



# Integrated Pest Management Issues

July 2018

## Managing Lygus Bugs in Peony Crops

### Introduction and background

Peony growers in Alaska have been observing damage to developing buds, possibly as a result of lygus bug feeding. Two species of these bugs were identified from peonies in Alaska, *Lygus borealis* and *Lygus punctatus*. In general, *Lygus* species are oval-shaped, approximately ¼ inch long as adults, and green, brown or black in color. Immature lygus bugs (called nymphs) are light green and develop black spots and wing buds as they get older.



Lygus bug and ant on peony bud. Photo by Pat Holloway

Lygus bugs overwinter as adults in plant debris and emerge in the spring to feed and lay eggs. Damage caused by feeding may result in unmarketable buds, and plants infested with lygus eggs may fail phytosanitary inspections if identifications are not clear. It is currently thought that *L. borealis* and *L. punctatus* have only one generation per year in Alaska.

All *Lygus* species are plant feeders and may utilize a wide range of hosts. Non-crop host plants may impact the presence and abundance of lygus bugs in the crop area, and little is known about these hosts in Alaska. Research on lygus bug biology will provide useful information for determining type and timing of control efforts.



Lygus bugs collected from peonies. Photo by UAF Cooperative Extension Service

### Scouting and Monitoring

Scouting and monitoring for lygus bugs, both outside and within the field, will be your first line of defense against this pest. Sticky traps can be a useful tool for monitoring. Lygus bugs are attracted to the color white; if your field has a white peony cultivar section, inspection for lygus bugs might begin there. White or yellow sticky traps should be placed in the rows between plants and around the perimeter of the field to provide you with information on insect populations and locations. Sticky traps can be mounted on sticks in the field and should be plant-high for easy viewing of contents and replacement when necessary. Monitoring with sticky cards can provide growers with information on when pests first appear so that protective cover sprays can be applied, if necessary.

A simple white bucket may also be useful for scouting. Hold the bucket under leaves and new growth and lightly tap the plants. Most insects will release into the bucket and can be fairly easily viewed. The shallower the bucket, the better.

Familiarize yourself with what the different life stages of lygus bugs look like, and when performing field inspections, carry a hand lens (magnifying glass). This will help you determine if the contents of your traps are pests or beneficial insects. Make notes about the life stages and quantity of lygus bugs you are catching to help decide if actions are needed. On a statewide scale, there is currently not enough information about lygus bugs to determine specific action thresholds. Any information you collect will help your farm in the future and contribute to developing industry standards.



A sticky card on a post in a peony field. Photo by Darcy Etcheverry, UAF Cooperative Extension Service

## Weed Management

Because lygus bugs are known to use other vegetation for overwintering and breeding, control of those plants both in and around the field will reduce the potential for these pest populations to build up. Removing debris from fields and tilling to destroy overwintering sites can be effective at reducing populations. However, timing can be an issue. Removing alternate hosts when lygus bugs are in the active adult stage can encourage them to migrate to your crops, so it is important to consistently manage vegetation between rows and around fields throughout the growing season. Using previously mentioned monitoring techniques can help identify these host plants.

## Insecticides

Insecticides are an important part of an integrated pest management program if other methods are not sufficient for control. The need for insecticides must be evaluated carefully on a field-by-field basis and using an accurate identification of the pest, as treatments may have secondary effects such as reduction of beneficial insects. Several natural insect predators — including big-eyed bugs, damsel bugs, rove beetles and crab spiders — can help maintain low populations of lygus bug nymphs. Do NOT preemptively spray for lygus bugs. If an insecticide is deemed necessary, attempt to use the most appropriate pesticide for your site that will control the pest. Below is a table of insecticides that may be used on peonies in Alaska. With all chemical controls, treat a few plants and check for phytotoxicity before using on an entire crop. Before using an insecticide, make sure you understand how to read product labels, know proper application methods and calibrate your equipment with appropriate nozzles for the task. You may have the best product available, but if it is not applied correctly it will not control the target pests.

Active Ingredient	Trade Names*	Notes	Labeled For
Acephate	Orthene	Low selectivity, organophosphate	Ornamental herbaceous plants, lygus bugs
Azadirachtin	AzaMax Botanical	Insect growth regulator	Ornamental herbaceous plants
Beauveria basiana	Mycotrol	Entomopathogenic fungi	Ornamental herbaceous plants, lygus bugs
Fonicamid	Aria	Systemic insecticide with selective activity against hemipterous pests	Ornamental herbaceous plants, plant bugs
Piperonyl butoxide	X-Clude	Insecticide synergist, enhances effectiveness of pyrethrin, permethrin, and other insecticides	Ornamental herbaceous plants
Pyrethrins	PyGanic Specialty	Insecticide, acts on the nervous system of insects	Ornamental flowers, lygus bugs

\*Trade names listed here do not represent endorsement of the product nor a comprehensive list of products available. They are used as examples for the active ingredient. Read and follow the label of the product you purchase for application rate, timing, and approved sites.

## Remember — The label is the law!

### For more information:

Alaska Department of Environmental Conservation Pesticide Control Program, 907-376-1870 or <http://dec.alaska.gov/eh/pest/>

Canola Council of Canada, “Lygus Bugs.” [www.canolacouncil.org/canola-encyclopedia/insects/lygus-bug/](http://www.canolacouncil.org/canola-encyclopedia/insects/lygus-bug/)

“How to read a pesticide label,” <https://extension.psu.edu/what-you-need-to-know-about-reading-a-pesticide-label>

“Overview of Monitoring and Identification Techniques for Insect Pests.” <http://www.extension.org/pages/19198/overview-of-monitoring-and-identification-techniques-for-insect-pests#.VMGc2MYoN9k>

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