Meeting Announcement

UC CE University of California Agriculture and Natural Resources Cooperative Extension

Rice Quality Workshop

July 18, 2024
Granzella's Banquet Hall, 457 7th St., Williams, CA

Registration fee: $50
Register on-line: CA Rice Quality Workshop
Link can also be found on our website: http://cesutter.ucanr.edu/
Registrants will receive a copy of the Rice Quality Handbook by R. Mutters and J. Thompson.
Registration limited to first 100 participants

Program

Time	Title	Presenter
8:30	Coffee and light breakfast items	
9:00	Welcome and Introduction	Bruce Linquist, UCCE Rice Specialist
9:05	California industry perspective of rice quality	Rick Rhody, President & CEO of Farmer's Rice Cooperative
9:20	Rice quality parameters in rice breeding	Dustin Harrell, Director, Rice Experiment Station
9:35	Calrose rice varieties and rice quality	Dustin Harrell, Director, Rice Experiment Station
9:50	Effects of climatic stress, variety type, main vs ratoon production, and yield on grain quality	Ted Wilson, Professor, Director of Texas A&M AgriLife Research and Extension Center
10:10	Agronomic impacts on rice milling quality.	Bruce Linquist, UCCE Rice Specialist
10:30	Break	
10:45	Effect of field pests on the quality of rice	Luis Espino, UCCE Farm Advisor, Butte and Glenn Counties
11:05	Rice handling in a warehouse and settlements.	Carl Hoff, President/CEO, Butte County Rice Growers Association

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11:15	Sampling methodologies	Timothy Blank, Director of Seed Certification Operations, Executive Director of Foundation Seed Program, and Advisor of the Certified Seed Program
11:25	The USDA grade: CalAgri inspections, how are they done and what do they mean?	Vic Anand, President/CEO of the California Agri Inspection Co., Ltd
11:40	How to dry rice for good quality	Eddie Gaspard, VP, Drier and Seed Division Manager, Butte County Rice Growers Association
11:55	What pesticide MRLs Mean to You	Roberta Firoved, Pesticide Regulatory Consultant
12:15	Factors affecting the spoilage in stored rice and shrink	Zhongli Pan, Adjunct Professor Department of Biological and Agricultural Engineering, UC Davis
12:35	Lunch	

Rice Notes
July 2024

University of California
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In This Issue

Whitney Brim-DeForest
UCCE Farm Advisor
Sutter, Yuba, Sacramento and Placer Counties
Email: wbrimdeforest@ucanr.edu

Your Herbicide Program is Not Working Well: Now What?

Whitney Brim-DeForest, UCCE Rice Advisor

Call your Local Farm Advisor:
If your herbicide program is not working, it might be herbicide resistance. If you suspect resistance, we encourage you to get your weed seed tested (see below for more information on the testing program).

However, not all cases of herbicide failure are due to resistance. For instance, sometimes water management or application timing can be the issue, or you might even have a new or misidentified weed species.

Some common issues (not resistance) that we see are:

- Examples of misidentification:
  - Volunteer or weedy rice being confused with grasses
  - Sprangletop and watergrass being confused with each other
  - New or uncommon weed species in rice
- Examples of misapplication:
  - Clogged nozzle
  - Applied too high in the air or with wind speed too high
  - Missing a product from the tank mix
  - Wrong product applied
- Water management issues:
  - Water released too early (reduces efficacy)
  - Water not brought back on fast enough (new weeds germinated)
  - Soil was too wet at seeding, so weeds were past the application window (ahead of the rice)
  - Water level (too shallow) encourages many weed species to germinate at higher rates and reduces herbicide efficacy

While we can't always pinpoint the exact issue, we can walk you through a series of questions to determine what might have occurred. We can also help identify new or uncommon weeds. Keeping us in the loop also helps us stay on top of weed issues coming down the pipeline, including spreading herbicide resistance or common problems with certain chemicals.

Since the Farm Advisors have crucial conversations with chemical companies, industry, and other funders, the more we know, the more we can advocate for all of you, making your role in this process invaluable and integral.

Submit to the Herbicide Resistance Testing Program:

The UCCE Rice Weeds Program run by Kassim Al-Khatib (Melvous D. Androus Endowed Professor) at the Rice Experiment Station (RES) tests grower-submitted seed samples of potentially herbicide-resistant watergrass species, sprangletop, smallflower umbrella sedge, and

bulrush. However, we encourage you to submit ANY species you suspect to be resistant. We keep individual grower information confidential, and any reporting of results will not identify individual growers.

Please fill out the form for each weed seed sample (each field and/or species) (found at rice.ucdavis.edu). The following tips will ensure that you receive the best possible results:

- The best time for collection is when the seed easily falls off the seed head by gentle agitation in a paper bag. Collecting too early may result in samples that do not germinate well.
- Approximate timings are below:
  - For watergrass species, this should be close to rice harvest (seeds should be brownish in color)
  - For sprangletop, the timing will be earlier, in August or September (seeds will appear greenish)
  - For the sedges, the timing may be as early as July, all the way through early September
  - Smallflower umbrella sedge seed is yellow, with brown hulls (looks like dust)
  - Bulrush (roughseed) seeds are black and have small hairs
- Seed should be collected from areas you know have been sprayed with the suspected herbicide. Collect seeds from multiple plants, and the amount should be at least a few handfuls of seed to ensure sufficient quantity for testing.

  Some tips:
  - Please do not collect seed from around field margins.
  - Allow the seed to dry in the paper bag to prevent molding.

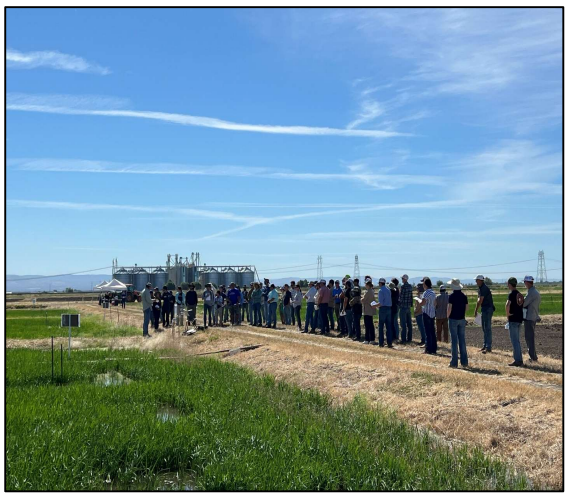
Bring the sample and form to your local UCCE Farm Advisor: Whitney Brim-DeForest (Sutter, Yuba, Placer, and Sacramento), Luis Espino (Butte and Glenn), Sarah Marsh (Colusa and Yolo), or Michelle Leinfelder-Miles (San Joaquin) or send or drop off samples at the Rice Experiment Station (RES) in Biggs.

If you need assistance with the collection, please contact your Farm Advisor or PCA. Results should be emailed to you in March of 2025.

No-Till Rice Field Day

Sarah Marsh, UCCE Rice Farming Systems Advisor, Yolo and Colusa Counties

A crowd of rice growers, PCAs, researchers, and more gathered at the Rice Experiment Station in Biggs, CA to discuss various no-till planting and management strategies for drill-seeded California rice.



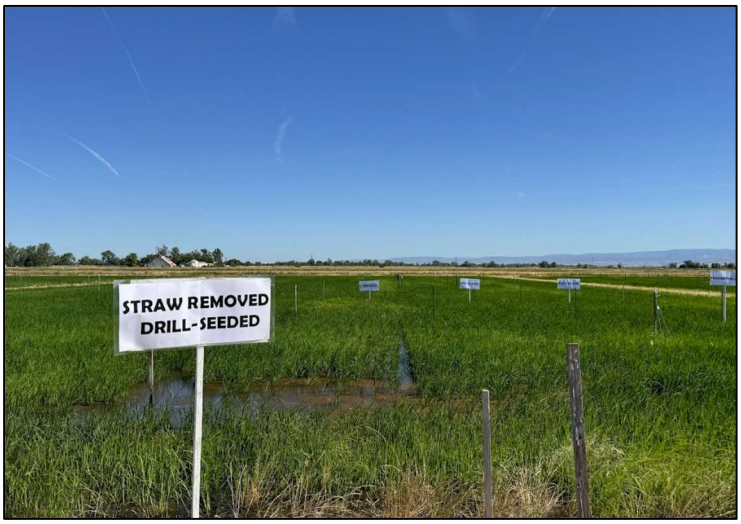
Dr. Bruce Linquist, UC Davis Rice Specialist, organized an agenda that encompassed various types of no-till, drill-seeded planting. Dr. Dustin Harrell, the Director of the Rice Experiment Station, offered remarks on no-tilled rice planting based on his expertise in both rice breeding and Southern rice practices.

Members of Dr. Linquists's lab spoke on experiments conducted in the no-till rice trials. Mia Godbey, UC Davis Ph.D candidate, detailed the results of gibberellic acid treatments in no-till rice systems. Nawal Taaime, a postdoctoral student, laid out the water-savings potential of these alternative practices.

UCCE Rice advisors noted pest management strategies that may become more pertinent as drill-seeded acreage increases. Dr. Luis Espino discussed the insect and disease pests that no-till, drill-seeded rice may harbor. Dr. Whitney Brim-Deforest explained the weed management strategies currently available to drill-seeded rice growers.

Kelby Sheppard, a rice grower who has experience with drill-seeded rice, talked about his planting experience this year and offered practical notes on challenges he faced when using the drill-seeded system.

The handouts that were available at the field day will be available soon at https://agronomy-rice.ucdavis.edu.



Monitoring weather conditions favorable to blast development

Luis Espino, UCCE Rice Advisor – Butte & Glenn Counties

Last year was a blast year. We had blast affect many fields, especially in the northern part of the Valley. Blast tends to be a cyclic disease – some years we have very little disease pressure, others we have a lot.

Most likely, the variability on blast development is due to weather. However, it is difficult to see trends looking at data from weather stations that are not on rice fields or that do not include the right parameters. We know that leaf wetness (free moisture on the leaf surface) is a key factor in allowing blast infections. Most weather stations do not include this parameter.

This year, I am monitoring weather conditions in three Glenn County fields where blast is common during blast years. One field is on the west side of I-5 south of Rd 68, the other two fields are east of Willows, south of Hwy 162 and south of Rd 39. The three fields are planted with varieties susceptible to blast.

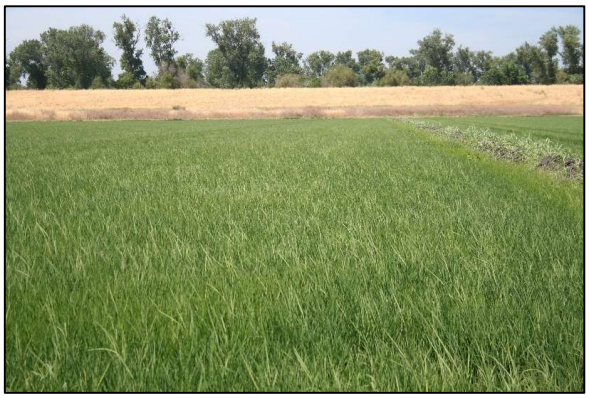
We know that blast spores require periods of high leaf wetness for germination and infection. Looking at data from the field weather station at the west side of I-5, there have been 15 periods of leaf wetness higher than 90% since 6/15 (I'm writing this on July 1st), averaging 6 hours in duration and raging from 1 to 10 hours. During these periods, average temperature was 64 F. At this temperature, blast spores require 12 hours of leaf wetness to produce an infection. Therefore, the weather data indicate that at this time conditions for blast development have not occurred. Given that most blast spores are produced at 6 am, the periods of leaf wetness we have had so far are not favorable for blast infection. I will conduct this type of analysis with data from the other field stations to identify periods that are favorable to blast.

If you think about the disease triangle (weather-susceptible host-pathogen), the missing piece here is the presence of the pathogen. Even if weather conditions are favorable, if the pathogen is absent, disease will not develop. Currently, we can only rely on reports of disease symptoms from growers and PCAs to determine if the disease is present in the Valley. If you suspect you are seeing blast symptoms, drop me an email, text, or call so that the presence of the pathogen can be confirmed.

Over time, monitoring of weather and symptoms could develop into a predictive model that can be used to alert growers as to when the risk of blast is high so that decisions about fungicide treatment can be made with more certainty.

Bakanae symptoms beginning to appear

Sarah Marsh, UCCE Rice Advisor – Colusa & Yolo Counties
Luis Espino, UCCE Rice Advisor – Butte & Glenn Counties



A rice field infested with bakanae. Photos by Sarah Marsh.

A rice plant affected by bakanae. Photo by Sarah Marsh.

We have been getting calls about tall, light-colored plants in rice fields. These plants have the characteristic ligule of rice plants. The symptoms are consistent with rice infected with *bakanae*, a seed-borne disease.

Symptoms of *bakanae* first appear around a month after planting. The seedlings appear chlorotic, thin, and elongated, with affected plants arching above healthy rice plants. When the crown of the roots is sliced, it appears discolored and rotted. Affected plants usually die prior to producing a panicle or will produce a blanked panicle.

The *bakanae* pathogen overwinters as spores on the coat of infested seeds. It can also overwinter in the soil and plant residue. However, infested seed is the most important source of inoculum.

While *bakanae* has been observed in California since 1999, it is being reported in fields that have not reported incidences of this disease previously.

This disease is managed by soaking seeds in sodium hypochlorite or bleach, which should destroy any inoculum.

Left: healthy rice plant. Right: rice infected with bakanae. Photo by Luis Espino.

However, if the seed is drained and held without water for more than a day before seeding, the seed can warm up. This increase in temperature allows any surviving *bakanae* spores to germinate and produce more spores, which can cause infection. Some of the most severely affected fields we have seen this year were planted with seed not treated with sodium hypochlorite

For further information about *bakanae* in rice, refer to the UC Rice *bakanae* fact sheet.