Managing Lygus bugs (*L. hesperus*) in dry beans in California

Rachael Long, UC Cooperative Extension Farm Advisor Yolo County
California has 4 bean classes:
- Lima (large and baby)
- Common (kidney, white, black, cranberry)
- Cowpea (blackeyes)
- Garbanzo (chickpea)

50,000 acres worth $60 million
Dry Beans
• Healthy food: Good source of protein, vitamins, and minerals.
• Sustainable crop: Nitrogen fixing plants.
• Important in crop rotations for soil health and weed control.
Primary pest of dry beans is Lygus (*L. hesperus*)
Management and control of pests in dry beans

UC IPM guidelines for dry bean production (updating for 2018):
http://ipm.ucanr.edu/PMG/selectnewpest.beans.html

Management Practices
• Tolerant varieties
• Cultural practices
• Biocontrol
• Monitoring and Thresholds
• Insecticides

How to Manage Pests
UC Pest Management Guidelines

Dry Beans
Lygus Bugs
Scientific Names: Lygus hesperus, Lygus elisus
(Reviewed 8/07, updated 12/08)

In this Guideline:
• Description of the pests
• Damage
• Management
• Important links
• Publication
• Glossary
## Tolerant varieties (baby limas)

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<tr>
<th>Baby Lima Variety</th>
<th>Growth Habit</th>
<th>Lygus Tolerance</th>
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<tbody>
<tr>
<td>Luna</td>
<td>Bush</td>
<td>Fair</td>
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<tr>
<td>UC Beija-Flor</td>
<td>Bush</td>
<td>Good</td>
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<td>Mezcla</td>
<td>Vine</td>
<td>Very Poor</td>
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<td>UC Haskell</td>
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<tr>
<td>UC Cariblanco N</td>
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Threshold: Very poor/Poor = 0.5 lygus/sweep, Fair/Good = 1-1.5 lygus/sweep

Long et al. 2014. Lima Bean Production in California, UC ANR 8505
Cultural Practices:

- Avoid planting next to safflower and alfalfa fields (sources of Lygus).

- Keep weeds under control surrounding fields (especially mustard and wild radish).
• Replace weedy field edges with native California plants not favored by pests.
Biocontrol:
• Anaphes wasp ~30% parasitism of lygus eggs in dry beans.
Monitoring

• Take 5-10 sweeps in 4-6 areas of the field (across 2, 30-in beds or 2 rows on a 60-in bed).

• Count both nymphs and adults.

• Sample mid-morning (lygus retreats in canopy in the afternoon)

• For vine types, pull apart canopy and inspect for lygus activity and damage along with sweeping.
Lygus threshold by bean variety

- Common beans: 1 to 1.5 bugs per sweep during bloom.
- Blackeyes: 0.5 bug/sweep bud to small pod stage; 1 bug/sweep later in season.
- Baby Limas, Beija-Flor, UC Haskell: 1-1.5 bugs/sweep bud to flowering; 1.5-2.0 bugs/sweep later in season.
- Limas, All others: 0.5 bug/sweep during early bloom; 1-2 bugs/sweep later in season.
New Chemistries
UCCE Insecticide Trials, 2005-2015
Lima yield versus lygus/sweep, UC Davis, 2015

Brigadier: bifenthrin+imidacloprid
Leverage: cyfluthrin+imidacloprid
# Experimental and Registered Products for Lygus Control in Dry Beans

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<td>Warrior+Rimon</td>
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Insecticide Trials for Lygus Control and Yield Enhancement

Registered Materials
- Pyrethroids working well (Warrior, Leverage*, Brigadier*, Brigade)
- Rimon+Warrior good combination for nymphs and adults
- Dimethoate and Steward moderate

Experimental Materials
- Belay and sulfoxaflor good for Lygus control
- Beleaf not reliable for Lygus control
- Cyclaniliprole not efficacious for Lygus control (more for caterpillar control)
- *mixture with imidaclorpid (neonicotinoid)
Funding provided by the California Dry Bean Advisory Board

Special thanks to our field assistants: J. Modell, B. Leacox, K. Goding