



Rice Notes



University of California ~ Cooperative Extension

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JULY 2006 RICE NEWSLETTER

RICE MEETING

**RICE EXPERIMENT STATION
ANNUAL RICE FIELD DAY
AUGUST 30, 2006**

Registration: 7:30 to 8:30 AM

General Session: 8:30 to 9:15

Station Tours: 9:20 to noon

Lunch provided

2006 GROWING SEASON

Well it's not quite déjà vu all over again. At least the rain stopped in most areas and did not keep returning like it did in 2005. Once the skies cleared field preparation moved at a record pace, albeit three weeks behind schedule. Many farmers managed to plant most if not all of their usual acres. The exceptions were fields in low lying areas with poor drainage that were slow to dry. These fields were either left out or sometimes planted in June. The USDA estimates that 526,000 acres of rice were planted this year, 88% of which is medium grain. Based on conversations with people around the industry, the total acreage is probably less than the USDA's projection.

Overall the rice looks pretty good. However, several fields developed a yellow mottled appearance after about 30 days. The yellowing does not coincide with implement tracks or air plane patterns. I suspect the chlorotic rice was associated with wet areas that did not adequately dry before planting, particularly in fields that have not been laser leveled for a while. Dropping the water to aerate the soil seems to help. Additional macro- and micronutrient fertilizers do not appear to be beneficial, assuming a good fertility program up front. On more than one occasion, time and warm weather has been best medicine.

Weed pressure is a big challenge, particularly in a wet spring. The late rains resulted in early robust weed populations. The weeds that escaped early control in combination with a second flush of weeds are pressing the

need for clean-up herbicide applications. One thing to keep in mind is the growth stage of the rice, not the days after planting. Herbicides should be applied before panicle initiation. Based on observations from research sites, panicle initiation may occur sooner than expected particularly in late planted rice.

For example, M-202 planted on May 6 last year reached PI at 61 days (Table 1). In contrast, M-202 planted on June 5 reached PI in 42 days in 2005.

Table 1. Dates for planting to panicle initiation in 2005.

Variety	Plant Date	PI Date
M-202	May 6	July 5
M-202	June 5	July 17

Admittedly, the prolonged heat in 2005 contributed to the accelerated growth. Nonetheless, it underscores the need to monitor the stage of growth rather than make herbicide applications based on the calendar. Otherwise applying propanil post PI at 45 days in 2005, for example, may have hampered productivity.

Given the short planting season, some growers resorted to alternative planting techniques in some fields. These “unconventional” methods ranged from drill seeding into well prepared seedbeds to flying seed onto fields already flooded by rain. The results based on stand vigor are varied. Seeding into flooded fields worked reasonably well in some instances. However in those fields where the soil was “slicked over” plant rooting was severely impaired. The biggest challenge to stand establishment in the drill seeded rice, that I noticed, was water management. The initial irrigation to bring up the seeds requires that the water goes-on and comes-off quickly. Low spots in the field, for example, where the water stood for several days resulted in poor seedling emergence.

Tadpole shrimp got off to quick start this year. Populations exploded in some fields within a couple of days after flooding. Timely control prevented any stand loss. Unfortunately in some cases, an algae bloom followed several days later. This required a second treatment of copper sulfate. Remember that copper sulfate ionizes quickly in the water. The copper ion, which is toxic to shrimp and algae, is quickly tied up in the soil. There is no residual activity of copper sulfate.

We generally see two broad categories of algae in rice fields, green and blue-green algae. Copper will control green algae, but not blue-algae. The blue-green algae, which has many colorful local names, is the dark, leathery mat that comes on a little later and lifts off the soil in sheets. Good irrigation management and soil incorporation of fertilizer, especially phosphorus, are the best control strategies. The sometimes rapid onset of vigorous algae bloom was particularly damaging in fields where it occurred soon after a Cerano® application. Vigilant field monitoring and quick control measures were needed to nurture the bleached seedlings past the algae.

On a similar note, there were reports from Glenn and Butte Counties of tadpole shrimp not being controlled with copper sulfate. It is too early to use the “R” word (resistance) but if this is a reoccurring problem in your fields, please let me know. Let’s keep an eye on it. Thanks.

NITROGEN MANAGEMENT

The adequate levels of tissue nitrogen vary by growth stage (Table 2). Keep in mind that “more green” does not necessarily translate into higher yields. Field experiments have demonstrated that if adequate levels are present, additional nitrogen application does not improve performance. It will promote lodging, disease, and delay maturity. The gray area is in fields that are historically weak and have only marginally adequate tissue nitrogen levels. In which case, your experience with that field is decisive.

Table 2. Adequate range of tissue N.

Growth Stage	% Total N
Maximum Tillering	3.6 to 4.2
Panicle Initiation	3.2 to 3.6
Flag Leaf	2.8 to 3.2

GROWTH AND DEVELOPMENT

A comparison of degree day accumulation from planting to June 29, shows that 2006 has been warmer thus far than 2004 and 2005 (Table 3).

Table 3. Accumulated Degree Days from planting to panicle initiation in 2004, 2005, and 2006.

Planting Date	2004	2005	2006
May 15	593	501	676
May 30	457	344	517

Using a threshold of 58° F, DD accumulation for 2006 rice planted on May 15 is 83 units ahead of 2004 and 175 units ahead of 2005. Rice planted on May 30 shows a similar trend.

RAISE THE WATER

The pollen is formed within each developing spikelet during the final stages of panicle development. Immature pollen grains are sensitive to low temperatures about 10 days after PI. Cold weather at this critical stage of pollen formation can result in low pollen viability and subsequent blanking. As always, it is a good idea to raise the water depth at PI or soon thereafter. The water can be gradually lowered after heading.

MARLIN BRANDON SCHOLARSHIP

Be sure to take a moment to read the scholarship announcement on the last page. Please pass along the information to interested students that you know. The deadline for application is July 31, 2006.

Take Care,

Cass Mutters

MARLIN BRANDON RICE RESEARCH FELLOWSHIP

A memorial fellowship has been established in honor of Dr. D. Marlin Brandon to provide financial assistance to students pursuing careers in rice production science and technology. One or more awards may be made if suitable candidates are found. The amount of awards may vary with available funds. Former recipients may be considered for awards in subsequent years. The 2006 fellowship(s), in the amount of \$2,500, is scheduled to be awarded August 30, 2006.

SELECTION CRITERIA:

Qualified applicants will be full-time graduate or undergraduate students enrolled in the University of California or the California State University systems. Preference will be given to promising graduate students with demonstrated interest in pursuing studies in rice improvement, protection, management or utilization. Students in majors with emphasis in the following areas of study will be considered: Agricultural Sciences, Agricultural Engineering, Agricultural Economics or Agricultural Business. Additional eligibility requirements include U.S. citizenship and a grade point average that qualifies for entrance to graduate school. The recipient will be required to attend the Annual Rice Field Day to receive their award.

PROCEDURE FOR APPLICATION:

Application forms are available from the Rice Research Trust, PO Box 306, Biggs, CA 95917-0306, or through a request by e-mail: ricestation@crrf.org. Applicants must provide biographical information, educational experience and status (GPA), and a summary of extracurricular activities and work experience. A reference letter, completed by a professor, academic advisor, or someone knowledgeable of the applicant's abilities must be submitted directly to the Director, Rice Experiment Station. Completed applications must be submitted by July 31, 2006 for fellowship awards effective the following academic year.