2008 LATMC Meeting

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RICE WATER WEEVIL (RWW)
Lissorhoptrus oryzophilus


UC Statewide IPM Project
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Rice Plots with Barriers

RWW Sampling

RWW Core Processing

RWW Core Processing

Dermacor X-100 Seed Treatment for Rice Water Weevil

- 2 experiments
  - XL723 drill-seeded @ 35 lb/A
  - Urea applied BF @ 120 lb N/A; LB/H @ 60 lb N/A; total N = 180 lb N/A
  - Cocodrie drill-seeded @ 90 lbA
  - Urea applied at planting @ 57 lb N/A; BF @ 57 lb N/A; PD @ 57 lb N/A; 40 lb N/A 15 days later; total N = 211 lb N/A
  - 5 cores/plot 21 and 33 DAF

Cocodrie

Treatment	Rate lb AI/A / mg AI/seed	No. RWW/5 cores (DAF) 21	33	Yield lb/A
Dermacor X-100	0.047 / 0.0125	2 C	1 B	10349
Dermacor X-100	0.093 / 0.025	1 C	1 B	9956
Dermacor X-100	0.186 / 0.05	1 C	0 B	10168
Dermacor X-100	0.373 / 0.10	0 C	0 B	10331
Karate Z	0.04	7 B	1 B	10215
Untreated	---	53 A	12 A	9841
				NS

Seed treatment rates based on 18,800 Cocodrie seeds/lb and 90 lb/A seeding rate

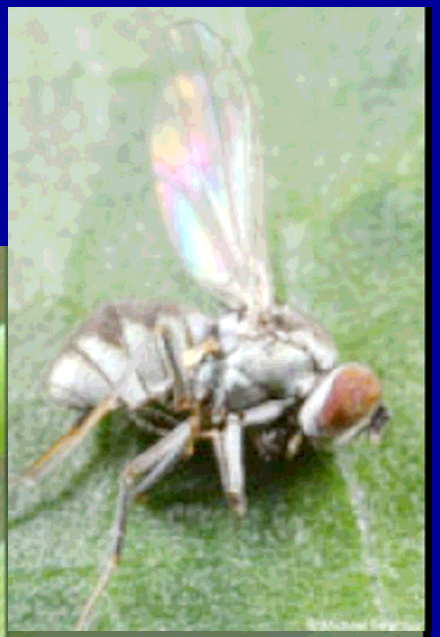
XL723

Treatment	Rate lb AI/A / mg AI/seed	No. RWW/5 cores (DAF) 21	No. RWW/5 cores (DAF) 33	Yield lb/A
Dermacor X-100	0.039 / 0.025	2 B	1 B	11157 a
Dermacor X-100	0.078 / 0.05	1 B	1 B	10575 a
Dermacor X-100	0.156 / 0.10	1 B	0 B	10465 ab
Karate Z	0.04	5 B	9 A	10426 ab
Untreated	---	73 A	17 A	9602 b

Seed treatment rates based on 20,200 XL723 seeds/lb and 35 lb/A seeding rate

SOUTH AMERICAN RICE MINER (SARM)

Hydrellia wirthi



Cocodrie

Treatment	Rate lb AI/A / mg AI/seed	No. SARM damaged leaves/plot
Dermacor X-100	0.047 / 0.0125	1 B
Dermacor X-100	0.093 / 0.025	0 B
Dermacor X-100	0.186 / 0.05	0 B
Dermacor X-100	0.373 / 0.10	1 B
Karate Z	0.04	1 B
Untreated	---	3 A

Seed treatment rates based on 18,800 Cocodrie seeds/lb and 90 lb/A seeding rate

XL723

Treatment	Rate lb AI/A / mg AI/seed	No. SARM damaged leaves/plot
Dermacor X-100	0.039 / 0.025	4 BC
Dermacor X-100	0.78 / 0.05	3 C
Dermacor X-100	0.156 / 0.10	1 C
Karate Z	0.04	8 B
Untreated	---	18 A

Seed treatment rates based on 20,200 XL723 seeds/lb and 35 lb/A seeding rate

3 BORERS IN TX RICE

SUGARCANE BORER

Diatraea saccharalis

RICE STALK BORER

Chilo plejadellus

MEXICAN RICE BORER

Eoreuma loftini

Stem Borer Adults

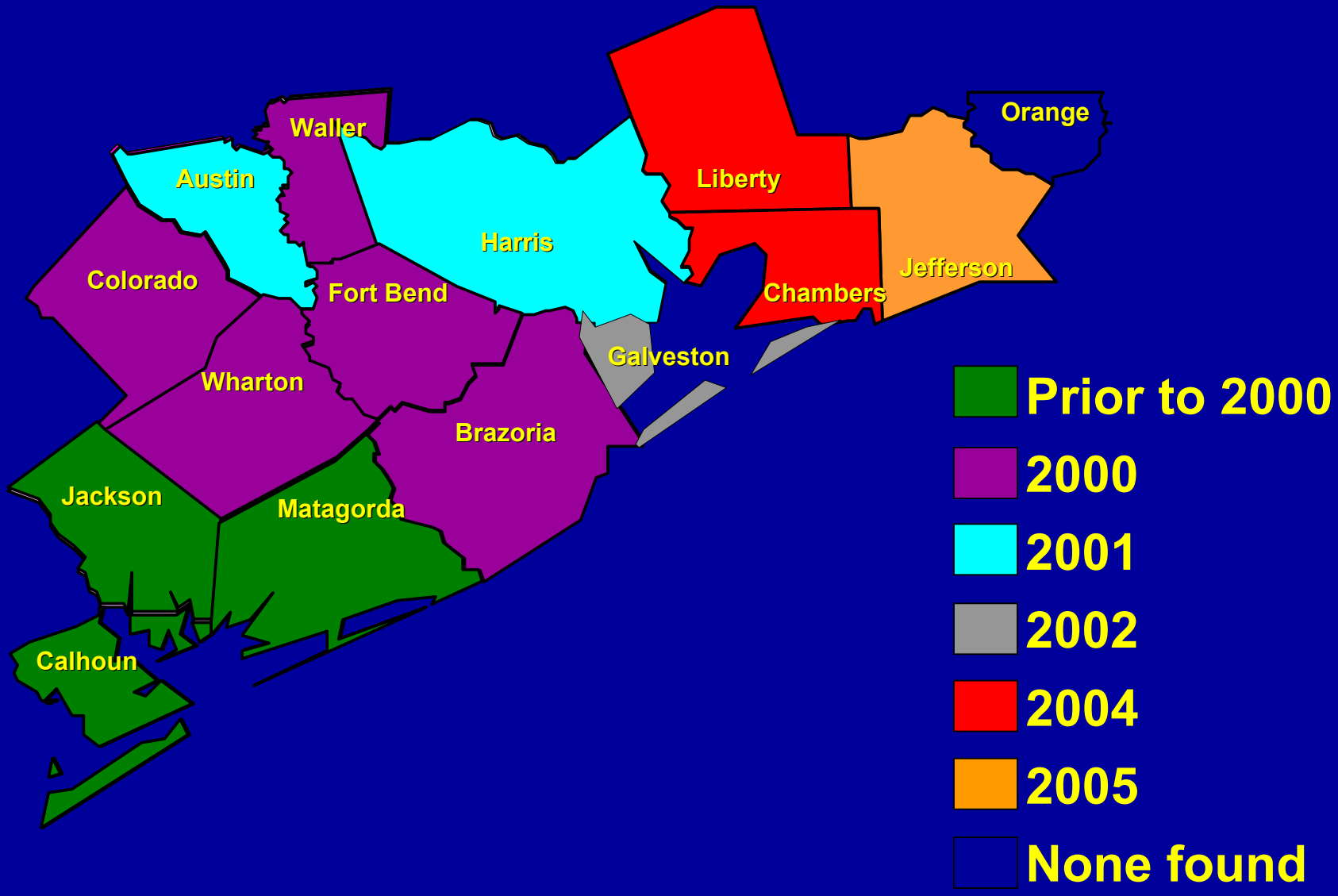
MEXICAN RICE BORER

SUGARCANE BORER

Mexican Rice Borer

- Originated in Mexico
- Entered Texas in 1980
- Gradually moved up Gulf Coast; first detected in the Texas Rice Belt in 1988
- Has become a serious pest (and sugarcane borer) of rice in Texas

MRB TRAPPING 2000 TO 2007




TRAP 1

Monthly Totals of MRB Adults from Pheromone Traps on the Texas Upper Gulf Coast in 2007

	County						
	Chambers	Colorado	Galveston	Jackson	Jefferson	Liberty	Waller
Apr	NA	243	NA	97	21	NA	NA
May	222	106	NA	137	19	NA	104
Jun	531	116	68	242	49	239	448
Jul	353	112	110	110	43	207	313
Aug	656	264	224	189	135	NA	862
Sep	1117	218	303	175	187	564	1801
Oct	846	269	456	266	240	810	2216
Nov	440	343	245	199	23	270	1079

Rynaxypyr Seed and Foliar Treatments for Stem Borers

- Experiment conducted at Ganado where stem borers are severe
- Drill-seeded Cocodrie @ 80 lb/A
- Whitehead counts (no. 4 middle rows/plot) at milk

Rynaxypyr control of stem borers. 2007.

Treatment	Rate lb AI/A / mg AI/seed	Timing	No. WHs/plot	Yield lb/A
Untreated	---	---	69 AB	6660 BC
Cruiser 5FS	0.064	ST	90 B	6140 C
V-10170	0.20	ST	60 B	6432 C
Dermacor X-100	0.331 / 0.10	ST	2 D	7388 A
Rynaxypyr	0.026	LB	12 C	7439 A
Rynaxypyr	0.026	H	4 D	7053 AB
Rynaxypyr	0.046	LB	4 D	7407 A
Rynaxypyr	0.046	H	5 CD	7418 A

Dermacor X-100 rate based on 18,800 Cocodrie seeds/lb and 80 lb seeding rate

Response of XL723 and Cocodrie to Control of Stem Borers on Main and Ratoon Crop Rice

- 2 experiments conducted at Ganado
- XL723 drill-seeded @ 35 lb/A
- Urea applied at planting @ 45 lb N/A; BF @ 70 lb N/A; PI/PD @ 70 lb N/A
- Cocodrie drill seeded @ 80 lb/A
- Urea applied at planting @ 45 lb N/A; BF @ 70 lb N/A; PI/PD @ 70 lb N/A
- 2 applications of pyrethroids on main and ratoon crops versus no control on main and ratoon crops

XL723

Treatment	No. WHs		Yield (lb/A)		
	MC	RC	MC	RC	Tot
MC T RC T	1 B	0 C	8377 A	2423	10800 A
MC T RC U	0 B	2 B	8675 A	1902	10577 A
MC U RC T	67 A	1 BC	6715 B	2602	9317 B
MC U RC U	66 A	4 A	6794 B	1907	8700 B
				NS	

Cocodrie

Treatment		No. WHs MC	No. WHs RC	Yield (lb/A) MC	Yield (lb/A) RC	Yield (lb/A) Tot
MC T	RC T	7 B	1 B	7502 A	2648	9970 A
MC T	RC U	7 B	10 A	7377 A	2106	9484 A
MC U	RC T	55 A	2 B	6477 B	2318	8795 B
MC U	RC U	61 A	16 A	6404 B	1975	8379 B
					NS	

RICE STINK BUG (RSB)
Oebalus pugnax

Rice Stink Bug

- Grad student, Dr. Luis Espino – now Farm Advisor in CA, revised treatment thresholds for RSB
  - Based on cage, greenhouse and field studies
  - 3 years of experiments revealed:
    - RSB did not cause significant yield loss or reduction in head rice in these studies, but some experts disagree – verdict is still out on this matter

Rice Stink Bug

– 3 years of experiments revealed (cont.):

- Adults cause peck but so do older nymphs (4th & 5th instars) but ½ less than adults (no difference between males and females)
- **Very important: as yield increases, peck decreases; peck is diluted in higher yielding fields!**
- Most susceptible grain maturation stages are milk and soft dough (peck also can be produced by infestation at heading)

Rice Stink Bug

– 3 years of experiments revealed (cont.):
  - Stop spraying at hard dough unless RSB populations are very high
  - Do not spray before heading
  - Begin sampling at heading (sample at least weekly)
  - No significant difference in sampled populations (sweep net) between am and pm (sample any time of day when foliage is dry)

Revised Treatment Thresholds[1] for RSB

Projected yield (lb/A)	Avg. no. RSBs[2]/10 sweeps			
	H	M	SD	HD
4500	8	10	17	47
6000	10	14	22	63
7500	13	17	28	79
9000	16	21	34	94

[1]Adults and older nymphs

[2]Based on producing Grade 1 or 2 rice

RSB Insecticidal Management

- All recommended insecticides have good knock-down activity
- None have adequate residual activity
- Do not spray only margins; RSBs occur throughout field in similar numbers; spray entire field
- Essential to protect milk and soft dough stages
- Section 18 will be submitted for dinotefuran – better residual than currently labeled insecticides