

organisms is achieved by using a sequence of controls including: crop rotation with nongrass crops; adequate preplant tillage of the soil so that prior organic matter from crops and weeds are totally decomposed; shallow planting where possible; planting when soil temperatures are warm to insure rapid emergence; minimization of postplant tillage that can injure young plants; and use of a fungicidal seed treatment. It may be advantageous to use a seed treatment that also contains an insecticide if you suspect that soil borne insects may be a problem. The choice of seed treatment is best attained from current information available from a county Extension office.

Root rots. Root rots of sweet corn are usually caused by fungi that exist in the soil. The fungi that are associated with seedling blights (see above) can cause root rots. Root rots of sweet corn are not known to be a major problem in Florida-produced sweet corn except in young plants where seedling blights have occurred. Root rots commonly occur in field corn plantings. Plants weakened by seedling infections, nematode feeding, insect damage, poor fertilization practices, hardpan formation in the soil or other stress factors may incur various degrees of root rot. Control of root rots in sweet corn include those controls listed for control of seedling blights, nematode control, insect control, proper fertilization, and disruption of hardpans in the soil.

Stalk rots. Stalk rots of corn, like root rots, are more likely to be a serious problem in field corn rather than sweet corn. However, on occasion, stalk rots do occur in sweet corn in Florida. Probably the most common stalk rotting organisms in Florida-produced sweet corn are the fungi *Pythium* spp. and soft rotting bacteria. These two groups of organisms are most likely to become a problem when soils become saturated with water. On occasion a bacterial stalk rot occurs on the upper stalk of the plant. This situation seems to arise after excessive rains or irrigations. Controls include the avoidance of excessive irrigation and rapid pumping of excess water from irrigation ditches associated with production fields. Also, varieties should possess resistance to stalk rot organisms and lodging. Most field corn varieties are tested for these characteristics because they require a longer maturation time. Stalk rots are sometimes associated with low soil potassium situations.

Leaf rusts. Two species of rust fungi cause rust diseases in Florida-produced sweet corn. Common rust is caused by *Puccinia sorghi* and southern rust is caused by *Puccinia polysora*. Plant Pathology Fact Sheet PP-37 has photographs and detailed information about these two diseases. Both rust fungi can cause infections during temperatures suitable for

corn growth. Symptoms will appear between 4 to 14 days after infection depending upon the temperatures. Control of these rust diseases is done by using resistant varieties, provided they are horticulturally suitable, and multiple fungicide applications. Fungicide sprays are the primary method of control for rust diseases in Florida-produced sweet corn because resistant varieties are not usually available. Sprays with protectant-type fungicides should be applied as often as twice each week during warm and wet weather. Such conditions are highly suitable for rust fungi development and production of new growth of the corn plant. Early fall plantings and late spring plantings in south Florida are often subject to epidemics of rust diseases. Likewise, late spring plantings in north Florida are more likely to require intense spray programs compared to early spring plantings in this area.

Fungal leaf blights. Two fungal leaf blights predominate in sweet corn produced in Florida. Northern corn leaf blight is caused by *Helminthosporium turcicum* and southern corn leaf blight is caused by *Helminthosporium maydis*. Other literature may refer to these fungi by other names (*Exerohilum* spp., *Bipolaris* spp., or *Dreschlera* spp.) but fungicide labels generally refer to them as *Helminthosporium* spp. Either disease can appear during weather suitable for the growth of the corn plant. Both fungi require moisture on leaves for spore germination and infection. Four to 14 days after infection, symptoms will be present. Usually, leafspots are the primary symptoms associated with these diseases but plant parts other than leaves are susceptible. Like rust diseases, these fungal leaf blights reduce yield and ear quality. Both the rust diseases and leaf blights can increase rapidly in south Florida in corn planted early in the fall and late in the spring when temperatures are warmer. For north Florida, earlier plantings will usually escape some effects of these diseases because of the cooler temperatures. It should be realized that earlier plantings that minimize leaf blight and rust diseases are more likely to incur seedling blights because of the delayed emergence associated with cool soils. Leaf blights, like rust diseases, are adequately controlled with existing broad spectrum fungicides if they are applied in a timely fashion in appropriate amounts. It is important to make repeat applications so that new emerging tissue, particularly in the whorl, is covered with spray during warm weather. Fewer sprays (intervals of 7 to 10 days or more) can be used during cool weather in the winter months.