IMPACT OF LYGUS ON CROPS –SEED ALFALFA

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IINTRODUCTION

Lygus are the most troublesome insect pests in seed alfalfa production. They are difficult to control with currently registered insecticides due to resistance, and even in areas where resistance is not a problem, repeat treatments are often necessary to combat serious infestations.

HOW ARE POPULATIONS OF LYGUS SAMPLED OR MONITORED?

Lygus populations are monitored using a sweep net. Typically, the average number of lygus from two to five 180° sweeps at each of 5-10 locations in a field is used to make decisions regarding control. Lygus nymphs and adults are counted equally, but growers track developmental stages to time insecticide applications when hatch is complete and most of the lygus are in the 1-3 instar stages.

WHAT ARE THE ECONOMIC THRESHOLDS?

Pre-Bee: Growers want to clean up existing problems prior to placing bees in the field. They don't want to interrupt the work of the newly introduced bees by treating the field.

Early season: 4-6 lygus/sweep During bloom & seed set: 8-10 lygus/sweep During seed maturation: 10-15 lygus/sweep	}	Many PCAs and growers think these thresholds are too high

Once bees are removed, the fields are treated once again to eliminate insects while seed is maturing.

HOW IMPORTANT ARE EXTERNAL LYGUS POPULATIONS TO THE CROP?

External lygus populations are very important. Lygus populations migrate from the foothills into alfalfa seed fields early in the season. Adult lygus may also overwinter in crowns of alfalfa plants in seed fields. Populations that build up within seed fields create problems when they cannot be controlled and then move out into neighboring crops, such as cotton. In a typical year, lygus may appear as early as April and remain n fields until they dry down prior to harvest in August or September. Lygus seem especially drawn to the greener areas of the field. They damage alfalfa buds, blooms and developing seeds.

WHAT INSECTICIDES ARE EFFECTIVE?

Prior to placing bees in the field, or following their removal, growers use Monitor or Supracide to clean up lygus populations.

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During bloom and seed set, Capture+Thiodan probably provides the most effective control of lygus. Another pyrethroid, Warrior, was recently registered and provides good control.

Temik has been used with variable success early season. Dibrom offers a quick knockdown with little residual control. Metasystox-R controls immature lygus, but timing is critical. Lorsban has moderate selectivity and moderate residual activity. Furadan is also used in the Pacific Northwest for lygus control.

WHAT OTHER BIOLOGICAL OR CULTURAL OPTIONS ARE AVAILABLE?

In most commercial production situations, alternatives to insecticides are not effective. Occasionally, big-eyed bugs and damsel bugs provide some suppression in the Pacific Northwest. *Peristenus* spp. may become an important biological control option as research continues to show that populations exist in sufficient numbers to impact lygus.

Strip Planting or Block Planting are practiced in some areas in an effort to better manage lygus.

Efforts by plant breeders to develop a resistant alfalfa variety are still encouraged.

SPECIAL CONSIDERATIONS

Because the activity of the pollinator is crucial to seed production, growers must make their pest management decisions keeping survival and reproduction of honey bees and/or leafcutter bees in mind. This limits the chemical options available to them and the timing of the application must coincide with periods when bees are not in the field.

In addition, chemicals registered for lygus control in seed alfalfa limit the use of the seed to planting stock only. It may not be used for sprouting. In addition, the fields may no longer be grazed in the spring and fall, which directly affects the economics of seed production.