes found in the southern United States, and strawhull is the more common of the two biotypes. Unfortunately, red rice is not the only troublesome weed found in Louisiana rice production.

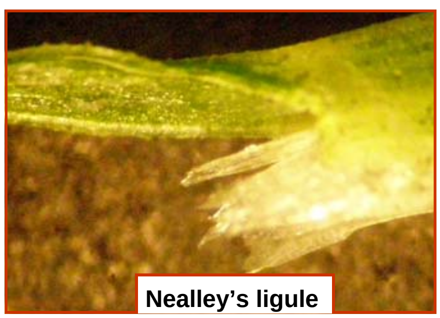
Barnyardgrass and junglerice are probably the most common weeds found in rice production in Louisiana. Creeping rivergrass, often referred to as perennial barnyardgrass, is also found in rice production in south Louisiana. Barnyardgrass and junglerice are considered the most important weeds in rice production in the world. In 1991, Dr. Smith's group reported a decrease in Newbonnet yield of 270 lb/A, and Lemont rice yield was reduced 230 lb/A per barnyardgrass plant as density increased from 1 to 40 plants per square yard.

Another group of grass weeds has become increasingly troublesome in Louisiana rice production over the past 10 to 30 years. Several sprangletop species infest rice in the United States. Amazon sprangletop, bearded sprangletop, Mexican sprangletop, red sprangletop and Nealley's sprangletop have been reported in southern United States' rice production. A great deal of research has been published evaluating the competitiveness of bearded sprangletop and Amazon sprangletop with rice, and these two weeds are commonly found in Louisiana.

Research from Arkansas in the 1970s and 1980s reported bearded sprangletop densities of 11 to 108 plants per square yard reduced rice yields 9 to 36 percent compared with no sprangletop present, and season-long competition from Amazon sprangletop reduced yields 35 percent. In 1988, Dr. Smith reported one bearded sprangletop plant per square yard can reduce rice yields 19 lb/A. However, little to no research has been published on Nealley's sprangletop competition or control in rice.

Nealley's seed

Nealley's hairs



Nealley's ligule

Nealley's seedhead

There are a few records of Nealley's sprangletop mentioned as a weed problem in the United States. Populations of this weed have been expanding in Louisiana over the past 10 years, and Dr. Johnny Saichuk, LSU AgCenter rice specialist, reported he had observed the weed in a rice field in north Louisiana in 2013. The weed can grow to an extremely large size in a short period of time, and this is one reason this weed is such a big problem in rice production. We have documented the growth of this weed to be over 1 inch per day, and this rapid growth makes it very competitive and difficult to control.

Nealley's sprangletop is an annual that can grow from 3 to 4.5 feet tall. At a growth rate of 1 inch per day, that would take approximately 36 to 54 days. The plant can produce a tremendous number of very small seeds, less than 1/16 of an inch. Seeds are very lightweight and slightly hairy, and this makes them easily transported to fields by wind, contaminated equipment, and possibly by sticking to an animal's fur or feathers. The panicle resembles Vaseygrass and is often confused with that grass at a distance. The panicles can reach 10 to 20 inches long and each raceme can be 1 to 2 inches long. It is believed that 10 to 20 percent of the seed is viable soon after maturity, and this could play a part in the quick expansion of this weed across the state.

It is always best to try to control this weed with an early herbicide application to a small, actively growing plant. It is important to correctly identify the weed in the seedling stage to select the best treatment option. The plant has a membranous ligule but the best characteristic to use in combination with the membranous ligule are the small hairs found on the leaf sheath .

The most effective herbicide to use for control of Nealley's sprangletop is RiceStar HT at 24 oz/A. In a study conducted in Louisiana in 2013, 98 percent control was achieved 14 days after treatment with RiceStar at the 24 oz/A rate. Several other herbicides were evaluated in 2013. Clincher, Stam, RiceBeaux, Newpath and Beyond did not control Nealley's sprangletop to an acceptable level. In 2014, tank-mix combinations will be evaluated for control of this weed. Stam or RiceBeaux in mixture with Newpath may have potential as a control option for Nealley's sprangletop, if the same synergism is observed as the mixture shows for red rice control. However, if this weed is a problem in a rice field in 2014, RiceStar HT at 24 oz/A is the best option for control, in my opinion.

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Rice Technical Working Group in Louisiana

The 2014 Rice Technical Working Group (RTWG) meeting was held Feb. 18-21 in New Orleans. The RTWG is a scientific organization made up primarily of rice research and extension scientists from the United States. While most of the participants are affiliated with public universities where rice research is conducted, as well as the U.S. Department of Agriculture and many others from private industry. In recent years, there also has been an increased participation of international scientists. The meeting is held biennially and rotates among the major rice-producing states of Arkansas, California, Louisiana, Mississippi and Texas. Therefore, Louisiana has the opportunity to host this meeting every 10 years. The 1984 meeting was in Lafayette, while the 1994 and 2004 meetings were in New Orleans. There were more than 380 participants at this year's meeting, which is a significant increase compared to recent years.

The purpose of the RTWG is to provide for the exchange of information, cooperative planning and periodic review of all phases of rice research. The meeting is organized around six disciplines: 1) Rice Breeding, Genetics and Cytogenetics; 2) Rice Economics and Marketing; 3) Rice Plant Protection; 4) Rice Post Harvest Quality, Utilization and Nutrition; 5) Rice Culture; and 6) Rice Weed Control.

Much of the meeting involves scientific presentations. At the New Orleans meeting, there were 124 oral presentations and 70 scientific posters displayed. These presentations opened discussions, which can lead to further collaborative research efforts. The meeting also provides ample opportunity for informal discussion among scientists.

The meeting also had a symposium aimed at rice consultants, who are becoming increasingly important in technology transfer in the rice industry. This symposium provided an excellent opportunity for scientists to tailor presentations to this group.

Additional symposia focused on two increasingly important issues for the U.S. rice industry – hybrid rice and rice blast disease. Participants learned the latest advances in hybrid rice breeding and seed production. Blast disease is a problem because it cycles in its severity. There can be little blast pressure for several years, and then an epidemic breaks out. This happened in Louisiana in 2012. Prior to that year, it had been many years since blast was a significant problem in the state. The symposium reinforced that researchers must maintain diligence with all potential diseases.

Another important aspect of the RTWG is recognizing excellence in research and extension activities. One of the significant awards presented at each meeting is the Rice Research and Education Team Award. This award recognizes a group of individuals who collaborate in a specific discipline to improve technology for the rice industry. This year, the award went to the university-affiliated rice entomology team, which includes Michael Stout, LSU AgCenter rice entomologist.

The most significant award is the Rice Research and Education Award, which is presented to one individual. The 2014 award went to Johnny Saichuk, LSU AgCenter rice specialist, for his career-long accomplishments. While Dr. Saichuk spends most of his efforts working with his clientele in Louisiana, he is well-known across the U.S. rice industry, where his contributions have been significant.

The ultimate goal of scientific meetings, such as the RTWG, is to facilitate the development of new technology for U.S. rice producers and the U.S. rice industry. Scientific exchanges such as this are critical for achieving that goal.

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Dr. Johnny Saichuk, LSU AgCenter rice specialist, receives the Distinguished Rice Research and Education Award at the 2014 meeting of the Rice Technical Working Group in New Orleans recently (Feb. 18-21). Presenting the award is Chuck Wilson of the University of Arkansas, RTWG chairman.

Dr. Mike Stout, LSU AgCenter entomologist, second from the left, was among the entomologists to receive the Distinguished Rice Research and Education Team Award given at the 2014 meeting of the Rice Technical Working Group in New Orleans. Others pictured are, left to right, Mo Way, Texas A&M; Jeffrey Gore, Mississippi State University; and Luis Espino, University of California.

Pesticide Resistance in Rice

Pesticide resistance is the decreased susceptibility of a pest to a pesticide that was previously effective. Pests develop pesticide resistance due to selection of individuals that are resistant to a pesticide and survive to pass on that genetic trait to their offspring. Pesticide resistance can be present in the pest population naturally, can develop due to random mutations, or be introduced due to outcrossing. Resistance in pest populations is favored by their high reproductive capabilities that increase the probability that resistance will develop. Pest populations have also been exposed over long periods of time to natural pesticide compounds produced by hosts and competitive organisms, thus increasing pesticide resistance genes.

Factors that increase resistance development include extensive use of a single pesticide mode of action, multiple applications of the same mode of action, reduced rates, and reduced competitor populations due to pesticide application. Pesticide resistance in insect pests, disease organisms, or weeds is a major blow to crop production. When it develops, producers lose critical control options that they may never regain, forcing them to use alternate methods of control. Hundreds of pests have developed pesticide resistance around the world in multiple crops. Significant examples of rice insects, weeds, and now pathogens have occurred.

The development of resistant pest populations is almost certain when pests are exposed to the same mode of pesticide action over and over. Variations in the pest population that are less susceptible to the pesticide are more likely to survive and reproduce under these conditions and, as a result, become dominant in the population. Sometimes this resistance is detrimental to the pest, causing it to be less efficient, which makes the pest less competitive. When the pesticide is no longer used, the wild type can reestablish itself as the dominant member in the population. However, this does not always happen, and often the resistant pest maintains itself in the population ready to establish when the pesticide is used again. Maintenance of refuges where pesticides are not applied allows the wild type and competitors to survive and reestablish.

Strobilurin-resistant sheath blight fungus

Imidazolinone-resistant weed rices

Once a pest population becomes resistant, management practices that limit the spread of the resistant pest should be instituted. Avoid moving soil or crop residues between fields. Clean equipment between fields, especially if a piece of equipment is being brought from an area where resistance occurs. Pests that can spread by wind-borne spores or move by themselves are difficult to stop. Resistance can be difficult to detect at early stages of development, and spread can occur before the threat is recognized.

The best pest resistance management system is to stop resistance from developing. There are several integrated pest management practices that can be used to limit resistance development. First, do not use a pesticide unless it is needed. If a pesticide is needed, rotate pesticides with different modes of action or mix pesticides with multiple modes of action against the pest and have good activity against the pests present. Alternating or mixing two or more different pesticides with different activity reduces the risk of pesticide resistance because it is extremely difficult for a pest to develop multiple resistances. Alternate modes of action are important because pests can be cross-resistant to pesticides, especially ones with similar modes of action. Remember, even pesticides with different names can have the same active ingredient or one with the same mode of action. Always use the full labeled rates of the pesticide. Reduced rates increase the number of surviving pests, thus increasing the probability of a member of that pest population becoming resistant. Often, pesticide labels limit the number and frequencies of pesticide applications; always read and follow the label on the container. Include alternate nonchemical methods of control, including host resistance, mechanical control, rotation to nonhost crops, or crops that have effective alternate control methods available.

An aggressive management plan is always suggested to avoid or at least delay the development of pesticide-resistant pest populations. The most important point to be made is to manage pesticides to prevent resistance before it develops. Once resistance develops, producers have to play catchup, and the loss of a class of pesticides will be greatly regretted.

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Update on the Rice Verification Program-2014

The Rice Research Verification Program is off to one of its latest starts since the program began back in 1997. We are scheduled to have five verification located fields in Vermilion, Jeff Davis, Evangeline, Richland and West Carroll parishes.

As of April 22, we have only two fields planted. The field in Vermilion was water-seeded with Jupiter on March 21, and the Jeff Davis field was planted on March 27 with XP753. Below is a photograph of the Evangeline field taken April 8. The farmer had intended to work the field and drill-seed CL111, but he finally gave up, flooded the field and will work it in the water this week, then water-seed around April 26. According to our recommended planting dates, this one is well beyond the last date of April 15. If we were to adhere strictly to that date, we would have to drop the Evangeline field this year. However, one of the features of the program is that we must make decisions often based on common sense and what Mother Nature hands us. We know we are late, but rather than give up, we will adjust. Anytime some part of the production process is thought to be affected by the late planting date, we will report it in Field Notes.

Verification field in Evangeline Parish

This will be the first time in quite a few years in which we will have two water-seeded fields. In Vermilion, we used a modified pinpoint flood, and in Evangeline, we intend to use delayed flood water management. In the past when we used the pinpoint flood system, we applied two-thirds to three-quarters of the total nitrogen fertilizer during the brief drain period between draining after planting and establishing the flood a few days later. This past February at the Rice Technical Working Group meetings, I heard a couple of papers and some discussion of how to handle nitrogen in these situations. As a result, we have modified our nitrogen application timing. We have already applied one third of the total nitrogen during the window described above with the intention of applying a second third of the nitrogen in a couple of weeks and the remainder at green ring. Splitting the nitrogen application into thirds is supposed to reduce the amount of nitrogen loss and improve nitrogen use efficiency. We shall see.

We also expect to have two fields planted-with hybrid rice, one in Jeff Davis and one in West Carroll. The field in Jeff Davis is a true no-till field, having been planted in a field that was in soybeans last year. As a result we recommended applying 200 pounds of urea and flooding. The only herbicide at this point is glyphosate as a burndown and Command as a pre-emergence treatment. We know we are taking a chance and may have to follow with post-flood herbicides if weed problems do show up. Given the cleanness of the field and the slow progress resulting from the poor growing conditions, we elected to use fertilizer and water and then apply herbicides if necessary. Visiting the same field on a weekly basis makes this type of decision possible. We will keep you informed through Field Notes.

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The 2014 LSU AgCenter Rice Research Station Rice Cam will show the progress of a foundation production field of the variety CL-Jazzman. The field was planted on March 25 at a seeding rate of 22.5 pounds per acre. CL-Jazzman is a newly released jasmine-type specialty variety with the herbicide resistance gene that allows it to be used in the Clearfield production system.

The Rice Cam can be accessed at http://www2.lsuagcenter.com/ricecam .

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RICE EXPERIMENT RESEARCH STATION 1909-2009

Focus

Rick Zaunbrecher

Rick Zaunbrecher has been working at the Rice Research Station since 2003 when he was a student at Notre Dame High School in Crowley. He worked for seven summers at the station in the breeding lab for Dr. Steve Linscombe.

In December 2009, he was hired full-time as a research associate after graduating from the University of Louisiana at Lafayette with a bachelor's degree in business management.

Currently, he still works in the breeding lab, but much of his time on the job is working in the foundation seed program with Larry White. White said Zaunbrecher is learning the job well. "He's a smart guy and easygoing. He's catching on quick."

Zaunbrecher said he likes his work because of his fellow employees. "I like the people I work with, and I like working outside. I couldn't stand working inside an office all day."

In the foundation seed program, his job involves planting, maintaining a crop, harvesting, and then cleaning the seed and equipment.

"I enjoy planting a crop and watching it grow," he said. "I still work in the breeding lab when they need me."

Zaunbrecher said his family owned farmland near Crowley, but he didn't have much contact with agriculture as a boy. His father, Russell Zaunbrecher, is a lawyer in Crowley.

Zaunbrecher and his wife, Megan, have one daughter, 18-month-old Mary Ella. They are expecting another baby next month.

When he's not at work or spending time with his family, Zaunbrecher enjoys saltwater fishing and hunting.

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