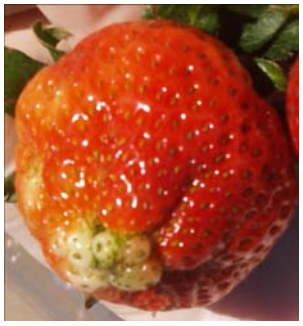
Lygus bug and its management in strawberries

Lygus bugs (*Lygus* spp.) are important pests of strawberries in Central Coast and Oxnard. Their feeding causes significant reduction in the yield and quality of the fruit. Lygus infestation is more severe when fruit is continuously present in the fields.

Biology: Depending on the temperature, egg period, early nymphal (1-3 instars) and late nymphal (4-5 instars) stages can each last for about 7 days. Adults may take up to 9 days before they start laying eggs and egg laying can continue for 21 days. On strawberries, majority of the eggs are laid in inflorescence compared to leaves. Eggs are inserted into the plant tissue. Newly emerged nymphs are small and pale colored and can be confused with aphids, but they move fast compared to aphids. Older nymphs can be recognized by five black spots (four on the thorax and one in the middle of the abdomen) on their back.

Damage: Several flowering weeds and legumes like alfalfa are preferred hosts of lygus compared to strawberries. However, infestations in strawberries can cause significant damage. Feeding, by puncturing and sucking plant juices, will damage developing achenes (seeds) and result in fruit deformation. Damage is severe during flowering.



Sampling: Divide field into four blocks and sample four 200-foot lengths of row in each block. Sample 10 plants/200-foot row by beating the plant to collect lygus into a tray placed under the plant. Treatment threshold is one lygus nymph per 20 plants. If a bug-vac is used to sample, the threshold is one lygus per 10 plants.

Management options:

- Thorough and regular monitoring is important to make treatment decisions.
- Manage weeds in winter. Once adults emerge, they will migrate to strawberries when weeds senesce or are removed. Mow or disc weeds or alternative hosts while Lygus is in nymphal stage.
- Growing flowering hosts near strawberry plants to attract lygus and managing them is one approach and requires careful management.
- Vacuuming from trap crops or strawberries can reduce lygus numbers, but it can also remove beneficial arthropods.
- Biological control includes naturally occurring predators like big-eyed bugs (*Geocoris* spp.), damsel bugs (*Nabis* spp.), minute pirate bug (*Orius tristicolor*) and several species of spiders. Commercially available egg parasitoid, a wasp (*Anaphes iole*) that attacks lygus eggs can reduce populations, but not below threshold levels.
- Use the available insecticides judiciously. Rotate different chemicals to reduce the risk of insecticidal resistance. Note that insect growth regulators work by disrupting the insect development while other chemicals can cause immediate mortality depending on the mode of action.

Additional information:

- For a quick reference about lygus bug and its management, check UC IPM website at: http://www.ipm.ucdavis.edu/PMG/r734300111.html
- UC ANR manual, “Integrated pest management for strawberries” (Publication number 3351) has detailed information about strawberry production and various management practices.
- Field key to identify common species of *Lygus* can be found at: http://lygus.uckac.edu/PDF/ANR%208104.pdf

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