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# Aphids in alfalfa

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## Quick Facts

The pea aphid, blue alfalfa and spotted alfalfa aphid are considered economically important to Colorado.

Determine which aphids are present before any control decisions are made.

For cost-effective controls consider resistant varieties, cultural practices, biological controls and insecticide applications.

Be sure to read and follow all precautions on insecticides.

Aphids damage alfalfa by sucking the sap from the plant tissues or by injecting a toxin into the plant. Damage can include yellowing, wilting, leaf curling, and stunting. The aphids considered of economic importance to Colorado alfalfa include the pea aphid, blue alfalfa aphid and the spotted alfalfa aphid. The pea aphid and the blue alfalfa aphid prefer cool, dry conditions and are primarily problems in first cutting and during spring seeding establishment. The spotted alfalfa aphid prefers hot, dry conditions and is mostly a problem on later cuttings and late summer seedings. Currently the blue alfalfa is found only in southeastern Colorado and the pea aphid and spotted alfalfa aphid are found statewide.

Each aphid species has a different potential for damaging alfalfa, so it is essential to determine which aphids are present in a field before any control decisions are made. The information in Table 1 and Figure 2 will help identify the aphids common on Colorado alfalfa. Figure 1 shows body parts used in aphid identification.

**Table 1: Characteristics of common aphids on Colorado alfalfa.**

**Alfalfa aphid** (*Macrosiphum creelii*): pale green, darker along center line, cornicle dusky at tip, June-August, rare but found throughout state.

**Blue alfalfa aphid** (*Acyrtosiphon kondoi*): blue, blackish cornicles towards tips, rare.

**Clover aphid** (*Nearctaphis bakeri*): dull yellowish-green to pinkish, dark-green or rusty brown specks, pale yellow cornicles with orange blotch at base, found on clovers, March-December, common throughout state.

**Cowpea aphid** (*Aphis craccivora*): polished black, black cornicles, found on various crops, March-November, common throughout state.

**Green peach aphid** (*Myzus persicae*): pale yellow to green, cornicles dusky at tips, common throughout state on many crops rare on alfalfa, May-October.

**Pea aphid** (*Acyrtosiphon pisum*): pale green, cornicles blackish towards tip. On alfalfa, clovers, peas, March-November, common throughout state.

**Potato aphid** (*Macrosiphum euphorbiae*): Very similar to alfalfa aphid. May-November, common throughout state.

**Spotted alfalfa aphid** (*Therioaphis maculata*): pale yellow, spotted. Cornicles very short. On alfalfa, throughout state.

## Control

A cost-effective control of aphids in alfalfa can be achieved through a combination of resistant varieties, cultural practices, biological controls and, if necessary, timely insecticide applications. There are alfalfa varieties resistant to pea aphid and spotted alfalfa aphid available, but not blue alfalfa aphid. Any cultural practice which promotes vigorous growth will help the crop better tolerate aphid feeding. It is particularly important to avoid drought stress through proper water management.

Many species of beneficial insects control aphids and are found in alfalfa fields (see Figure 3). Their presence would eliminate the need for insecticide applications. Many aphid outbreaks occur when insecticides applied to control insects, including aphids, kill off the beneficial insects that keep the aphids in check. To avoid these situations, insecticides should be applied only when pest populations have reached economically important levels. Table 2 provides guidelines for deciding whether or not to control aphids in alfalfa. Guidelines for other alfalfa pests are found in the *Colorado Pesticide Guide—Field Crops*.

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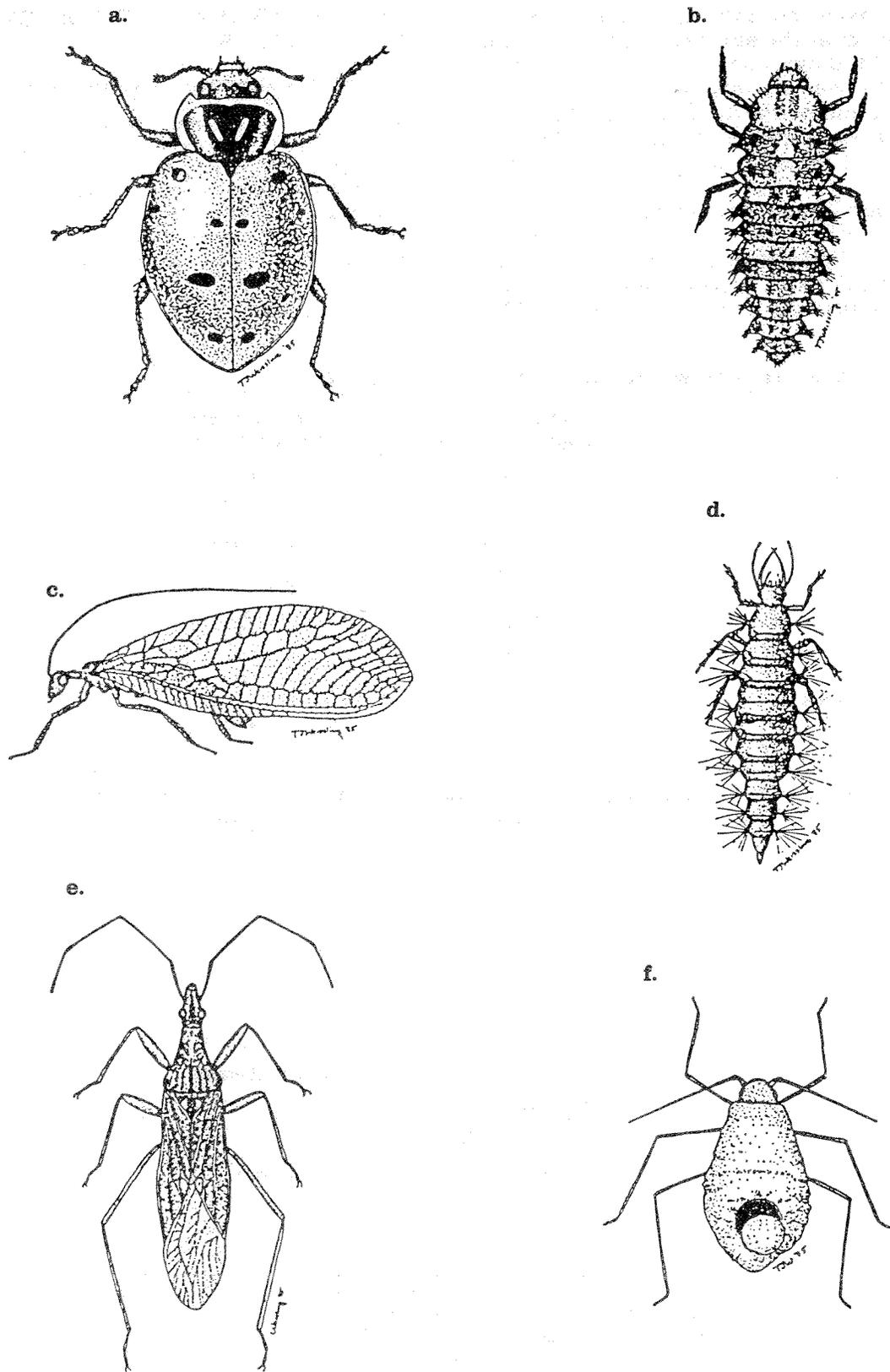


Figure 3: Beneficial insects found in Colorado alfalfa. a. ladybird beetle. b. ladybird beetle larva. c. lacewing. d. lacewing larva. e. damsel bug (nabid). f. parasitized aphid (aphid mummy), showing hole from which the tiny parasitic wasp exited.

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In some cases count the aphids on a stem by cutting the stem at the soil level, gently turning the plant upside down, and counting the aphids on the stem and lower leaf surfaces. Next, turn the plant upright and count the aphids on the upper leaf surfaces and terminals. The alfalfa plant must be handled carefully to avoid dislodging the aphids.

If a decision is made to control the aphids, any of the insecticides listed in Table 3 can be used. Remember that insecticide applications in alfalfa are very hazardous to honey bees. The relative hazard of each insecticide is also given in Table 3.

BE SURE TO READ AND FOLLOW ALL LABEL PRECAUTIONS.

**Table 2: Treatment guidelines for aphids on alfalfa.**

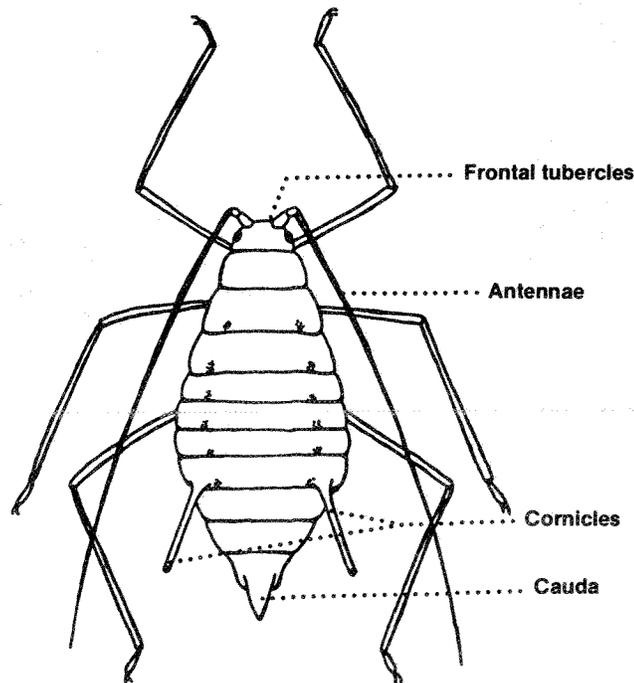
Species	When to Treat
Blue alfalfa aphid	50 aphids per stem. Reduce to 20/stem during early regrowth.
Spotted alfalfa aphid	15-20 aphids per stem with considerable honeydew. Reduce to 1 aphid per stem on seedlings.
Pea aphid	10 aphids/stem at 2 weeks before cuttings.

**Table 3: Insecticides registered for control of aphids on alfalfa.**

Insecticide*	Lbs. active ingredient/acre	Preharvest interval (days)	Bee hazard**
Cygon, dimethoate	1/4-1/2	10	H-VH
Diazinon	1/3-1/2	7 (0-graze)	H
Disyston 15G	1	0	L
Furadan 4F (R)	1/2-1	See label	VH
Lannate (R)	1/2-1	7	L-M
Lorsban 4E (CP)	1/2-1	See label	H
Malathion	1-1 1/4	0	M-H
Nudrin (R)	1/2-1	7	L-M
Parathion (R)	1/2	15	H
Pennacp M (R, CP)	1/2	15	VH
Phosdrin, mevinphos (R)	1/8-1/4	1	L-M
Supracide (R)	1/2-1	10	H-VH

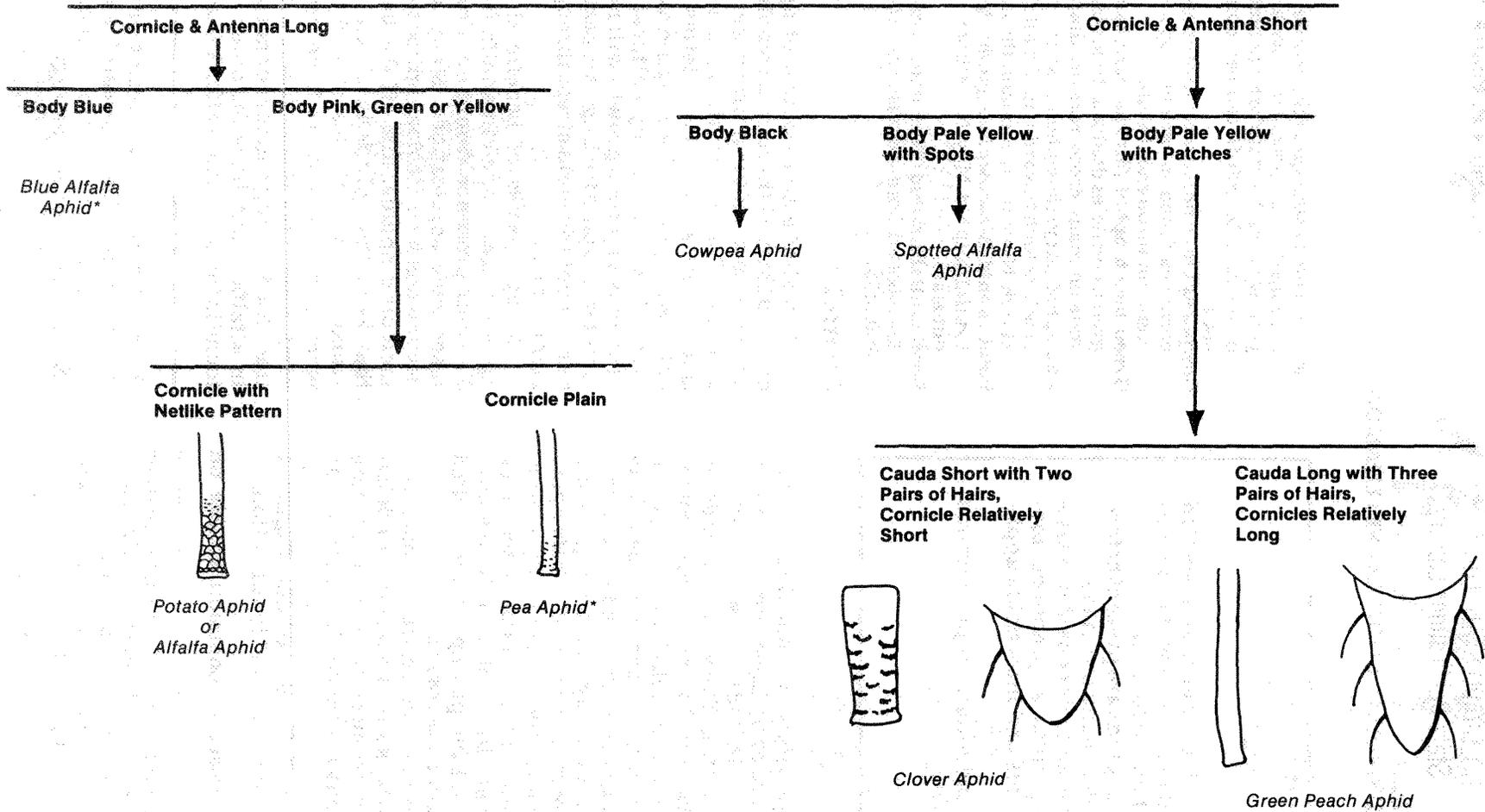
\*(R) = Restricted Use, (CP) = Specifically labelled for application through center-pivot irrigation systems.

\*\*L = Low hazard, M = Medium hazard, H = High hazard, VH = Very high hazard



**Figure 1: Body parts used in the identification of aphids.**

**Figure 2: Key to the aphids commonly found in Colorado alfalfa.**



\*The third antennal segment is a uniform brown in the blue alfalfa aphid while it has a dark band at the tip in the pea aphid, if body color does not seem to separate these 2 species.