

Fertilizer

In Florida, young trees should be fertilized every one to two months during the first year, beginning with 1/4-pound (114 g) of fertilizer and increasing to one pound (455 g) per tree. Thereafter, three or four applications per year in amounts proportionate to the increasing size of the tree are sufficient. Mature trees should receive 150 to 200 pounds (68 to 91 kg) of nitrogen and potash per acre per year split into three to four applications. Fertilizer mixtures containing 6 to 10% nitrogen (N), 6 to 10% available phosphoric acid (P_2O_5), 6 to 10% potash (K_2O), and 2 to 6% magnesium (Mg) give satisfactory results with young trees. For bearing trees, available phosphoric acid should be reduced to 2 to 4%. Examples of commonly available commercial mixes include 6(N)-6(P_2O_5)-6(K_2O)-2(Mg) and 8(N)-3(P_2O_5)-9(K_2O)-3(Mg).

Plants growing in calcareous soils should receive annual nutritional sprays of copper, zinc, manganese, and boron for the first four to five years. Thereafter, only zinc, manganese, and possibly boron are necessary. Avocado trees are susceptible to iron deficiency under alkaline conditions. Iron deficiency can be prevented or corrected by periodic soil applications of iron chelates formulated for alkaline conditions.

Irrigation

Conclusive information on irrigation rates and frequencies for Florida avocado varieties is not currently available. However, observations suggest irrigation during dry periods may increase tree growth and development and fruit set and production.

Pests

Many insect pests attack avocados but they seldom limit fruit production significantly. Insect infestations are not predictable and control measures are justified only when large populations build up. Currently, the most important insect pests in Florida are **Avocado Looper** (*Epimecis detexta*), **Pyriform Scale** (*Protospulvinaria pyriformis*), **Dictyospermum Scale** (*Chrysomphalus dictyospermi*), **Avocado Red Mites** (*Oligonychus yothersi*), **Borers** (e.g., Ambrosia beetles, *Xylosandrus* sp.), **Avocado Lace Bugs** (*Acysta perseeae*), and **Red-banded Thrips** (*Selenothrips rubrocinctus*). Growers should contact the University of Florida County Cooperative Extension Service for recommended control measures.

Diseases

Successful control of foliar and fruit diseases caused by fungi requires that all susceptible parts of the plant be thoroughly coated with the fungicide **before** infection occurs. Sprays applied after infection (which usually occurs several days before the disease is evident) often have limited to no effect on disease development. Sprays must be re-applied as new tissues become exposed by growth and as spray residues are reduced by weathering. A successful program depends on (1) use of the right amount of a recommended fungicide and adjuvant, if required; (2) timely applications before infection is most likely to occur; and (3) thorough coverage of susceptible parts. Growers should contact the University of Florida County Cooperative Extension Service for current control recommendations for the diseases discussed below.

Cercospora spot (*Cercospora purpurea*)

Infection appears on fruits and leaves as small, angular, dark brown spots which coalesce to form irregular patches. These spots have a yellow halo. Fruit lesions are frequently the point of entry for other decay organisms such as the anthracnose fungus. Infection usually occurs during the summer months. Begin a spray program for *Cercospora* prevention about May 1st and continue until harvest.

Avocado scab (*Sphaceloma perseeae*)

The scab fungus readily infects young, succulent tissues of leaves, twigs and fruit. These tissues become resistant as they mature. Lesions appear as small, dark spots visible on both sides of the leaves. Spots on leaf veins, petioles and twigs are slightly raised, and oval to elongated. Severe infections distort and stunt leaves. Spots on fruits are dark, oval and raised and eventually coalesce to form cracked and corky areas which impair the appearance but not the internal quality of the fruit. Begin a spray program for scab prevention when bloom buds begin to swell and continue until harvest. The most susceptible commercial variety in Florida is 'Lula'.

Anthracnose (*Colletotrichum gloeosporioides*)

Anthracnose infection is important only on fruits. Infections occur through lesions caused by