

# Strawberry pest management for home gardeners

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Strawberries are one of the easiest fruit crops for gardeners to grow. However, they are susceptible to many disease and insect pests which must be managed to produce consistent crops of edible fruit. This bulletin is a companion to Extension publication *Growing Strawberries in Wisconsin* (A1597), which describes each pest in greater detail.

Chemical pesticides are only one tool in producing a berry crop. Other management practices such as fertilizing, irrigating, and renovation are equally important to the health of the crop; pesticides won't compensate for poor management.

## Disease management

Strawberry diseases can be divided into three main groups:

- **leaf diseases**—leaf spot, leaf scorch, leaf blight, and angular leaf spot;
- **fruit rots**—gray mold, anthracnose, and leather rot; and
- **root diseases**—red stele, black root rot, and *Verticillium* wilt.

In the home planting, diseases of strawberry can usually be managed without using pesticides. The following practices are the most important cultural considerations in managing diseases:

- Purchase certified virus-free plants from a reputable nursery.
- Choose cultivars that are resistant to the major diseases. Some good choices include Allstar, Earliglow, Guardian, Lateglow, Lester, Redchief, Tribute, and Tristar.

- Plant in light, well-drained soil or in raised beds to prevent root diseases and leather rot.
- Maintain a clean layer of straw mulch in order to keep berries clean and to prevent splash dispersal of fungal spores.
- Avoid sites that were planted to strawberry, raspberry, tomato, pepper, eggplant, potato, or related plants within the past 4 years. These plants are all hosts for the fungus *Verticillium*.
- Promote air circulation and rapid drying of wet foliage by controlling weeds. Diseases generally flourish under wet conditions.
- Avoid excessive fertilization with nitrogen. Too much nitrogen promotes growth of succulent tissues that are highly susceptible to diseases.

## Insect management

Unless certain pests are present every year in the garden, preventive sprays are not recommended on strawberries. However, carefully monitor plants throughout the growing season to control pest problems which may develop.

**Aphids** transmit viruses that can reduce the size and number of berries over the life of the planting. Once production diminishes, nothing can be done to improve it; replanting with new virus-free stock is recommended. Use malathion sprays to protect plants from aphids.

There is no effective chemical approved for use in Wisconsin to control **cyclamen mites**. If plants become infested, pull them up and replant the following spring.

For **spider mites**, you can use insecticidal soap or malathion. To control **slugs**, use a metaldehyde bait or a product containing iron phosphate.

Remove overripe or damaged fruit from the garden because they attract **sap beetles** (small black beetles with orange markings). Control sap beetles with carbaryl (Sevin) 50% WP, using 2 tbs/gal water. Do not harvest berries for at least 1 day after application. You can prepare a sap beetle attractant by mixing 3 quarts dark corn syrup, 2 quarts water, and one cake yeast. Place the mixture plus a small amount of insecticide in cans outside the strawberry planting.

**Postharvest sprays:** Use any of the insecticide-fungicide sprays listed in the spray schedule. Apply about Sept. 1 and Oct. 1 to reduce insect and disease buildup.

## Weed management

Keep plant rows narrow and free of weeds, because weeds not only inhibit growth by competing for water, light and nutrients, but they also harbor pests. Chemical weed control is not suggested for home strawberry gardens. Pull weeds by hand or use a sharp hoe to cut weeds off just below the soil surface. Do not allow weeds to flower and set seeds or weed problems will worsen each year.

Strawberry plantings should last 4–5 years. Start new plantings in a different location with new plants from a reputable nursery. This will help reduce problems with perennial grasses in the planting.

Apply a mulch such as straw, shredded bark, chipped wood, or shredded newspaper to the area between the rows. Mulching reduces weeds between the rows and helps keep the fruit clean. If you use straw as a winter mulch, rake it between the rows in the spring after danger of frost damage is past.

**Spraying tips**

- When using sprays or dusts, apply enough to thoroughly cover the foliage including the undersides of leaves. Do not use dusts after berries start to ripen.
- Read and observe the directions and precautionary statements on each pesticide container.
- Unless the label prohibits it, mix all appropriate materials together and apply at one time.

**Related publications**

- Growing Strawberries in Wisconsin* (A1597)
- Black Root Rot* (A3231)
- Leaf Spot and Leaf Scorch* (A3233)
- Strawberry Gray Mold* (A3232)

References to pesticide products in this publication are for your convenience and are not an endorsement of one product over other similar products. You are responsible for using pesticides according to the manufacturer's current label directions. Follow directions exactly to protect the environment and people from chemical exposure. Failure to do so violates the law.

**Suggested spray schedule**

When to spray	Pests	Material per gallon water*
Just as first blossom buds appear in spring	<b>Diseases</b> leaf diseases	basic copper 45–53% WP <sup>1</sup> or 2¼ tbsp captan 50% WP
	<b>Insects</b> aphids, spittlebugs, plant bugs, leafrollers, weevils	2 tbsp methoxychlor 50% WP <b>plus</b> 2 tbsp malathion 25% WP
Every 10 days following first spray until blossoms appear	<b>Diseases</b> leaf diseases	same as above
	<b>Insects</b> aphids, plant bugs, leafrollers, weevils	
Every 10 days starting in early bloom until 3 days before first picking	<b>Diseases</b> gray mold, leaf diseases	2¼ tbsp captan 50% WP
	<b>Insects</b> <i>Do not apply insecticides during bloom. Protect pollinator insects.</i>	
Post-bloom: As soon as blossom petals fall and every 10 days until 3 days before harvest	<b>Diseases</b> fungal diseases	same as for first spray
	<b>Insects</b> leafrollers, aphids, plant bugs	

\* tbsp = level tablespoon; WP = wettable powder.

<sup>1</sup>Fixed (insoluble) copper formulations vary. Use the amount recommended on the product label. Do not use soluble copper (copper sulfate or Bordeaux mixture) as it may damage plant tissues.

<sup>2</sup>Captan or products containing captan generally have restrictions on when you may enter a planting after spraying.



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