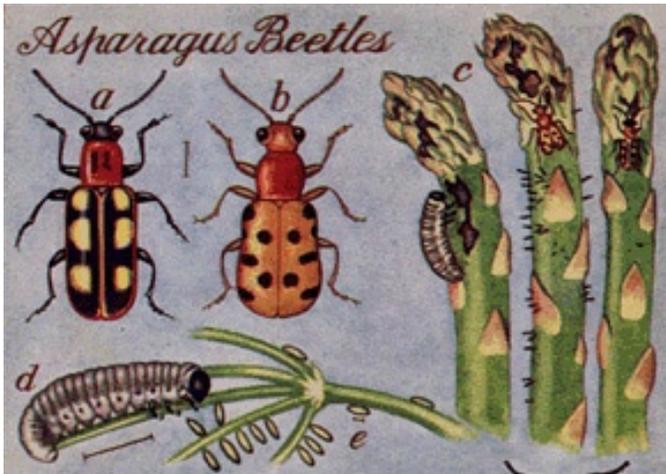


## Insect/Disease Information

### VEGETABLES

#### Asparagus Beetle



Both common asparagus and spotted asparagus beetles occur in Utah. Asparagus beetles overwinter as adults in hidden areas including hollow asparagus stems. As soon as spears begin emerging in spring, beetles start feeding, causing scarring and distortion. Although asparagus beetles have 2-3 generations throughout the summer, and also feed on foliage, the primary damage occurs to the spears. Adults are laying eggs now and larvae will be hatching soon.



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For home production, treatment is usually not necessary, however commercial producers will want a more aesthetically pleasing product. Monitor emerging spears for beetles and beetle damage, and if 10% of the crop is infested with adults, consider a treatment.

**Treatment:** (Note that predators will typically regulate the beetle population.) Neem oil, permethrin (Ambush, Arctic, Bonide Garden Dust, Pounce, etc.), pyrethrin (Concern, Pyganic), spinetoram (Delegate), spinosad (Entrust, Monterey, Success, Green Light).

#### Root Maggots



In Utah, we have both cabbage maggot and onion maggot. Both of these pests damage roots of tender transplants, fleshy stems, and bulbs. Cabbage maggot feeds on cabbage, broccoli, cauliflower, Brussels sprouts, radishes, turnips, and rutabagas, and onion maggots damage seedlings and developing bulbs. Root maggot feeding results in stunted, wilted, and off-color plants that can be killed in infested sites.

Root maggot adults emerge starting in early May, and prefer cool, moist conditions. The adults lay eggs on new transplants, and the larvae bore into the tender roots of young plants. (Seeded onions are more susceptible to damage than transplants.) Cabbage maggots are usually not a problem later in the season. Larvae of the 1 to 2 subsequent generations of onion maggot can only enter onions through wounds.

#### Treatment:

- if possible, do not space plants too closely as larvae can move from plant to plant
- delay planting until the soil warms in the spring to avoid planting during peak egg-laying periods
- since the maggots overwinter as pupa in the soil, rotate crops, and destroy onion cull piles, or make piles far from the fields
- apply a protectant soil drench in spring of diazinon (restricted use) to control first generation maggots, or apply a foliar insecticide of malathion or pyrethrin (Pyganic)

## Insect/Disease Activity continued from previous page

### Pea aphids



www.intercrop.dk/Pictures.htm



myrmecos.net

As your peas grow, keep an eye out for the pea aphid. Populations are low now in the cooler weather, but once daily average temperatures increase, this pest that can quickly take over your garden. Females give birth to up to 50 living young, and over 7 generations can occur in one season. Heavy infestations can cause wilting, curled leaves, chlorosis, and deformed vegetables.

Look for aphids by visual examination, or by shaking foliage over a white piece of paper or cloth tray. If you find more than 10 aphids per plant (average), a treatment is warranted.

**Treatment:** bifenthrin (Ortho Bug-B-Gone<sup>H</sup>), esfenvalerate (Adjourn<sup>R</sup>, Asana<sup>R</sup>), deltamethrin (Delta Gold<sup>R</sup>, Battalion<sup>R</sup>, Green Light Dust<sup>H</sup>), permethrin (Ambush<sup>R</sup>, Permestar<sup>R</sup>, Pounce<sup>R</sup>), beta-cyfluthrin (Baythroid<sup>R</sup>), Lannate<sup>R</sup>, malathion<sup>H</sup>, flonicamid (Beleaf), *Beauveria bassiana* GHA (Botanigard<sup>H</sup>), and others.

<sup>R</sup>restricted use

<sup>H</sup>also for homeowner use

## SMALL FRUITS

### Strawberries

#### Tarnished plant bug (lygus bug)

As your strawberry plants begin to flower, watch for adult and nymphal lygus bugs. Adults overwinter on weeds and other plants in fields and waysides. In spring, adults move to strawberries and inserts eggs into leaves, stems, and buds. Feeding



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by nymphs on developing fruit causes distortion (cat-facing). Damage occurs because the bugs puncture individual seeds, halting berry production around that seed. Tan, hollow seeds are a sign of lygus bug damage. Feeding can also kill flowers or cause poor pollination.

Look for nymphs and adults by vigorously shaking flower clusters over a plastic or cloth tray. Nymphs are pale green, so a darker color works best. Use a hand lens (at least 16x) for better viewing. Repeat every 1-2 days while plants are flowering. Try to examine about 20 clusters. If you find an average of one nymph per four blossom clusters (University of MN), expect to see about 15-20% fruit damage.



**Treatment:** For best results, target newly hatched nymphs (which look similar to aphids, but move faster, and do not have the "tailpipes"). Nymphs are most susceptible to insecticides: pyrethrin (Pyrenone, Pyganic), Botanigard, malathion, acetamiprid (Assail<sup>R</sup>)

<sup>R</sup>restricted use

#### Botrytis

Botrytis (also known as gray mold) is a fungal disease that is only a problem in warm (60-75° F), high humidity, and where plants are tightly spaced. Such may be the case in when strawberries are grown in high tunnels. Diseased plants and fruit will have a fuzzy gray appearance, which is the mycelium and spores of the fungus. You may have noticed this on store-bought fruit that is left in the container in a warm place.) Plant and fruit infections can rapidly spread if left unchecked.

In situations where botrytis is a problem, fungicides should be applied as a preventative before infections are visible. The

## Insect/Disease Activity continued from previous page

first application goes on at 5 to 10% bloom and is repeated every 10 days until infection conditions (warmth and humidity) subside. Options include: captan, Topsin M, Switch, Elevate, Pristine, Thiram

## Brambles

### Raspberry Horntail



Whitney Cranshaw, CSU



This pest is a “wood wasp.” The adults are rarely seen: the male is black, and the female is black with yellow markings. In early May (around this time), adults emerge and lay eggs on

raspberry terminals by inserting eggs just under the epidermis. Larvae then feed inside the cane, causing a shepherd’s crook wilting. This wilting may recover at night, but later in the season, the top terminal usually dies back. In late summer, the larvae move down the cane, and remain in pith for the winter.

Raspberry and blackberry are both susceptible, and can tolerate low populations. This pest, however, is very common in Utah, and can cause quite a bit of damage and frustration.

Because the adult lays her eggs under the epidermis, this insect is difficult to control with chemicals. However, larvae may be parasitized by small wasps in the ichneumonid family.

#### Treatment:

- monitor plants (starting now) for terminal wilting
- prune and destroy the infested plant material all through summer
- carbaryl (Sevin) may reduce the adult egg-laying population, and should be applied now, and again 2 weeks later; if plants are in bloom, do not spray, or limit spraying to evening hours only to protect pollinators

**Precautionary Statement:** Utah State University Extension and its employees are not responsible for the use, misuse, or damage caused by application or misapplication of products or information mentioned in this document. All pesticides are labeled with ingredients, instructions, and risks. The pesticide applicator is legally responsible for proper use. USU makes no endorsement of the products listed herein.

### Small Fruits & Vegetables IPM Advisory

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