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# Some Common Aphids Infesting Idaho Field Crops

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Over 250 species of aphids have been collected from various plants and locations in Idaho. Fortunately, less than a dozen of these commonly attack field crops.

## Damage

Aphids can cause losses by direct damage to plants and by transmitting virus diseases. They have a very high reproductive capacity and the large numbers produced can weaken or even kill plants. Also, the saliva of some aphids is toxic and kills the plant cells around a feeding site. Leaves can be girdled or killed in this manner and plants can be severely stunted.

Viruses transmitted by aphids to field crops include those that cause barley yellow dwarf, bean mosaic, potato leaf roll and Western beet yellows. Relatively few aphid numbers can cause serious losses through transmission of these virus diseases.

## Life History

The life cycle of aphids is often complex. This is particularly true with the green peach, bean and potato aphids. Eggs of these species are laid on a winter host, usually perennial plants. These eggs hatch in the spring and one to several generations are produced on the winter host. This population "buildup" consists of active young produced by the wingless females. In late spring or early summer winged forms develop and migrate to summer hosts such as potatoes, beans or corn, depending upon the aphid species. Some species such as the spotted alfalfa aphid feed on only a few host plant species while others, such as the green

peach aphid, have a large number of summer hosts. Several generations are produced during the summer. Each female lives for about a month and gives birth to 50 to 100 females.

In the fall, both males and females are produced on the summer hosts. These forms then migrate to the winter host and mate. The females lay eggs and the life cycle is complete. To complicate things further, any of these aphids can overwinter in greenhouses or be hauled into an area on bedding plants grown in greenhouses.

Most aphids that attack grain and alfalfa have a less complex life cycle. These species (greenbug, pea, corn leaf, English grain and oat bird-cherry aphids) spend the entire year on the crop host or related plant species. They overwinter as mature or immature females. Males are seldom if ever produced. When the grain crops are harvested, these aphids develop on grasses or volunteer grains. In the fall, newly planted grain is infested by aphids from weed and grass hosts. Pea aphids migrate back to alfalfa after pea crops mature.

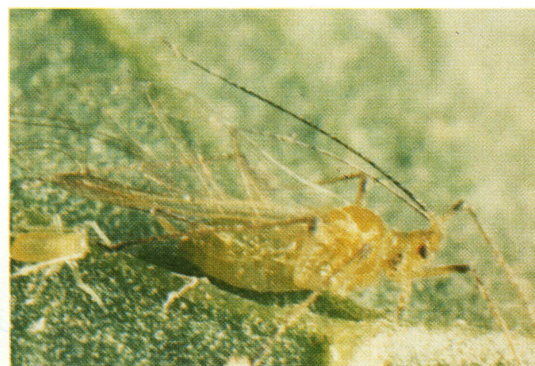
## Control

Aphid populations may be controlled naturally by predators, parasites, fungal diseases and weather. The common aphid predators in Idaho are ladybird beetles, damsel bugs, syrphid flies, big-eyed bugs and green lacewings. When natural controls fail, insecticides are often used to prevent crop loss. Natural control agents are seldom successful in stopping aphids from spreading plant diseases.

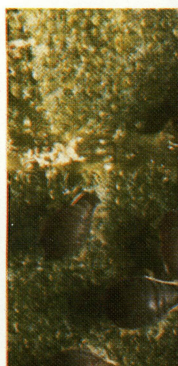
	Overwintering host	Overwintering stage	Idaho crop hosts	Other hosts	Viruses transmitted	Treatment level
Green peach aphid	peach, possibly apricots	egg	potatoes, sugarbeets, peach	beets, ground cherry, malva, morning glory, mustard, nightshade, peppers, pigweed (total of over 200)	potato leaf roll, sugarbeet yellows, bean common mosaic (total of over 100)	varies with crop and disease relationships
Potato aphid	rose	egg	potato	asparagus, atriplex, ground cherry, lambsquarters, nightshade, pigweed	potato leaf roll, potato spindle tuber, potato mosaic	when present in damaging numbers; no control usually recommended
Bean aphid	<i>Euonymus</i> , mock orange, snowball bush, high bush cranberry	egg	bean, sugarbeet, corn, carrot, lettuce, pea	asparagus, spinach, pigweed, shepherd's purse	bean common mosaic, bean yellow mosaics, beet mosaic, beet yellows alfalfa mosaic, pea mosaic (35 in all)	when in damaging numbers
Pea aphid	alfalfa, red clover	mature female or egg	alfalfa, red clover, peas, lentils	vetch, melilotus, wild legumes	bean common mosaic, beet yellows mosaic, alfalfa mosaic, onion yellow dwarf, pea enation mosaic, pea mosaic, pea mottle mosaic	varies with crop and disease relationships



Green Peach Aphid



Potato Aphid — adult & immatures



Bean Aphid



Greenbug Aphid — wingless adult nymph



Corn Leaf Aphid



Pea Aphid

	Overwintering host	Overwintering stage	Idaho crop hosts	Other hosts	Viruses transmitted	Treatment level
Corn leaf aphid	barley, wheat	mature or immature females	barley, wheat, corn	wild and cultivated grasses	barley yellow dwarf, maize mosaic, onion yellow dwarf, maize dwarf mosaic virus	small grains; 25 per tiller, head or stem prior to soft dough stage
Oat bird-cherry aphid	barley, wheat	mature and immature females	barley, wheat, oats	grasses	barley yellow dwarf, peach mosaic, maize dwarf mosaic	when in damaging numbers
English grain aphid	barley, wheat, roses	mature and immature females	barley, wheat, oats	wild grasses, cattail	barley yellow dwarf	25 per tiller, stem or head prior to soft dough stage
Greenbug	wheat, barley, oats	mature and immature females	barley, wheat, oats, sorghum, rye	bluegrass, bermuda grass, Johnson grass, buckwheat	barley yellow dwarf, maize dwarf mosaic, wheat streak mosaic	varies with maturity of crop
Cabbage aphid	cabbage, turnips	fertilized egg	all cole crops including turnips, rape and plants of the mustard family	wild mustard plants and other <i>Brassica</i> spp.	several mosaic diseases	



Spotted Alfalfa Aphid



English Grain Aphid



Cowpea Aphid



Oat Bird-cherry Aphid

## Field Key to Nonwinged Aphids

### Aphids on small grains (wheat, barley, oats, rye) and corn

1. Pale green to yellow with darker strip on top of abdomen .....2  
Body dark green, grey or almost black with orange band across abdomen or spots at base of cornicles ...3
2. Cornicles short (less than 7 times longer than wide); body lime green ..... GREENBUG  
Cornicles long (10 or more times longer than wide); body yellowish-green to pale green .....  
..... ROSE-GRASS APHID
3. Body greyish-green to pale green, with orange band across abdomen ..... OAT BIRD-CHERRY APHID  
Body without orange band across abdomen .....4
4. Cauda (tail) with bushy hairs; legs with segments alternating black-light-black (found only on corn) ....  
..... BEAN APHID  
Cauda (tail) with occasional bristle-like hairs; legs black .....5
5. Body grey to green with dark spot surrounding base of each cornicle; antennae less than one-half body length ..... CORN LEAF APHID  
Body green to reddish, without dark spots surrounding base at each cornicle; antennae almost as long as body ..... ENGLISH GRAIN APHID

### Aphids on alfalfa

1. Body yellow-green; abdomen with rows of black spots; small aphids .. SPOTTED ALFALFA APHID  
Body green; abdomen without small spots; large aphids ..... PEA APHID

### Aphids on beans, peas, lentils

1. Body green; tips of legs and cornicles blackish ..... PEA APHID  
Body dark olive green to black .....2
2. Body shiny black (mostly in northern portion of state) ..... COWPEA APHID  
Body uniformly olive green to black .. BEAN APHID

### Aphids on potatoes

1. Body yellow green pear-shaped; prominent inward pointing tubercles at base of antennae; small aphid ...  
..... GREEN PEACH APHID  
Body pale green, football-shaped; no prominent tubercles on head; large aphid ..... POTATO APHID

### Aphids on sugarbeets

1. Body olive green to black; head with tubercles .....  
..... BEAN APHID  
Body yellow green pear-shaped; prominent inward pointing tubercles at base of antennae .....  
..... GREEN PEACH APHID

### Aphids Commonly Found Infesting Field Crops

#### Alfalfa

Pea aphid  
Spotted alfalfa aphid

#### Beans

Bean aphid

#### Corn

Corn leaf aphid  
Bean aphid  
Oat bird-cherry aphid

#### Small grains

Corn leaf aphid  
English grain aphid  
Oat bird-cherry aphid  
Greenbug

#### Peas

Pea aphid

#### Potatoes

Green peach aphid  
Potato aphid

#### Rape, turnips cabbage, radish

Cabbage aphid

#### Sugarbeets

Bean aphid  
Green peach aphid

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