

California Rice Research Board



Issue # 13, Spring 2004

What has your 5 cents brought you?

The growers of California rice established the Rice Research Board in 1969. This is a grower-elected, grower-funded, grower-directed effort under the authority of CDFA. What have you gained from your contribution to rice research and what do you face in the future?

Successes

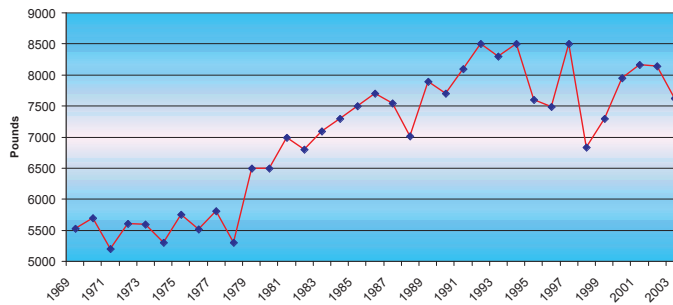
From 1969 to 1978 yields averaged 55 Cwts. Yields in many of the last

twelve years have averaged over 80 Cwts, some years as high as 85. That 25 Cwt gain or an additional \$200 per acre benefit (at \$8 per Cwt) may largely be attributed to

your \$4 per acre investment in the RRB. Why have there been such impressive gains from your 5 cent assessment?

•New varieties - since 1981 when the assess-

California Rice Yield



Post Exparte' by Eric Larrabee, Chairman

What? That was my response when I first heard this Latin word *exparte'*, it means to be silent or not express ones self. This was the rule the Rice Research Board operated under last fall once we decided to move forward with the referendum to increase the assessment ceiling to .08/Cwt. We could not publicly tell our story about how beneficial the research program has been. We could not talk about our breeding program that has increased yields from 55 Cwt to over 80 Cwt on a statewide basis and that the highest yields in the world are produced here in California. We could not talk about why there is half the straw left in the field today compared to many older varieties, nor the average maturity being 3 weeks earlier. We were not allowed to talk about fertilizer studies, weed and insect controls, or even utter a word about the increase in the value per acre the grower's investment has returned over the past 35 years.

Continued on page 2

In This Issue

What has your five cents brought1

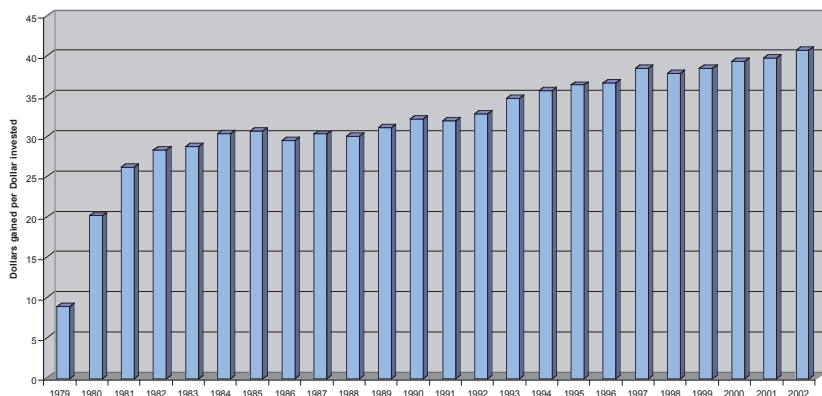
Post Exparte'1

Weed Resistance Chart Update.....3

The California Rice Research Board
Operating under the authority of the Secretary of Food and Agriculture, State of California

Dana Dickey, Manager
P.O. Box 507
Yuba City, CA 95992
Phone: 530-673-6247
Fax: 530-674-0426
www.syix.com/rrb

Return on Investment, 60% effect



ment was raised to five cents, 25 new varieties have been introduced including S-201, M-401, M-201, M-202, Calmochi-101, L-202, M-104 and M-205.

•Solutions from UCD/RES collaboration for weed, pest, disease, soil fertility and water management problems.

Inflation and Pressing Needs

Back in 1980 when the five cent assessment went into effect, one could buy a certain item for a dollar. That same item now costs \$2.15. In 1981 the RRB research budget was \$1.37 million dollars, today that same research would cost nearly three million. Today the Board is led by a group of fiscally conservative members who have held the research budget to \$2.08 million, but the needs are many.

- RES has expanded its land area, added a greenhouse and a new breeder to meet industry needs.
- Areas of research are expanding and broad-

ening. New and old problems abound such as blast, bakanae, weed resistance, chemical issues and variety trials.

- Project costs rise on average 5% per year.

ating reserve - and once it is gone in five years or less, then greatly decrease our research efforts and the corresponding benefits.

- Balance income with

Buying Power of RRB Assessments, 1983 base year



What has been done?

The Rice Research Board took a long term look at its financial situa-

expenses. This will require severe cut-backs. in research

- Raise the assessment rate.

Post Exparte' from page 1

The referendum passed with overwhelming support and nearly 80% of the rice volume voting, voted in favor. The RRB is composed entirely of growers. At the August meeting this year the Board will make a decision to set the assessment rate for the 2004 rice crop. For the first time the Board will discuss raising the assessment above .05/Cwt. One thing is for sure, for a Director to raise the assessment means to raise it for oneself. Large and small growers alike should feel good knowing growers represent them with common interests.

Looking forward the RRB will face challenges with a renewed commitment from the CA growers. The Board has always had a proactive approach and looks forward to

meeting these challenges head on. I wish you the best this growing season and thank you again for your continued support.

Group	Active Ingredient	Mechanism of Action
Thiocarbamates	molinate (Ordram); thiobencarb (Abolish, Bolero)	VLCHA (very long chain fatty acids)
Aryloxyphenoxy-propionates	fenoxaprop (Whip); cyhalofop-butyl (Clincher)	ACCase inhibitors
Amide	propanil (SuperWham, Stam)	Photosystem II inhibitor
Sulfonylurea	bensulfuron (Londax)	ALS inhibitor
Phrimidinyl-oxybenzoates	bispyribac (Regiment)	ALS inhibitor
Dinitroaniline	pendimethalin (Prowl)	Tublin inhibitor (mitosis inh.)
Isoxazolidinone	clomazone (Cerano)	Carotenoid biosynthesis

Weed Resistance Chart Update

A few years ago I published a set of tables showing the activity of herbicides on various weeds. Dr. Albert Fisher has continued diligently experimenting with new and old herbicides as a part of the RRB weed research effort. In this issue I am again publishing the tables with updated information.

A new feature of the information this year is the inclusion of a table of combinations and sequentials. Many of you have created tank mixes or combinations of materials over the years. The advantage of this is obvious - reduced number of trips over the field, lower operating costs, and sometimes, synergistic action of the combination.

The problem is, combinations do not always work. Sometimes they are antagonistic. Sometimes the application timing is wrong. So Dr. Fischer has done a lot of work on sequential applications. Why sequentials? By sequentially applying two different herbicides you gain a broader spectrum of control. Sequential applications will target weed species that are emerging at different times. It allows the cleanup of newly emerged flushes of weeds. Finally, it helps protect the limited number of herbicides we have

Weed Susceptibility to Current Herbicides

	Barnyardgrass	Watergrass	Sprangletop	Smallflower	Ricefield bulrush	CA Arrowhead	Greggs arrow-head	Ducksalad	Redstem	Monochoria
Abolish Bolero	●*	●*	●	●	○	○	○	○	○	○
Cerano	●	●	●	○	○	○	○	○	○	○
Clincher	●*	●*	●	○	○	○	○	○	○	○
Grandstand	○	○	○	○	●	○	○	○	●	○
Londax Sempra	○	○	○	●*	●*	●*	○	●	●*	○
Ordram	●*	●*	○	○	○	○	○	○	○	○
Regiment	●*	●*	○	○	●*	●*	○	○	○	○
Shark	○	○	○	●	●	●	○	○	○	○
Stam EDF SuperWham SC	●	●	○	●	●	○	○	○	○	○
Whip	●*	●*	●	○	○	○	○	○	○	○

● = Complete control ○ (with horizontal line) = Partial control ○ = Not Economical control * = Known Resistance

Behavior of Currently Used Herbicides

Herbicide	Foliar	In water	Translocation index	Timing Window	Residual (days)	Weed Resistance
Abolish	Yes	Yes #	3	1-2 lsr	20 - 25	Yes
Bolero	No*	Yes	3	1-2 lsr	20 - 25	Yes
Cerano	No	Yes	6	0-1 lsr	5 in water	Ltd. in lwg
Clincher	Yes	No	4	2 lsr - mt	0	Yes
Grandstand	Yes	No	8	5 lsr - mt	0	No
Londax	Yes	Yes #	4	0-5 lsr	35 - 40	Yes
Ordram	No*	Yes	6	0-5 lsr	5 - 8	Yes
Prowl †	No	No	0	Soil cracking	20 in soil, 5 in water	No
Regiment	Yes	No	4	5 lsr - mt	0	Yes
Sempra	Yes	Yes #	4	0-5 lsr	35 - 40	Yes
Shark	Yes	Yes	2	4 lsr - mt	5 - 8	No
Stam EDF	Yes	No	3	3 lsr - mt	0	No
SuperWham	Yes	No	3	3 lsr - mt	0	No
Whip	Yes	No	4	5 lsr - mt	0	Yes

lsr = rice leaf stage mt = mid-tillering * = Soil activity # = both foliar & soil activity † = dry seeded rice

from developing resistance in various weed species.

Check the weed susceptibility chart to see if there is a combination for your weed spectrum. Then check these two charts for timing and rate options. ➔

A reminder on the term Translocation Index - it indicates the relative movement of rice herbicides in the plant. Numbers above seven mean that the herbicide is highly mobile and below four generally means little movement. Matching water management to the translocation characteristics of the herbicide used is extremely important to the success of the application.

Herbicide Combinations

<i>Herbicide 1</i>	<i>Timing/Rate</i>	<i>plus</i>	<i>Herbicide 2</i>	<i>Timing/Rate</i>
Regiment	5-6 lsr (10-12 g ai/ac)	plus	Abolish	5-6 lsr (2.0-3.0 lb ai/ac)
Abolish	2-3 lsr (3.0 lb ai/ac)	plus	propanil	2-3 lsr (3.0 lb ai/ac)

Herbicide Sequentials

lsr = rice leaf stage fb = followed by ai/ac = active ingredient per acre

<i>Herbicide 1</i>	<i>Timing/Rate</i>	<i>fb</i>	<i>Herbicide 2</i>	<i>Timing/Rate</i>
Bolero	1-2 lsr (4.0 lb ai/ac)	fb	Regiment	1-3 tiller (15 g ai/ac)
Regiment	5 lsr - 1 tiller (15 g ai/ac)	fb	propanil	2-3 tiller (6.0 lb ai/ac)
Cerano	Preseed to 1 lsr (0.6 lb ai/ac)	fb	Londax	2-3 lsr (0.06 lb ai/ac)
Cerano	Preseed to 1 lsr (0.6 lb ai/ac)	fb	Regiment	2-3 Tiller (15 g ai/ac)
Cerano	Preseed to 1 lsr (0.6 lb ai/ac)	fb	Shark	2-3 lsr (0.2 lb ai/ac)
Cerano	Preseed to 1 lsr (0.6 lb ai/ac)	fb	propanil	1-3 tiller (6.0 lb ai/ac)
Cerano	Preseed to 1 lsr (0.6 lb ai/ac)	fb	propanil + Grandstand	1-3 tiller (6.0 lb ai/ac + 0.25 lb ai/ac)
Clincher	3-6 lsr (0.25-0.28 lb ai/ac)	fb	Londax	2-3 tiller (0.06 lb ai/ac)
Clincher	3-6 lsr (0.25-0.28 lb ai/ac)	fb	Regiment	2-3 tiller (15 g ai/ac)
Clincher	3-6 lsr (0.25-0.28 lb ai/ac)	fb	propanil	2-3 tiller (6.0 lb ai/ac)
propanil	5-6 lsr (6.0 lb ai/ac)	fb	Clincher	1-3 tiller (0.28 lb ai/ac)
Shark	2-3 lsr (0.2 lb ai/ac)	fb	Clincher	1-3 tiller (0.28 lb ai/ac)



Rice Research Board
P.O. Box 507
Yuba City, CA 95992