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Asparagus Pests and Diseases

By Joan Allen

Asparagus is one of the few perennial vegetables and with good care a planting can produce a nice crop for 10-15 years. Part of that good care is keeping pest and disease problems under control. Letting them go can lead to weak plants and poor production, even death of the plants in some cases. Stress due to poor nutrition, drought or other problems can make the plants more susceptible to some diseases too. Because of this, good cultural practices, including a good site for new plantings, are the first step in preventing problems. After that, monitor regularly for common pests and diseases so you can catch any problems early and hopefully prevent them from escalating.

Weed control is important for a couple of reasons. One, weeds compete with the crop for water and nutrients. More importantly from a disease perspective, they reduce air flow around the plants or between rows and this results in the asparagus spears or foliage remaining wet for a longer period of time after a rain or irrigation event. This matters because moisture promotes many plant diseases.

This article will cover some of the most common pests and diseases of asparagus. If you're not sure what you've got, I'll finish up with resources for assistance. Insect pests include the common and spotted asparagus beetles, asparagus aphid, cutworms, and Japanese beetles. Diseases that will be covered are *Fusarium* diseases, rust, and purple spot.

Both the common and spotted asparagus beetles (CAB and SAB respectively) overwinter in brushy or wooded areas near the field or garden as adults. CAB is most damaging to the crop because the beetles feed and lay their eggs on the spears, making them deformed and damaged. The gray, humpbacked larvae feed on the ferns and high numbers can cause enough damage to weaken the plant, reducing yield the next spring. SAB adults feed on spears too but they lay their eggs on the ferns and the larvae feed within the berries on female plants. There are two to three generations per year for both.

How do you tell them apart? The CAB is bluish-black with cream colored spots and the SAB is tan to orange with black spots. They are both small at less than 3/8" long but the SAB is slightly larger. The eggs of the CAB are pretty noticeable on the spears, being laid in rows of 3-10 and sticking out from the spear.



Left to right: CAB eggs (Ward Upham, Kansas State University, Bugwood.org), CAB larva (Clemson University - USDA Cooperative Extension Slide Series, Bugwood.org), CAB adult (Ward Upham, Kansas State University, Bugwood.org)



Left: SAB larva in berry, Right: SAB adult (both images by Whitney Cranshaw, Colorado State University, Bugwood.org)

Monitor for beetles, eggs and larvae when spears begin to emerge in the spring. Sometimes damaged spears will curl over in a shepherds' crook. If discovered, adults and larvae can be removed and killed in a soap and water solution in a small planting. Remove and discard any spears with eggs. Regular harvesting will reduce the availability of egg laying sites. Keep the garden area clear of debris and weeds that provide overwintering sites. Sustainable insecticide options include kaolin clay, pyrethrin, and spinosad.

The asparagus aphid, like other aphids, is host to an array of naturally occurring parasites and predators. In cases where the aphid population manages to increase to a high level, though, damage to the asparagus plants can occur. This is a quite small aphid, blue-gray in color that does not have the usual pair of tube-like cornicles sticking up on the back of its abdomen. Overwintering eggs hatch to produce females that reproduce asexually through the summer. Both winged and non-winged forms may be present. Damage results from feeding injury to the growing tips and young tissue and symptoms include deformity, 'witches' brooms', and stunted growth. Large numbers of aphids congregate at the base of infested plants.

Control asparagus aphid by removing dead ferns during winter and harvest regularly in the spring to minimize their food source prior to fern growth. Home garden remedies if needed include a strong spray of water, insecticidal soap or pyrethrin.

Cutworms are caterpillars that hide in the soil near plants during the day and feed at night. Like the asparagus beetles, feeding injury may result in crooked, bent over spears. If damage is seen, check for cutworms by pawing through the soil near the plant and destroy any that are found (soapy water works here too if you don't want to experience squishing them).

Japanese beetles can damage the foliage too. This green and bronze metallic looking beetle overwinters in the soil as a grub (these feed on roots, often of grasses) and beetles emerge in mid-summer. Loss of photosynthetic capacity reduces plant vigor. This can result in reduced yield the next season and/or increased susceptibility to some diseases. Scout for them from mid-summer on and kill them in soapy water. This beetle has a habit of dropping off the plant when disturbed so hold your container of soapy water below them, tap the plant or the beetle, and chances are they will dive to their deaths.

Before moving on to diseases, a note about insecticide use. All products mentioned here are approved for organic use. However, some of them are toxic to beneficial insects including pollinators and should not be applied to plants in flower or unless absolutely needed. Applications should be made at dawn or dusk when pollinators are less active. For more information about the safe use of a particular product, consult the label and follow all instructions carefully.

OK, now we'll shift to the topic of diseases. The most damaging and challenging of these are those caused by fungi in the genus *Fusarium*. Symptoms include wilt, crown rot and root rot. These different symptoms are caused by different species or types of *Fusarium*. *Fusarium* fungi survive in the soil and infect plants through the roots or crown. In Fusarium wilt, the vascular or water conducting tissues are infected, preventing movement of water and nutrients to the stems and foliage. As a result, wilting and yellowing, followed by death of the ferns occur. To confirm this, look for brown discoloration within symptomatic stems. In root and crown rot, symptoms are just what you'd guess...rot or decay of the infected parts, and this has a similar effect as far as symptoms as Fusarium wilt because dead roots and crowns cannot take up or transport water and nutrients.



Fusarium crown rot image by Wade Elmer, Connecticut Agricultural Experiment Station

Fusarium can be seed-borne, associated with new crowns, or already present in soil. Spores of these fungi can survive in a dormant or resting state for many years in the absence of an asparagus plant. It is best to purchase disease resistant varieties and avoid planting asparagus where it's been grown before. Recommendations vary on how long you should wait between crops, especially if *Fusarium* was confirmed on the sites, from 4-10 or more years. This disease is more severe and more likely to occur on plants stressed by poor growing conditions or other pests and diseases. There are no recommended fungicides. Studies done at the Connecticut Agricultural Experiment Station have shown that plants with higher earthworm densities were less susceptible than those with none.



Another disease that may pose a problem is asparagus rust. As the common name of the disease suggests, this fungus (*Puccinia asparagi*) produces orange masses of spores on the plant. There are four different types of spores produced over the course of a season, all occurring on asparagus (some rust fungi have two different host plants). Spears are infected in spring from spores that originate on overwintered plant debris. In these infection sites, spots develop, then masses of orange spores. These spores initiate new infections that produce brick red masses of spores and those spores can cause additional infections until late in the season. At that time, darker spores are produced that will overwinter. Practices for control include resistant varieties, removal of infected plant material (sanitation), and the use of properly labeled fungicides.

Sunken purple lesions on the spears are symptoms of the disease purple spot which is caused by the fungus *Stemphylium vesicarium*. Tan to brown lesions occur on the ferns. This fungus also overwinters in infected plant debris so thorough clean-up when ferns are cut helps reduce disease. Infections are favored by wet weather. Minimize moisture by avoiding overhead irrigation or if used, water first thing in the morning to promote rapid drying. As with insecticides, fungicides should be used only when other methods have failed and according to the label instructions.

Asparagus rust image by Wade Elmer, Connecticut Agricultural Experiment Station

If you need assistance with identification or management of problems on asparagus or other plants, there are several resources available through UConn. Contact the [UConn Home & Garden Education Center](#), your local [County Extension Office Master Gardeners](#), or try the Plant Sample Submission App, a free download for iOS and android devices. In this app, uploaded information and up to six images go directly to the diagnostic lab you have selected and [UConn's Plant Diagnostic Lab](#) is a participant.

Reference:

Elmer, W. H. 2009. Influence of earthworm activity on soil microbes and soil borne diseases of vegetables. *Plant Dis.* 93:175-179.