

Seed treatments in rice

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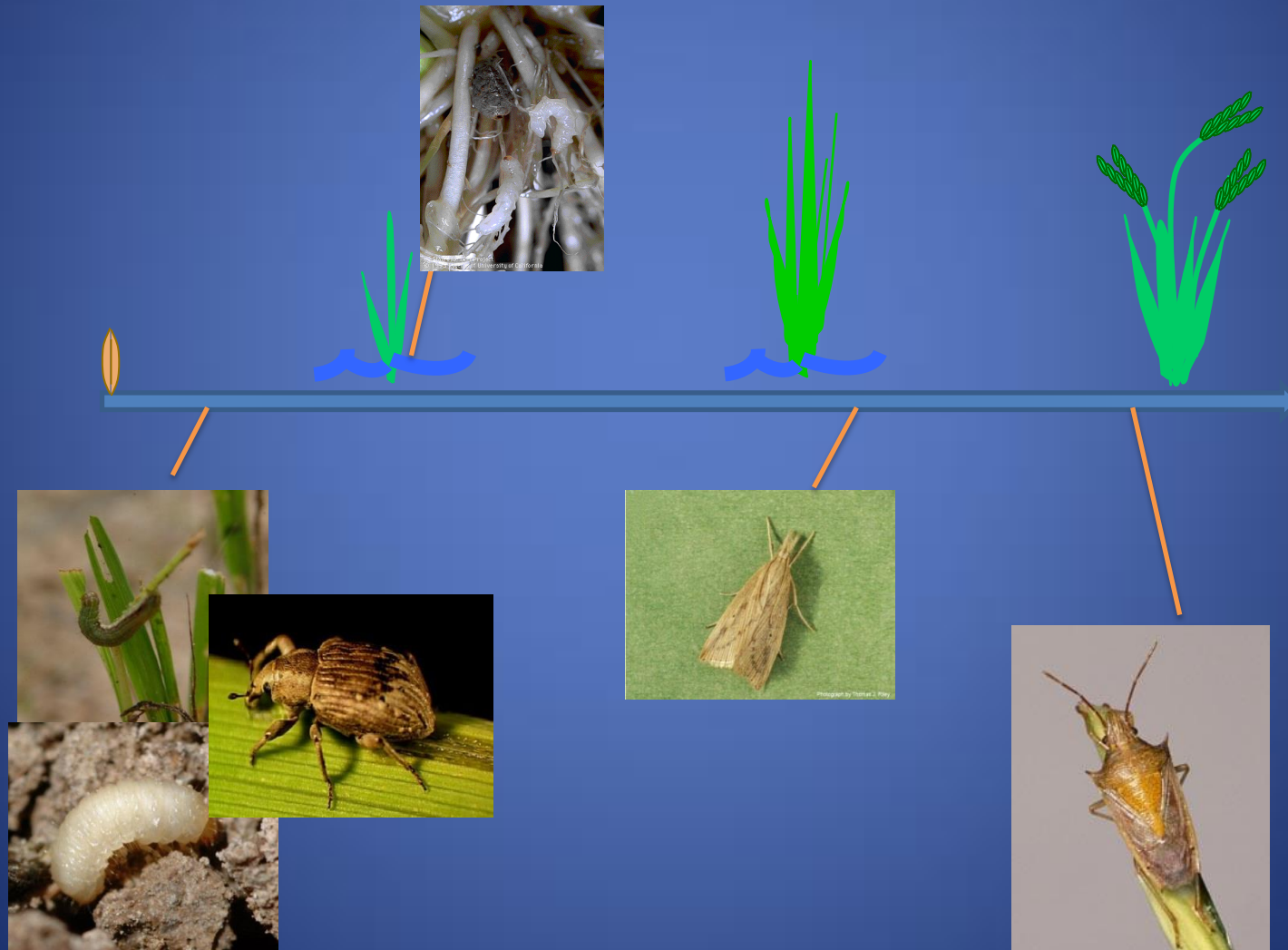
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Primary target: rice water weevil

Secondary targets: early season sporadic pests and stem borers



Insecticides for early season pests: We've come a long way!

Post-flood granular
Furadan



Foliar insecticides		Seed treatments	
Pyrethroids	Belay	Dermacor	CruiserMaxx NipsitInside

Registered seed treatments

Product	Class	Adjust rate with seeding rate?	Fungicide included?	

What % of farmers use seed
treatments?

Is this level of adoption warranted?

From a consultant's perspective...

- Do I recommend use of seed treatments instead of foliar insecticides?
- Which seed treatment do I recommend?

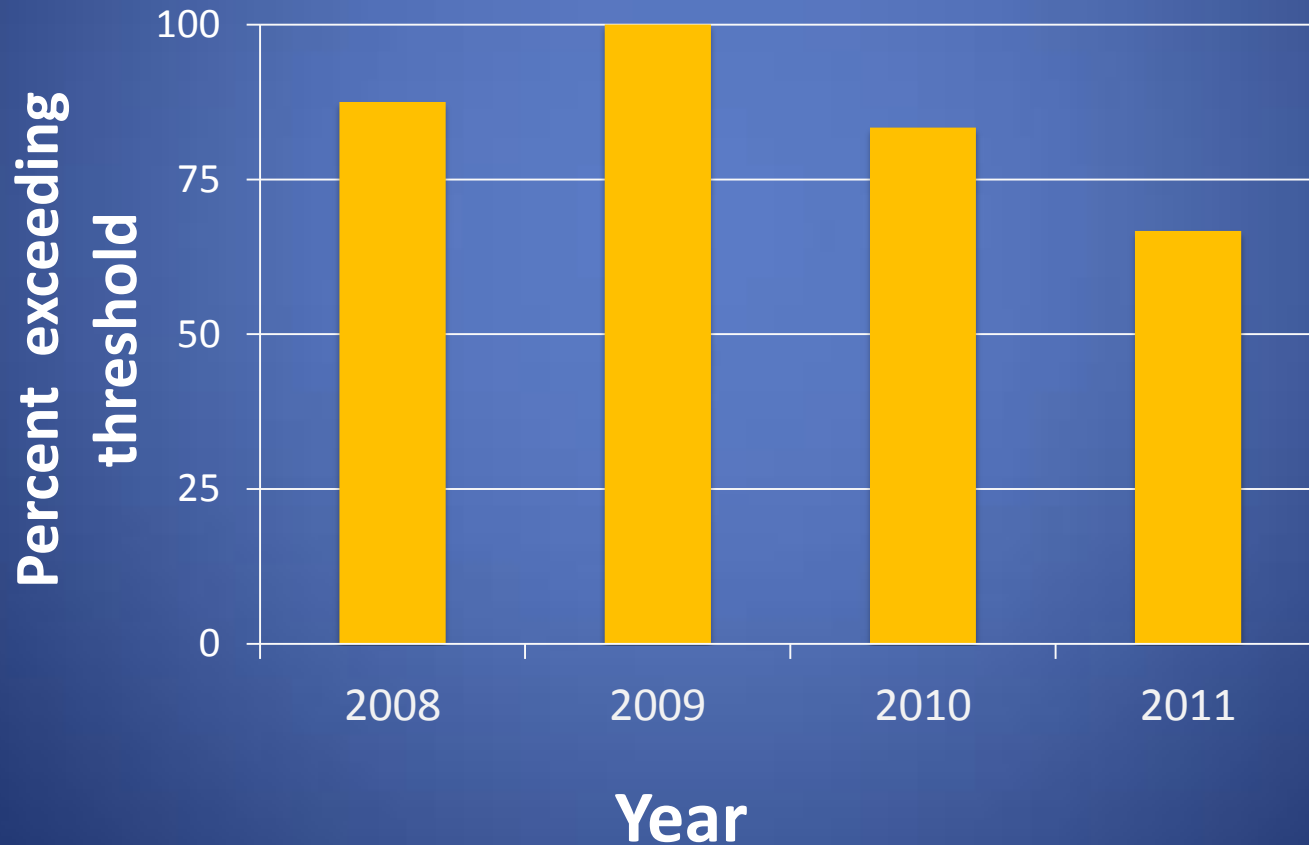
Important considerations...

- Risk of infestation by rice water weevils
- Anticipated severity of weevil infestation (“history” of field, planting date)
- Risk of infestation by other pests (“history” of field)
- Proximity to crawfish
- Co\$t
- Ease of use and peace of mind

The majority of fields in SW Louisiana will require treatment for rice water weevils...

Proportion of untreated rice with weevil infestations that exceeded threshold, 2008-2011

Threshold = 3 larvae per core, > \$13 loss per acre
Average weevil density = ~11 larvae per core sample



Dermacor is more effective than the neonicotinoids...

		Mean number of larvae and pupae per core sample			
Treatments		2008	2009	2010	2011
	Untreated	11.7 ± 1.1	11.4 ± 0.9	8.3 ± 1.5	12.9 ± 2.9
	Pyrethroid*	5.1 ± 2.1	2.6 ± 0.8	3.2 ± 1.8	--
	Dermacor	1.7 ± 1.1	0.6 ± 0.9	1.3 ± 1.4	2.6 ± 2.9
	Cruiser	--	-	4.2 ± 1.4	7.9 ± 2.9
	Nipsit	--	--	--	7.9 ± 2.9

The neonicotinoids and Dermacor
have differential activities toward the
minor pests...

Spectra of activity

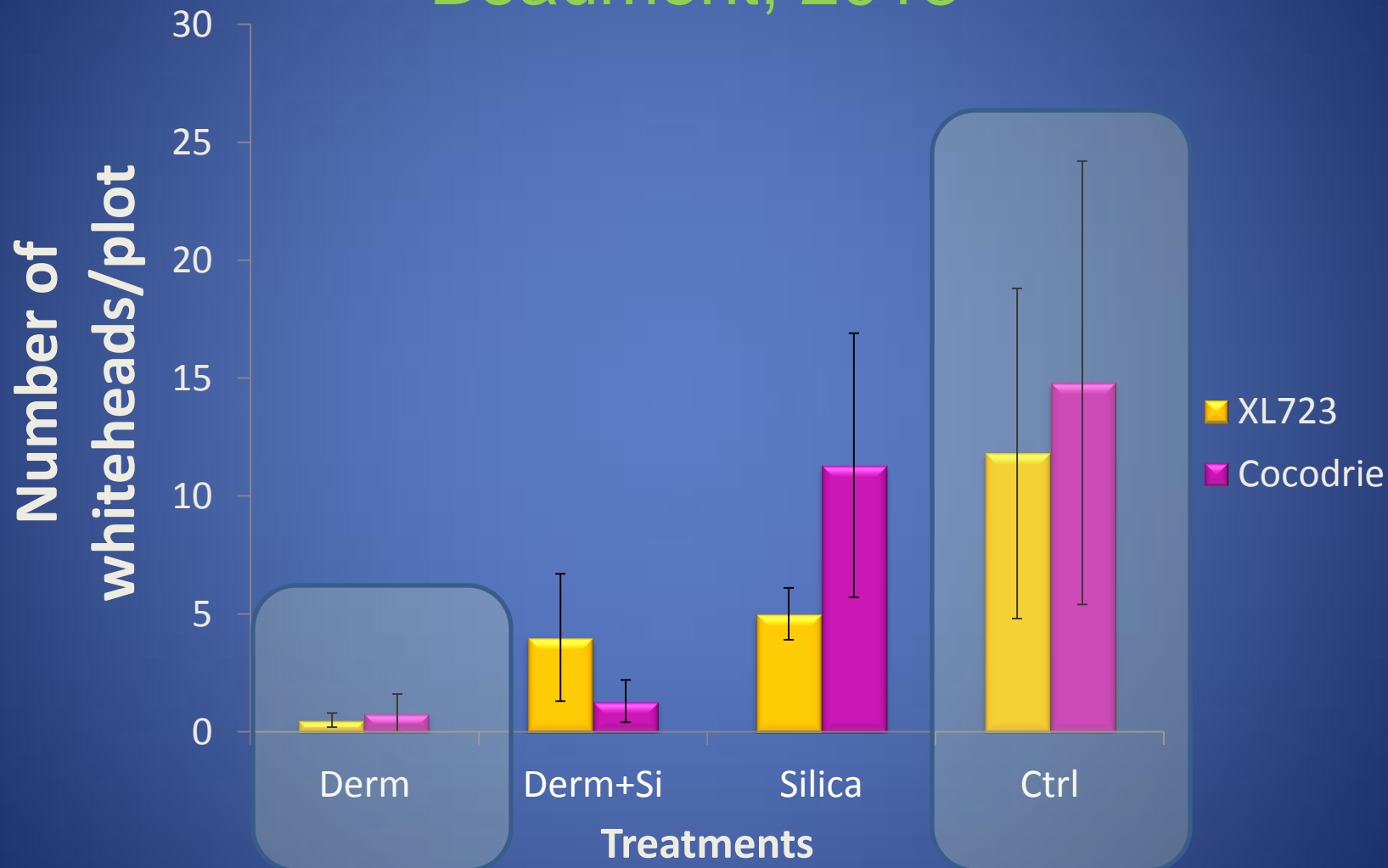
Cruiser/Nipsit

Dermacor X-100

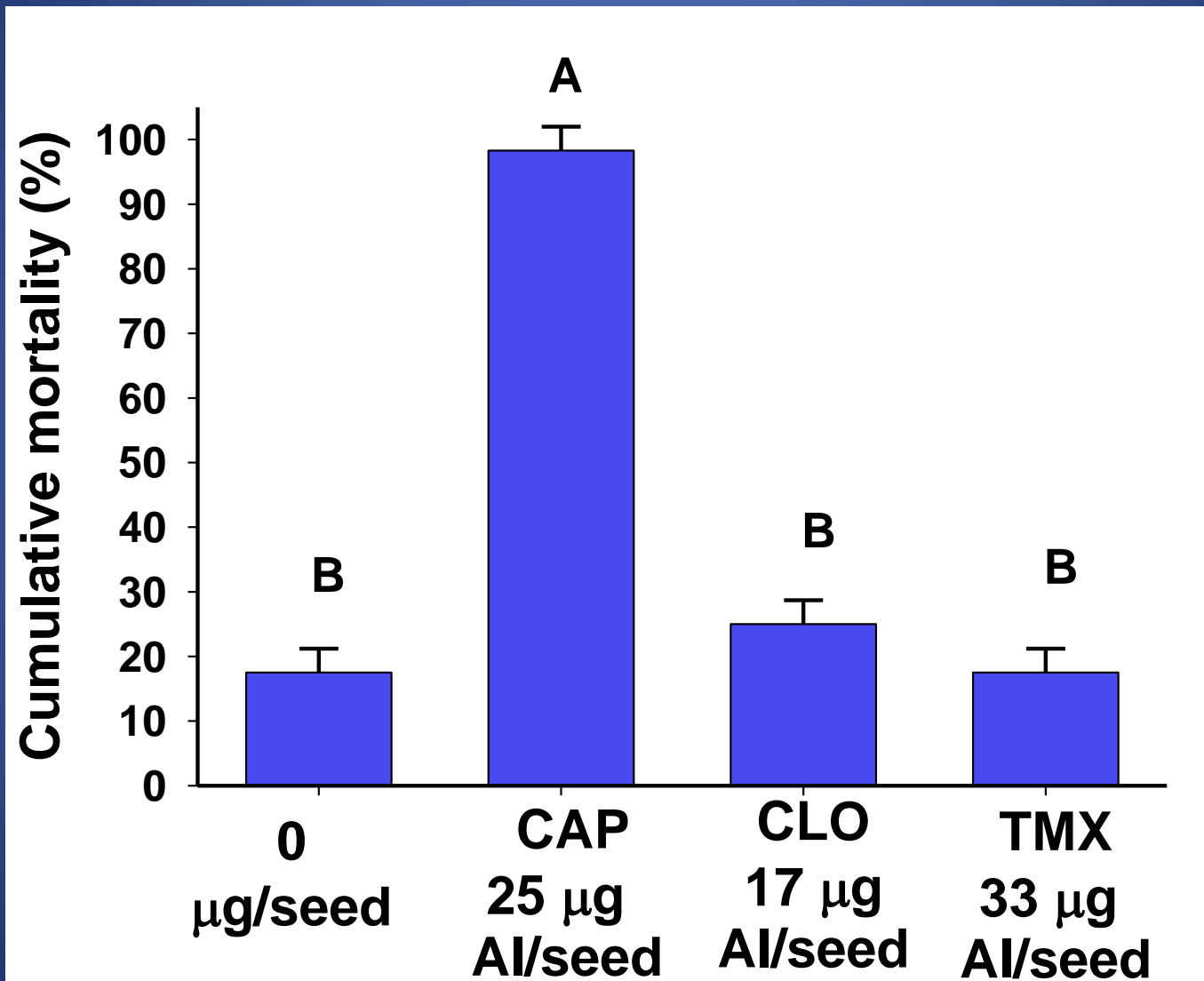


Pyrethroids very broad spectrum, Belay not as broad-spectrum

Dermacor X Variety X Silicon for stem borers Beaumont, 2013



Neonate FAW assays on foliage of rice treated as seeds with insecticides (2-3 leaf stage)



Spectra of activity: what pests do they control?

Dermacor X-100

X

Rice water weevil

Colaspis

X

Stem borers

Sucking pests –chinch bugs, aphids

X

Other Lep's – fall armwyorm

X

South American Rice Miner

Cruiser/Nipsit

X

Rice water weevil

X

Colaspis

Stem borers

X

Sucking pests –chinch bugs, aphids

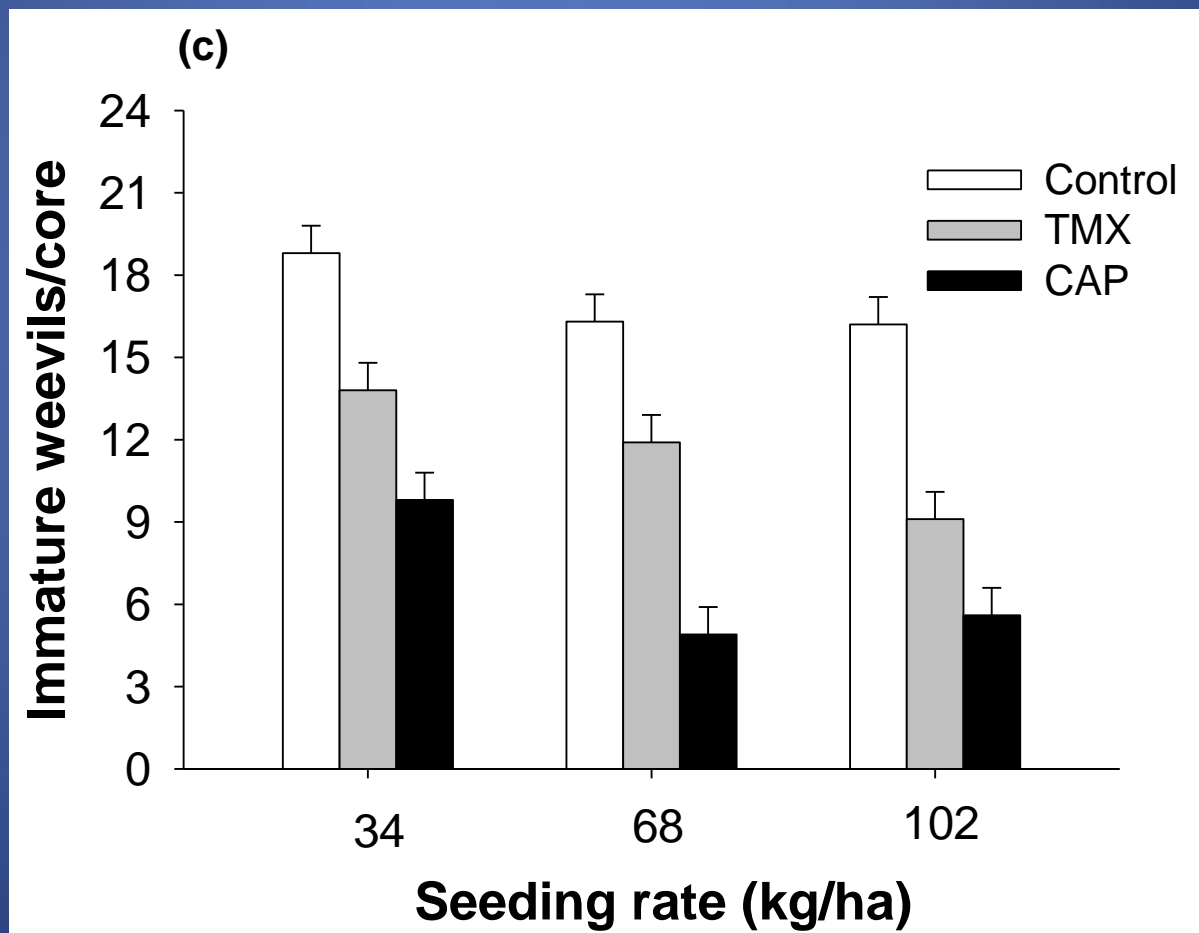
Other Lep's – fall armwyorm

X

South American Rice Miner

What about low seeding rates?

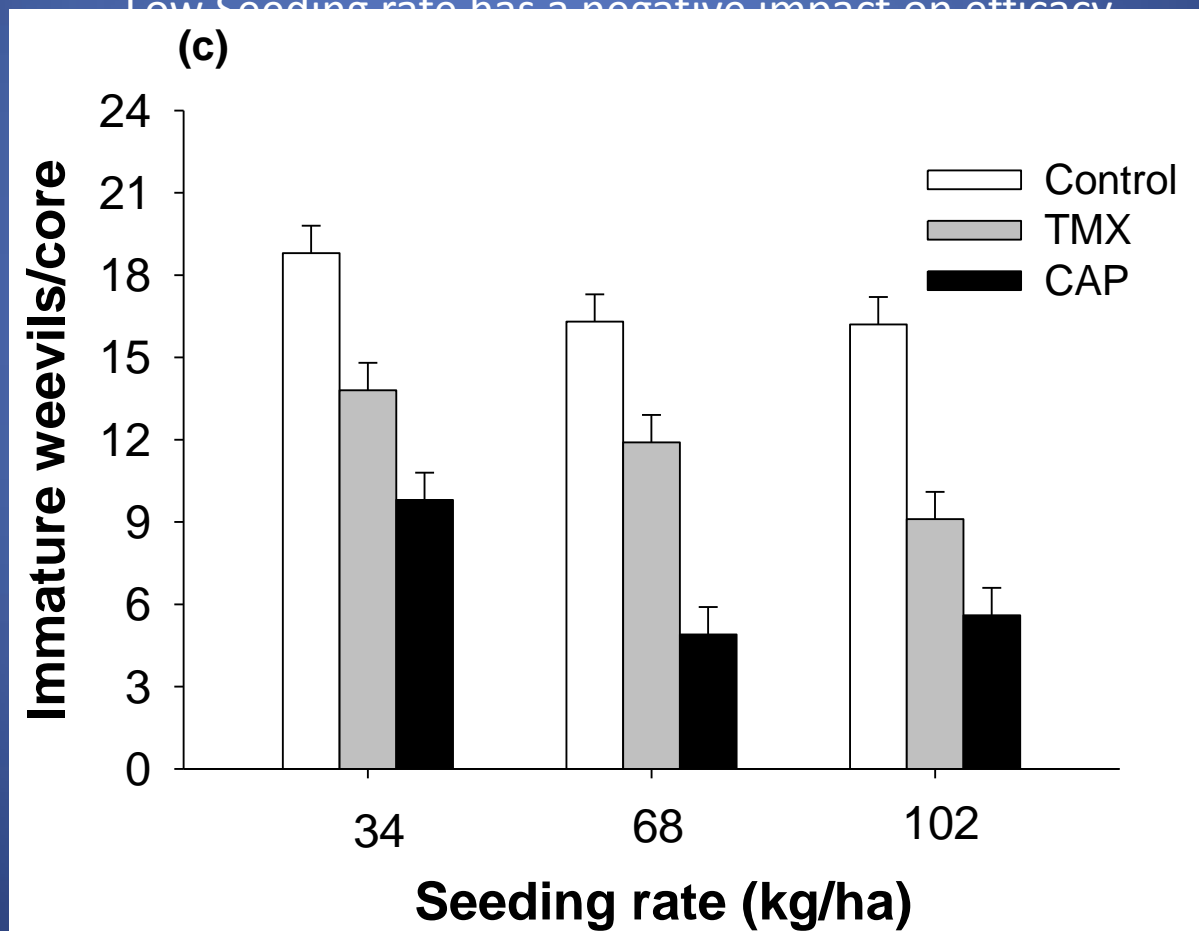
At constant per seed rate – 30 $\mu\text{g Al seed}^{-1}$ for TMX, 17 $\mu\text{g Al seed}^{-1}$ for CAP:



At constant per seed rate – 30 $\mu\text{g Al seed}^{-1}$ for TMX, 17 $\mu\text{g Al seed}^{-1}$ for CAP:

Dermacor is more effective than Cruiser

Low Seeding rate has a negative impact on efficacy



Conclusions...

You might consider Dermacor if...

- History of severe weevil infestations
- Planting late
- Using expensive seed at low seeding rates
- Worried about stem borers or fall armyworms

You might consider Cruiser/Nipsit if...

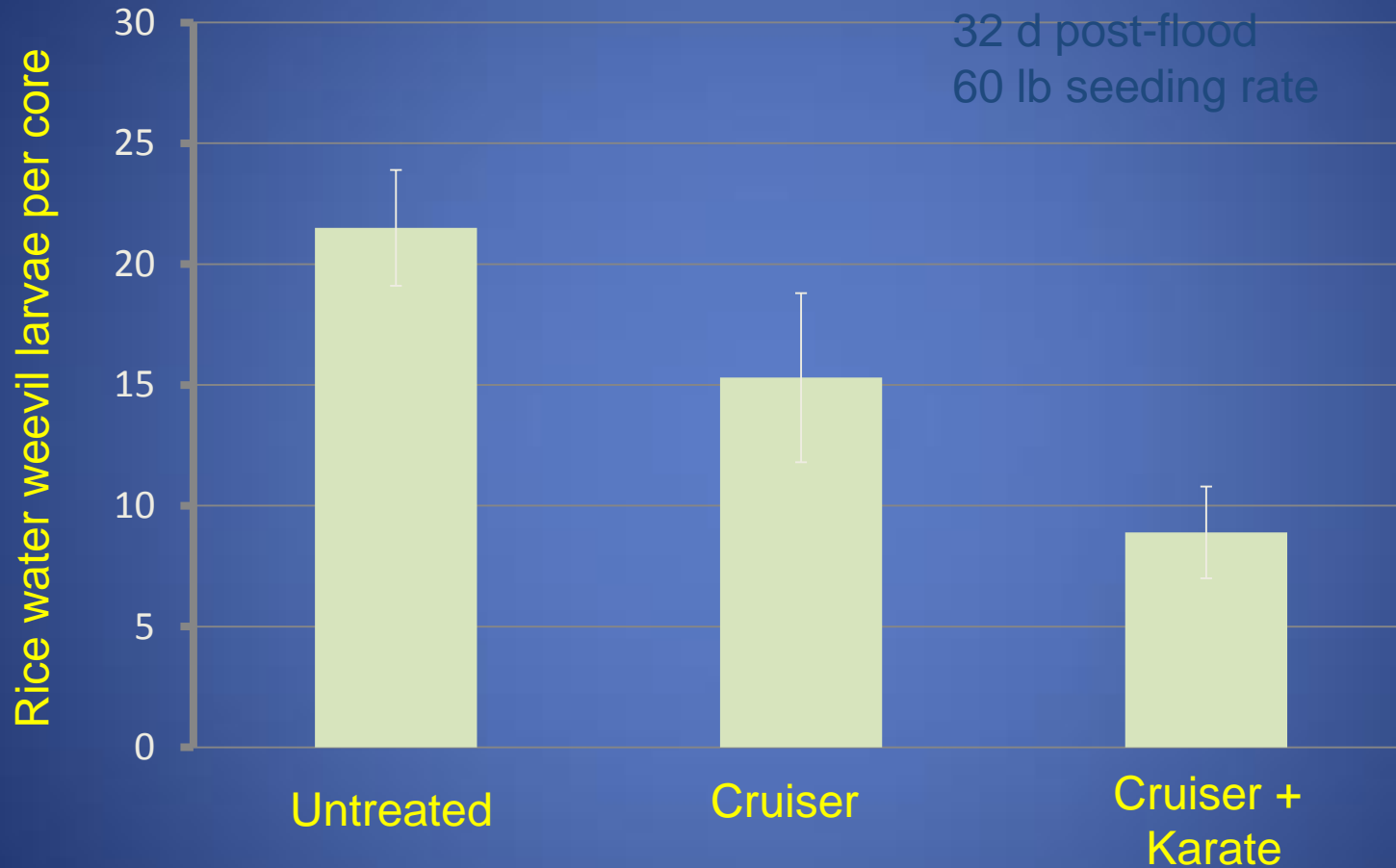
- Planting early
- History of light weevil infestations
- Worried about colaspis (e.g., planting after soybeans) or have had problems with sucking insects (aphids, chinch bugs) in the past

You might consider foliar (pyrethroids, Belay) if...

- Planting early
- Sporadic weevil infestations in past
- DO NOT use pyrethroids around crawfish ponds

What about combinations?

Combination treatments



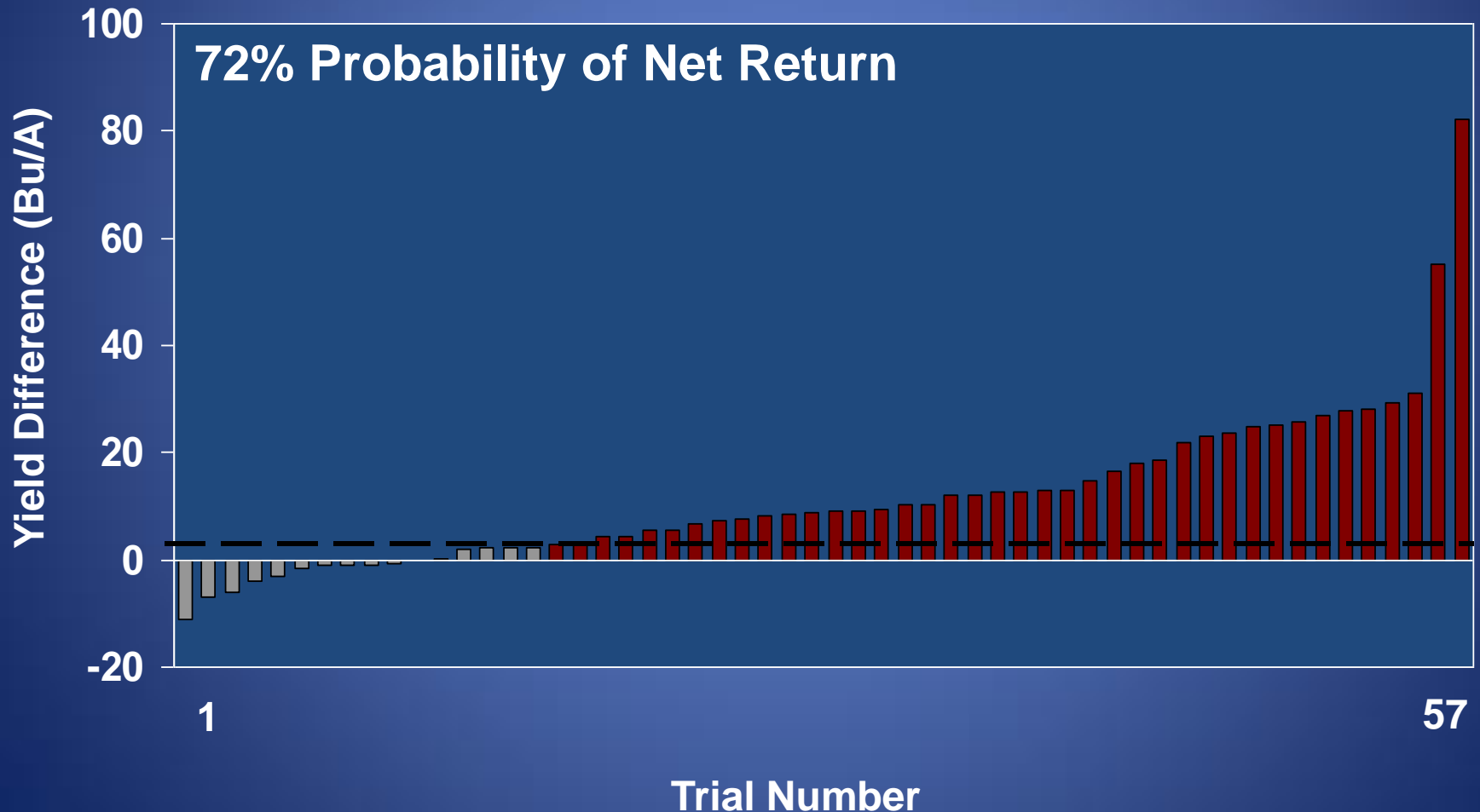
Thank you!

Questions?

Feedback – what areas need further investigation?



Performance of Dermacor in Rice Mississippi 11.8 bu/Acre Average



Performance of Cruiser in Rice Mississippi 8.3 bu/Acre Average

