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Rice Leaf Newsletter

June 2024

UC CE | University of California Agriculture and Natural Resources | Cooperative Extension Butte County

Contents June 2024

Upcoming Events

Drill-seeded Rice Field Day – June 18, Rice Experiment Station, Biggs

Rice Quality Workshop – July 18, Granzella's, Williams

Rice Field Day – August 28, Rice Experiment Station, Biggs

Rice Pest Management Workshop – September 4, Rice Experiment Station, Biggs

Second Year Testing No-Till Drill Seeded Rice

Bruce Linquist, UCCE Rice Specialist

No-till drill seeded planting offers some real opportunities to conserve water, plant early, save on tillage costs, and use herbicides with different modes of action. Last year we did a pilot study looking at the potential of no-till rice in California. Briefly, to recap, this study was conducted at the Rice Experiment Station looking at N management, pests, diseases and weeds. We tested NT drill seeding into four different seedbeds.

1. Fallow stale-seedbed (FSS): field was fallowed in 2022. It was disked and leveled then. It was not flooded during the winter. No tillage was done in 2023.
2. No-till. We have three strict NT treatments. Rice was grown in 2022. After harvesting (harvested to limit ruts), the straw in the field was subjected to one of three treatments:

a. Chopped (NT-Chop)
b. Half removed to simulate baling (NT-Remove)
c. Burned (NT-Burn)

We planted May 2, 2023, flushed once after planting and then applied a permanent flood on June 2. Our results were very promising. Yields were highest (86-87 cwt/ac) following a fallow year (FSS); and those yields were comparable to water-seeded yields at the station. Yields in the other no-till systems were a bit lower.

This year, we are doing a more rigorous and replicated study with three treatments from last year: FSS, NT-Remove and NT-Chop. These are being compared to a water-seeded control. We are quantifying water use, examining different N and weed management strategies, quantifying pests and diseases, and taking greenhouse gas measurements.

This year we planted all NT treatments on May 1. It was the first planted rice at the Rice Experiment Station. We have a good stand in all treatments. We applied herbicides and fertilizer the week of May 26 and the permanent flood was applied on May 29 and 30.

We would like to invite you all out to see this experiment and discuss this system. We are having a field day at the Rice Experiment Station on June 18 starting at 9:00 am. We encourage anyone interested to come.

Pendimethalin Use in California Rice: Clarifications and Updates

Whitney Brim-DeForest, UCCE Rice Farming Systems Advisor, Sutter, Yuba, Placer, and Sacramento Counties; Luis Espino, UCCE Rice Farming Systems Advisor, Butte and Glenn Counties; Roberta Firoved, California Rice Commission

At our last meeting, we had some questions about the approved uses of pendimethalin in California rice. There are several products labeled for use on rice with pendimethalin as the active ingredient. As of June 2024, pendimethalin registered products (on rice) include Prowl H2O, Prowl 3.3, Harbinger, Satellite Hydrocap, Stealth, Helena Pendimethalin, Pavilion H2O, Pavilion 3.3, and a few others. Please make sure to always check the product label, as not all pendimethalin products allow use for the below-listed timings. Furthermore, labels are updated regularly, so it should not be assumed that the same use pattern applies from season to season. For the most currently-registered products, refer to the California Department of Pesticide Regulation website, product label databases, as well as manufacturers' websites for reference. Please remember the container label is the deciding point for pesticide use enforcement.

The mode of action of pendimethalin is disruption of mitosis (WSSA Resistance Group 3). In California rice, there is no other herbicide registered with this mode of action. The herbicide binds to clay soils, with residual activity of between 1 to 4 months, depending on environmental conditions. Pendimethalin can be readily absorbed by young roots, and thus, weeds are controlled as they germinate. Damage can also occur to rice or other crops as they germinate. Weeds are not controlled by this product once emerged and established.

Labeled controlled weeds are: junglerice, barnyardgrass, and sprangletop. Barnyardgrass and sprangletop are the two most abundant grass weeds in dry- or drill-seeded California rice, also causing the most yield loss. Rotating with pendimethalin can help to manage herbicide-resistance biotypes, as well as preventing the selection of herbicide resistance in these species.

Pendimethalin Rice Timings (product-dependent):

Preflood, preemergence: In drill- or dry-seeded rice, pendimethalin can be applied to the soil surface AFTER rice has been dry-seeded and lightly incorporated or drill-seeded. The product should be tank-mixed with a safener adjuvant. Water should be flushed across the field AFTER herbicide application (within 7 days).

Delayed preemergence: ***NOT a currently labeled use for any pendimethalin product registered in California.***

Early postemergence: Only for dry-seeded rice and into fields with no standing water. Pendimethalin is usually applied with a tank-mix partner. Timing should be based on the leaf stage of the rice or weeds as appropriate for the tank-mix partner. Field should be flooded or flushed within 7 days after application.

Postemergence: For water-seeded rice (***California ONLY***) between the 4-6 leaf stage. Field must be completely drained with no standing water at time of the pendimethalin application and should be reflooded within 7 days after application.

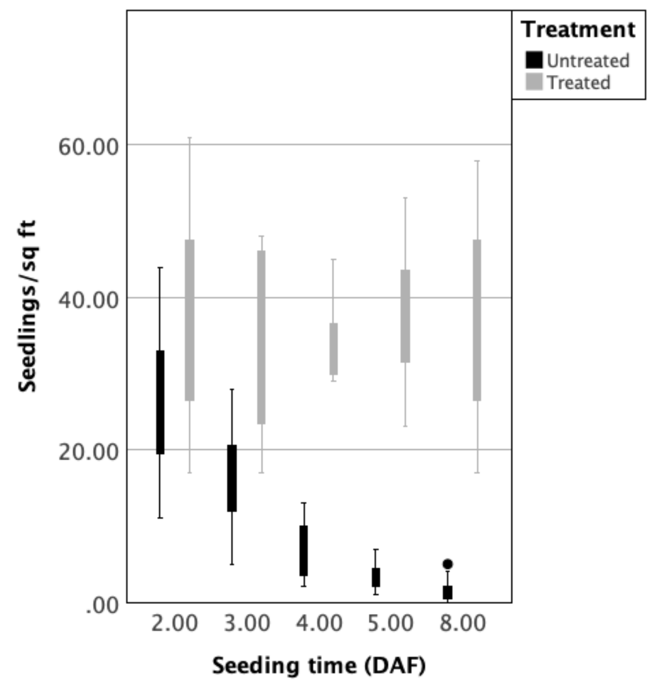
Tadpole Shrimp Issues in 2024

Luis Espino, UCCE Rice Farming Systems Advisor, Butte and Glenn Counties

I received several calls and comments about issues with tadpole shrimp this spring. While this pest is well known to growers and PCAs, it can still be difficult to manage during planting time. Mistiming of insecticide application can result in shrimp damage. Tadpole shrimp develop fast, and really fast when it is warm. This spring was warmer than last year during mid to late May, when most of the rice was being flooded and planted. If a field takes long to flood and seed, the shrimp have more time to develop and may injure seedlings as soon as they start germinating in the field.

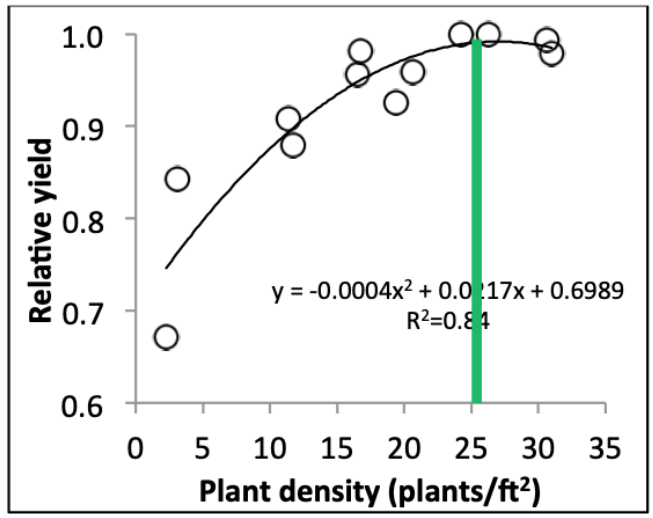
What shrimp size can injure rice? If you can see the shrimp, they can injure rice. However, larger shrimp will cause more injury than smaller shrimp. The figure on the right shows how, in a field infested with TPS, the stand is reduced more the later the field is seeded after flood (DAF).

Some of the fields where shrimp injury occurred this year are fields where pyrethriods do not control shrimp anymore. In these fields, Dimilin is working well. However, remember that Dimilin may take a few days longer to clear up the shrimp than pyrethroids and copper, especially when the shrimp are large.



When shrimp injury occurs soon after seeding, they will feed on the emerging coleoptile and radicle, completely consuming these tissues. When this happens, seeds won't recover. If only some of the tissue is consumed, seedlings may be able to continue growing once the shrimp is controlled. The picture below shows seedlings where the coleoptile and radicle have been consumed compared to two uninjured seedlings at the bottom of the picture.

If a field is damaged by tadpole shrimp, reseeding is an option. Some trials conducted a couple of years ago by Bruce Linquist showed that the optimum stand is about 25 plants/ft^2. Rice plants can compensate when the stand is reduced. For example, when the stand is reduced to 12.5 plants/ft^2 (half the optimum), yield is reduced only 10%. In general, reseeding should be considered when the stand is reduced to 10 plants/ft^2 or less. Draining the field before reseeding increases the likelihood of establishment of the reseed, but it may not be possible in all cases. When reseeding, use a higher seeding rate to increase the chances of establishment and make sure the shrimp have been controlled. As a grower told me a few years ago, remember that reseeding is a bit of a gamble.



Late Season Control Options for Watergrass

Whitney Brim-DeForest, UCCE Rice Farming Systems Advisor
Taiyu Guan, UCCE Assistant Specialist

Watergrass (*Echinochloa* spp.) in California rice is the most competitive weed complex. Plants can emerge under both continuously flooded conditions and flushed conditions, causing huge yield losses (up to 100% in dry- or drill-seeded systems). Watergrass is one of the first weed groups in which herbicide resistance was found (in the early 2000s). It has developed multiple herbicide-resistance and the resistance is metabolic, meaning that plants can essentially “consume” the herbicide, breaking it down so it does not kill the plant.

Currently, there are 4 main watergrass species in the California rice system: barnyardgrass (*E. crus-galli*), early watergrass (*E. oryzoides*), late watergrass (*E. phyllopogon*), and coast cockspur (*E. walteri*). Coast cockspur is a new species to California rice. We first found coast cockspur in California rice fields in 2017. It is robust and large-stemmed and can reach heights of over 6 ft tall when uncontrolled. All species have some level of resistance, and resistant biotypes are found throughout the Sacramento Valley (all counties).

In the past few years, we have been having increasing issues controlling watergrass, and many of us have resorted to using a double application of propanil to control it. The issue with this is that we are already seeing propanil resistance, and this practice will select for grasses that are propanil-resistant, causing us to eventually lose the product.

The best means to prevent the selection for propanil resistance are:

- Rotating modes of action (not using propanil as a clean-up spray year after year)
- Using tank mixes as clean-up sprays (in combination with propanil)

We have been researching possible cleanup tank mix options for the last few years (alternatives to the double propanil spray), and will continue to do so in 2024, to provide growers and Pest Control Advisors with feasible watergrass control options.

Alternatives to the Double-Propanil Application (2022)

In 2022, we conducted one trial in a sweet rice field in Yuba County. Treatments testedare listed in table 1. Applications were made at tillering (approximately 35-40 days after seeding), at 20 gallons per acre spray volume. Weed control (%) and phytotoxicity data were collected on 7, 14, and 28 days after spray (DAS) (Tables 2 and 3).

Results (2022)

Treatments 6 (SuperWham® + Loyant®) and 7 (SuperWham® + Shark) show great control on watergrass. By the 28 DAS, treatment 6 controlled 87.5% and 7 controlled 83.3% *Echinochloa* spp. (Table 2). Treatment 5 (Regiment® followed by SuperWham®) caused significant stunting compared to other treatments. Treatments 3 and 5 had the lowest yields (Table 4).

Alternatives to the Double-Propanil Application (2023)

In 2023, we conducted watergrass field trials at five locations in Butte County. Watergrass populations were high in all fields except the one at the Rice Experiment Station, which was applied as a control to confirm phytotoxicity. All varieties were Calrose medium-grain. The herbicides tested were Stam 80DF® (propanil), Abolish® (thiobencarb), Shark H2O® (carfentrazone), Loyant® (florpyrauxifen-benzyl), Clincher CA® (cyhalofop-butyl), Regiment® (bispyribac-sodium), and Sandea® (halosulforon) (Table 5). Applications were made at 35-40 DAS, at 20 gallons per acre spray volume.

Weed control (% control, watergrass only) and phytotoxicity (% Stunting, % Stand reduction, % Tip Burn) evaluations were made 7 Days After Application (DAA), 14 DAA, and 21 DAA. Fields were harvested in September 2023. Yields were lower than normal due to hand-harvesting as well as rice laying down flat in the water at harvest in a couple of the fields.

Results (2023)

Results (averaged across the 5 locations) indicate that Regiment® followed by Stam® (9), and Stam + Abolish® (4) are good candidates for watergrass control. Those 2 treatments showed great watergrass control and high yields (Figures 1 and 2). Additionally, only mild phytotoxicity was observed throughout the duration of the trial for the treatment. Treatments that are not quite as good in grass control but good in a rotation include Stam® + Loyant® (6), Stam® + Shark® (5), Regiment® + Clincher® (11), and Stam® + Clincher® (7). These treatments resulted in lower rice yields and less effective watergrass control compared to treatments 9 and 4 (Figure 2). They also caused some phytotoxicity, with Stam® + Shark® (5) causing significant tip burn at the 7 days after application evaluation (Figure 2). In these treatments, Stam® can be substituted with SuperWham®.

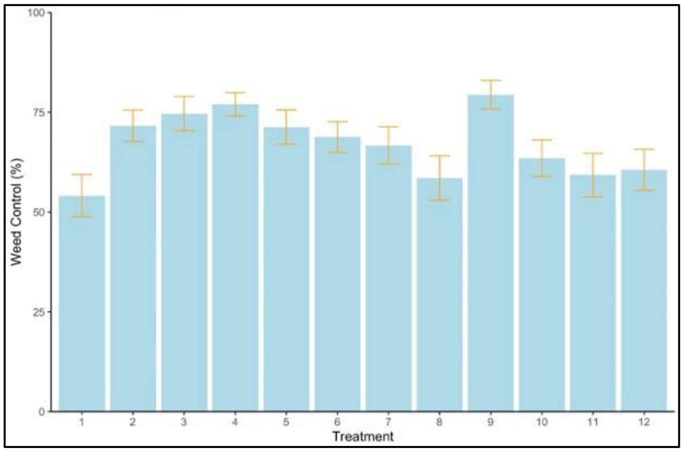


Figure 1. Percent watergrass control (%) (Treatments 2-12) compared to the untreated control (Treatment 1) in 2023 (21 Days After Application). Treatment 1 (Untreated) is the percent watergrass cover per plot, not the percent control. Averages are across 4 sites (Rice Experiment Station was not included due to low watergrass populations).

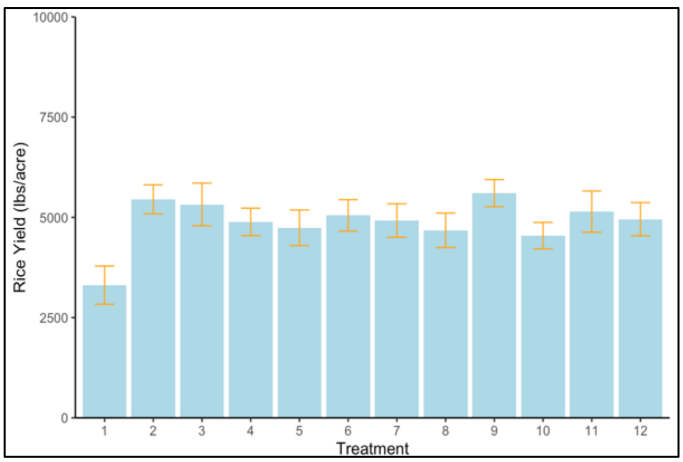


Figure 2. Rough rice yields (lbs/acre) for 2023 watergrass field testing averaged over the 5 locations.

Recommendations:

To effectively manage tough watergrass, growers should use integrated weed management where possible. This includes:

- Using combinations of chemicals (granular) and tank-mixes (foliar)
- Rotating chemistries at the beginning of the season
- Rotating clean-up herbicides
- Crop rotation or fallow
- Winter flooding to maximize seed predation and decomposition over the winter

Herbicide recommendations include (at the beginning of the season):

- Zembu® (pyraclonil) if other granular options are ineffective, to give other chemistries a break. Zembu® suppresses grass (does not control) but will help prevent the selection of resistance as it is a new mode of action for watergrass.
- Cerano® followed by Butte®, applied one week apart, which is effective even on tough grass.
- Implement a stale seedbed approach by applying glyphosate or Suppress® (capric/caprylic acid) pre-plant as a rotational tool.
- Pendimethalin (Harbinger®, Prowl H2O®, and others) to rotate MOA (please see additional recommendations about the use of pendimethalin in the other article in this newsletter).

Foliar options (best grass control) (see above tables for rates and adjuvants used):

- Abolish® + Regiment®
- Abolish® + SuperWham®/Stam®
- Regiment® followed by Abolish® (may cause injury on certain specialty varieties)

Foliar options (good grass control):

- SuperWham®/Stam® + Loyant®
- SuperWham®/Stam® + Shark H2O® (some phyto)
- Regiment® + Clincher®
- SuperWham®/Stam® + Clincher®

Not all of these treatments will work on all watergrass biotypes and fields. However, trying a new combination, even on one or two fields, will help growers and PCA's to evaluate the efficacy of these treatments and prevent selection for propanil resistance on your farm or ranch.

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Table 1. Treatments applied in 2022 field testing (applied at 35-40 days after seeding) for watergrass control.

	Treatment	Rate (per Acre)
1	Untreated Control	
2	SuperWham + COC	6 qts + 1% v/v
3	SuperWham + Abolish	6 qts + 2 pt
4	SuperWham + Clincher + COC	6 qts + 15 fl oz + 2% v/v
5	Regiment + Dyneamic + UAN fb SuperWham + COC	0.8 fl oz + 2% v/v fb 6 qts +1 % v/v
6	SuperWham + Shark	6 qts + 4.0 oz
7	SuperWham + Loyant + MSO	6 qts + 1.3 pts + 0.50pts
8	SuperWham + Clincher + Abolish	6 qts + 15 fl oz + 2 pt

Table 2. Percent watergrass control (%) (Treatments 2-8) compared to the untreated control in 2022 (7, 14, and 28 Days After Application). Treatment 1 (Untreated) is the percent watergrass cover per plot.

			Weed Control (%)		
			7 DAS (6/29/22)	*14 DAS (7/6/22)*	*28 DAS (7/28/22)*
	Treatment	Rate (per Acre)	*Echinochloa spp.*	*Echinochloa spp.*	*Echinochloa spp.*
1	Untreated Control		30.00	26.25	21.25
2	SuperWham + COC	6 qts + 1% v/v	25.00	70.00	56.25
3	SuperWham + Abolish	6 qts + 2 pt	8.33	59.17	77.92
4	SuperWham + Clincher + COC	6 qts + 15 fl oz + 2% v/v	33.33	65.42	71.67
5	Regiment + Dyneamic + UAN fb SuperWham + COC	0.8 fl oz + 2% v/v fb 6 qts +1 % v/v	0.00	47.50	0.00
6	SuperWham + Shark	6 qts + 4.0 oz	45.83	90.00	87.50
7	SuperWham + Loyant + MSO	6 qts + 1.3 pts + 0.50pts	50.00	81.67	83.33
8	SuperWham + Clincher + Abolish	6 qts + 15 fl oz + 2 pt	8.33	50.42	50.42

Table 3. Phytotoxicity (stunting) in 2022 field testing (7, 14, and 28 Days After Application).

			Phytotoxicity (Stunting)		
	Treatment	Rate (per Acre)	*7 DAS*	*14 DAS*	*28 DAS*
1	Untreated Control		0.00	0.00	0.00
2	SuperWham + COC	6 qts + 1% v/v	5.00	0.00	0.00
3	SuperWham + Abolish	6 qts + 2 pt	6.25	0.00	0.00
4	SuperWham + Clincher + COC	6 qts + 15 fl oz + 2% v/v	6.25	0.00	0.00
5	Regiment + Dyneamic + UAN fb SuperWham + COC	0.8 fl oz + 2% v/v fb 6 qts +1 % v/v	16.25	25.00	15.00
6	SuperWham + Shark	6 qts + 4.0 oz	7.50	0.00	0.00
7	SuperWham + Loyant + MSO	6 qts + 1.3 pts + 0.50pts	8.75	0.00	0.00
8	SuperWham + Clincher + Abolish	6 qts + 15 fl oz + 2 pt	6.25	0.00	0.00

Table 4. Rough rice yields (lb/A) in 2022 field testing.

	Treatment	Rate (per Acre)	*Yield (lbs/A)*
1	Untreated Control		9787.36
2	SuperWham + COC	6 qts + 1% v/v	10199.06
3	SuperWham + Abolish	6 qts + 2 pt	9556.62
4	SuperWham + Clincher + COC	6 qts + 15 fl oz + 2% v/v	9992.33
5	Regiment + Dyneamic + UAN fb SuperWham + COC	0.8 fl oz + 2% v/v fb 6 qts +1 % v/v	9558.29
6	SuperWham + Shark	6 qts + 4.0 oz	9928.94
7	SuperWham + Loyant + MSO	6 qts + 1.3 pts + 0.5 pts	9826.63
8	SuperWham + Clincher + Abolish	6 qts + 15 fl oz + 2 pt	9650.92

Table 5. Treatments applied in 2023 field testing (applied at 35-40 days after seeding) for watergrass control.

	Treatment
1	Untreated Control
2	Stam 80DF (7 lb/A) + COC (2.5%)
3	Stam 80DF (3.75 lb/A)+ COC (2.5%) fb Stam 80DF (3.75 lb/A)+ COC (2.5%) (1 week later)
4	Stam 80DF (7 lb/A) + Abolish (2 pt/A)
5	Stam 80DF (7 lb/A) + Shark H2O (4 oz/A)
6	Stam 80DF (7 lb/A) + Loyant (1.33 pt/A) + MSO (0.5 pt/A)
7	Stam 80DF (7 lb/A) + Clincher (15 fl oz/A) + COC (2.5%)
8	Regiment (0.8 oz/A) + UAN (2%) + Dyneamic (5 fl oz/A)
9	Regiment (0.8 oz/A) + UAN (2%) + Dyneamic (5 fl oz/A) fb Stam 80DF (3.75 lb/A)+ COC (2.5%) (1 week later)
10	Regiment (0.8 oz/A) + Loyant (1.33 pt/A) + UAN (2%) + Dyneamic (5 fl oz/A)
11	Regiment (0.8 oz/A) + Clincher (15 fl oz/A) + UAN (2%) + Dyneamic (5 fl oz/A)
12	Regiment (0.8 oz/A) + Sandea (2 oz/A) + UAN (2%) + Dyneamic (5 fl oz/A)

San Joaquin Delta Cover Crop Variety Trial

Michelle Leinfelder-Miles, Farm Advisor, San Joaquin County and Delta Region

With funding from the CDFA Healthy Soils Program and CA Rice Research Board, we are evaluating how well different cover crop species establish, provide soil coverage, affect soil carbon and nitrogen dynamics, and/or impact rice yield in subsequent growing seasons. Since rice may be grown over multiple seasons without rotation, cover crops may provide an opportunity to introduce plant diversity, including nitrogen-fixing legumes. Other potential benefits include increasing soil organic matter, reducing nitrogen loss in the winter, reducing nitrogen inputs during the rice season, and improving rice straw decomposition. While evaluating winter cover crops in the rice system is the primary purpose of the trial, the project has relevance for other annual systems where winter cover cropping may be employed.

This article describes one of the three trial locations, which was on Staten Island in the San Joaquin Delta Region. We planted the cover crops on November 13th by hand-broadcasting seed over 200-ft^2 plots and then gently raking it in. We planted 10 single species and two mixes (Tables 1-2). Each treatment was replicated four times, and the graphs below illustrate cover crop stands over the season (Figs. 1-4).

The 2023-24 winter season started off dry, which worked well for cover crop sowing and establishment. The site received approximately 0.2" of rain within a week of planting, and about 0.4" by mid-December. The brassicas emerged quickly and started covering the soil after just one month. More frequent storms started in late December, and the project field was adjacent to fields that were winter-flooded. The combination of rain plus seepage from flooded fields meant the project field stayed quite wet after the new year. The data show that the brassicas did not tolerate the wet conditions, and their stands diminished over time. The two vetches and balansa clover started off slowly but had vigorous stands by early spring, despite the wet conditions. While the bell bean did not provide extensive coverage, it survived the wet conditions and was prominent in the plots. We observed that the grass cover crops (i.e. rye, oats) suffered from bird feeding. Based on our experiences and preliminary data, we share the following 'lessons learned':

- Timing of operations is critical. Growers should strive to plant winter cover crops as early as conditions allow (e.g. early to mid-November). Drill seeding is more effective (i.e. better stand establishment) than flying on and harrowing in seed.

- Stand establishment is impacted by conditions outside the control of the manager (i.e. weather, herbivory). If neighboring fields will be winter-flooded, having drainage ditches between fields will help cover crop growth.

The project will continue through 2025, and in addition to the Delta site, we are also trialing cover crops in Colusa and Butte counties. Please don't hesitate to reach out if you would like to learn more information about this project.

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Table 1. Cover crop species and seeding rates.

Cover crop species	Seeding rate (lb/ac)
Balansa clover	18
Bell bean	180
Biomaster pea	72
Field pea	110
Oats	110
Purple vetch	72
Rye	98
Turnip	18
Woolypod vetch	72
Yellow mustard	12

Table 2. Cover crop mixes and seeding rates.

Cover crop mixes	Seeding rate (lb/ac)	% of mixture
Mix 1:		
Purple vetch	13	11
Bell bean	33	27
Field pea	30	25
Rye	45	37
Mix 2:		
Purple vetch	20	21
Balansa clover	3	3
Field pea	38	40
Oats	25	27
Radish	8	9

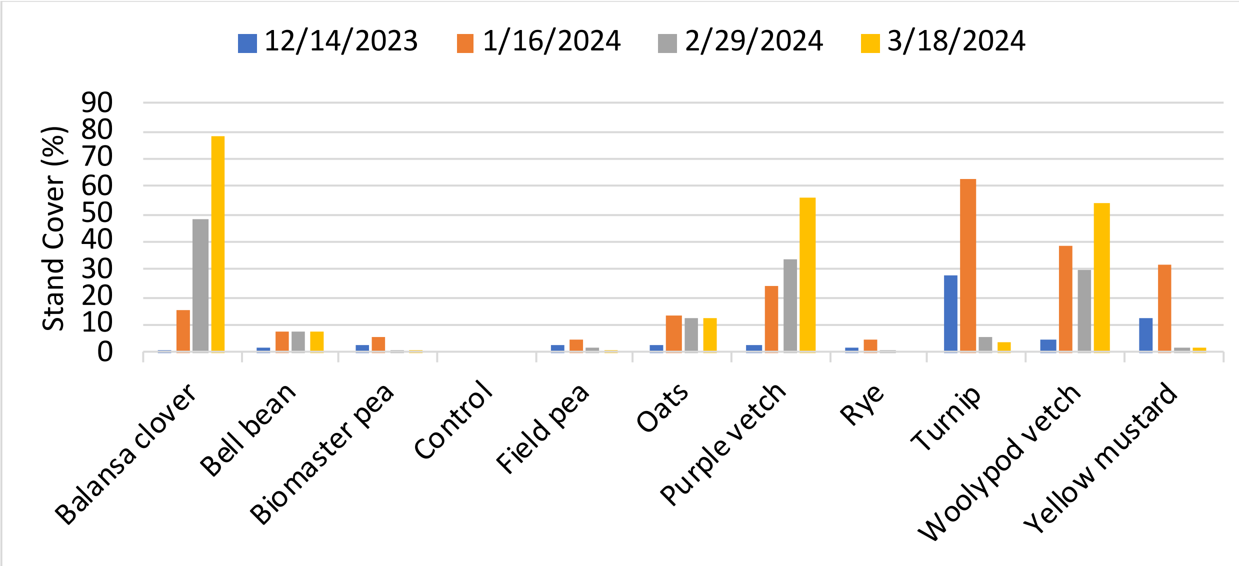

Figure 1. Cover crop species stand cover during the 2023-2024 winter season.

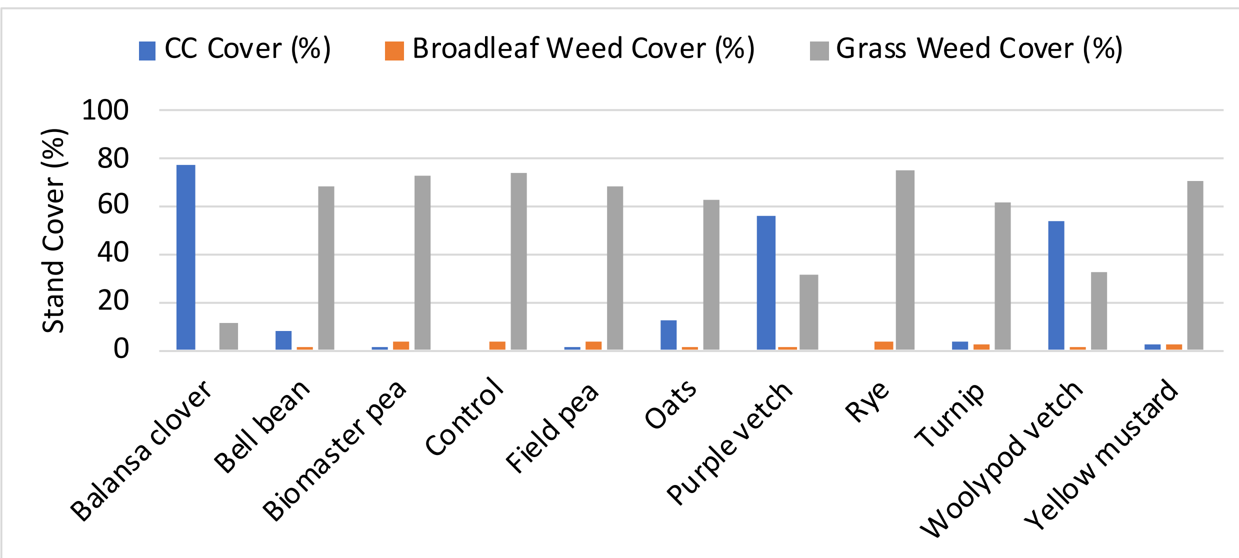

Figure 2. Cover crop and weed cover at the end of the cover crop season (3/18/2024).

Be Wary of Relying on Chat GPT for Agricultural Questions

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

Globally, approximately 570 million small and medium-sized farms need training in various agricultural fields. However, the delivery of agriculture training faces significant challenges. In some areas, the difficulty in obtaining this training has led to people turning to generative artificial intelligence (AI) models such as ChatGPT to ask questions relating to their agricultural production.

The way that ChatGPT and other models work is that the models are trained on vast amounts of data to learn patterns and relationships between words. This enables the models both to understand language in nuanced ways and to generate answers to a wide range of prompts, which means that ChatGPT can become adapted to specific uses and theoretically provide a comprehensive answer to any question. Researchers supported by the CGIAR's Excellence in Agronomy Initiative and the Digital Innovation Initiative studied the accuracy of Chat GPT-provided information and professional advice in response to queries from African farmers. Tzachor et al (2023) found significant inaccuracies that could potentially lead to poor management and crop losses. The problems with the answers ranged from vagueness to inaccuracy.

I became curious as to how accurate ChatGPT was with regards to questions relating to California rice and so conducted an informal test of my own. I asked ChatGPT questions relating to California water-seeded rice management to see how accurate the model was.

When queried about the insecticides that are registered for use in California water-seeded rice to control armyworms, ChatGPT responded with 6 insecticides – only one of which (lambda-cy) is used in CA rice systems. The remaining insecticides "recommended" were not used in California, not used for armyworms, or no longer commercially available.

I also asked ChatGPT "How to manage weedy rice in California water-seeded rice fields." The model returned several paragraphs, with one problematic paragraph reproduced below:

Apply herbicides labeled for controlling weedy rice in water-seeded rice fields. Herbicide options may include products containing penoxsulam, propanil, or other active ingredients specifically targeting weedy rice. It's crucial to follow label instructions carefully and use herbicides at the appropriate timing and application rates to maximize effectiveness and minimize off-target effects.

As evidenced by these examples, ChatGPT is responding with answers that are not accurate and should not be taken as recommendations.

With answers like these, it is clear that beyond the obvious problems with the predictive models themselves, the lack of any safeguards in these models creates errors and uncertainties. With no oversight or accountability for the consequences of relying on inaccurate information, these models pose a danger for vulnerable newcomers into farming.

While AI tools such as ChatGPT may have potential to offer support to human extension services, the current state of the technology renders it more harmful than beneficial. It is possible that with more specialized models focused on agricultural experience, the potential for AI to assist human extension officers in agriculture may increase; however, the complex needs of the agricultural sector are far beyond existent capabilities at present.

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2024 Economic Needs Assessment Survey

Domena Agyeman, Agriculture and Natural Resources Advisor, Butte, Glenn, and Tehama Counties

Dear Producer,

We are writing this letter to invite you to participate in a needs assessment study that seeks to understand the economic needs of your farm operations. UCCE has introduced a new Agriculture and Natural Resource Economics Farm Advisor position in Butte, Glenn, and Tehama counties. This position aims to provide practical assistance in management decisions, based on economics research analysis. As this is a completely new program, we seek to understand the economic informational needs of agriculture businesses. Your response to this survey will guide the advisors' future research and extension programs aimed at enhancing the economic viability of agricultural operations in the region.

Please take a moment to complete our survey. Type the link below into your internet browser or scan the QR Code to get started

http://ucanr.edu/u.cfm?id=344

Any information that you provide as part of this study will be kept confidential and used for research and extension purposes only.

Please do not hesitate to contact us if you have any questions, or concerns, or would like to learn more about this study. We thank you in advance for your time and consideration.

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Migratory Bird Conservation Partnership

The Migratory Bird Conservation Partnership (Audubon California, The Nature Conservancy, and Point Blue Conservation Science), in collaboration with the California Rice Commission and the Delta Conservancy, and funding from the California Dept. of Fish and Wildlife, is now accepting online bids for the **BirdReturns-Late Summer Farmlands Habitat Program**. This program offers farmers and landowners in the Sacramento Valley an opportunity to receive financial compensation for providing a few weeks of ponded or shallow flooded habitat for migratory birds. Please see website for details on eligible crop types: https://birdreturns.org

Applications are being accepted from now through June 17 at noon. To apply, complete a one-page bid form with your bid price per acre and a map for each proposed field.

For more information, please visit the BirdReturns website (https://birdreturns.org) or join us for lunch and giveaways at one of the following in-person workshops!

Sacramento Valley:

Yuba-Sutter Farm Bureau

475 Palora Ave STE A. Yuba City, CA 95991

6/13 at noon

North Delta:

Staten Island House

23319 N. Staten Island Rd. Thornton, CA 95686

6/11 at noon

South Delta:

San Joaquin Farm Bureau Federation

3290 Ad Art Rd. Stockton, CA 95215

6/12 at noon

Support for this newsletter is provided by

SUPPORT GROUP BUTTE COUNTY UCCE

Meeting Announcement

June 2024

UC CE University of California Agriculture and Natural Resources | Cooperative Extension

No-Till Rice Field Day

An in-depth discussion that explores no-till drill-seeded rice planting and management strategies

June 18, 2024
9:00 am – 11:30 am
Rice Experiment Station
955 Butte City Hwy. Biggs, CA

Program

9:00 Registration

9:30 Types of No-Till Planting, Agronomy and Challenges
Bruce Linquist, UC Davis Rice Specialist

9:50 No-Till Rice from a Southern Perspective
Dustin Harrell, Director-Rice Experiment Station

10:10 Gibberellic Acid Treatments in No-Till Rice
Mia Godbey, UC Davis PhD. Candidate

10:15 No-Till Management and Water Savings
Nawal Taaime, UC Davis Graduate Program

10:20 No-Till Pest and Disease Management Strategies
Luis Espino, UCCE Rice Advisor

10:35 No-Till Weed Management Strategies
Whitney Brim-DeForest, UCCE Rice Advisor

10:50 Grower case study

11:10 Questions and Discussion/ Field Tour

11:30 Adjourn

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FERTILIZER RESEARCH AND EDUCATION PROGRAM FREP

CURES Credits: Pending
Applied for CCA Credits

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