

## ► Progress In Rice Insect IPM

**Presented by Dr. M.O. Way, R.A. Pearson, S. Vyavhare and G. Crane**

*Professor of Entomology, Texas AgraLife Research and Extension Center*

The rice stink bug (RSB) is a key pest of rice in the southern US. This insect has piercing-sucking mouthparts that are inserted in rice kernels followed by release of salivary enzymes which liquefy the contents allowing removal and ingestion. Also, microorganisms, such as fungi and bacteria, reside on the mouthparts and/or the kernels where they are introduced into the kernels via RSB feeding which results in peck and reduced head weight. Yield losses also may occur if RSB populations are extremely high.

Several insecticides are labeled for RSB; one of these is Tenchu 20SG which recently received a full federal registration. Tenchu 20SG has good knockdown and residual activity, so many Texas rice farmers are incorporating this insecticide into their RSB management program. Before Tenchu 20SG was available, I estimate many Texas rice farmers sprayed 3-6 times annually relying on methyl parathion and pyrethroids. Now, I estimate they have reduced their number of RSB insecticide applications by 1/3 to 1/2---primarily due to the availability of Tenchu 20SG.

My project developed revised RSB treatment thresholds several years ago (Table 1). As you can surmise from Table 1, the most vulnerable stages of grain maturation are heading and milk which means scouting fields at this time of development is crucial. These thresholds are based on 10 consecutive sweeps of a 15 inch diameter sweep net. However, observations this year revealed consecutive sweeps without pausing between sweeps is not feasible, given the higher yields (denser canopy) and vigorous growth of current varieties. Taking consecutive sweeps without pause is physically very difficult, so my project plans to revise treatment thresholds based on 10 sweeps, each sweep followed by 2 steps forward before taking the next sweep. Also, each sweep will consist of 180 degrees. This sweeping methodology is similar to that employed by rice crop consultants.

In 2014, my project worked with Glenn Crane (Crop Consultant from East Bernard, TX) to begin initial investigations into revising the treatment thresholds for RSB. We selected a commercial field of Presidio. Part of the field was repeatedly sprayed with Tenchu 20SG to minimize RSB populations and damage. The rest of the field was left untreated. Both parts of the field were sampled weekly (from heading to harvest). Sampling was done by Crane employing the 2 kinds of sampling methodology described above. At maturity, samples were removed from both parts of the field to

determine yield and milling parameters. At time of preparing this abstract, data from this experiment were not completely analyzed, but will be reported during the Conference.

after each Roundup application. Both 1-acre blocks were maintained weed-free in

Table 1. Revised RSB Treatment Thresholds for Texas.

Projected yield (lb/A)	Average no. RSBs <sup>a</sup> /10 sweeps			
	Heading	Milk	Soft dough	Hard dough
4500	8	10	17	47
6000	10	14	22	63
7500	13	17	28	79
9000	16	21	34	94

<sup>a</sup> Includes adults and older nymphs (4<sup>th</sup> and 5<sup>th</sup> instars).