

## **Control Methods for *Solenopsis* spp.**

### ***Mechanical control***

There are mechanical devices available for the control of *Solenopsis* spp., however, their effectiveness has not been documented. Before installing drip irrigation, it is recommended that the ant resistance of the materials and design be checked.

### ***Chemical control***

Chemicals, particularly those used in conjunction with baits, seem to be the most effective method to control established unwanted ant species at this time. Fire ants can be controlled by using ant baits, soil drenches and/or contact insecticides. Special baits can be used as a broadcast treatment and/or applied around individual mounds. Special aminohydrozone and fenoxycarb baits are available specifically for fire ants. Several residual pesticides are registered in some US states as soil drenches, including chlorpyrifos, bendiocarb, diazinon, carbaryl and acephate. The drench can be applied with low-pressure spray equipment. Generally, the mixture is applied on the top and around the outside of the mound. Then the mound is opened and the mixture poured directly inside. Aerosol formulations of chlorpyrifos are available to be injected into the mound using a special long, perforated tube. A year-round fire ant control program may be needed if the surrounding area is heavily infested or if a small area, such as a residence is being treated. A soap-pyrethroid dip with agitation will dispose of workers infesting flowers. The solution must penetrate tight areas. Packing house perimeters should be monitored for ant activity and treatment undertaken when necessary.

### ***Biological control***

Apart from other ant species, few biological control options exist. Predators such as antlions and ant-feeding vertebrates such as anteaters have either minimal impact on the large populations or are inappropriate to introduce. Relatively little is known about pathogenic microorganisms and fungi. Parasitoids have been a major means of controlling plant pests such as scales, aphids, and caterpillars, but have not been widely used for ant control. Recently, however, some effort is being made to identify and assess the impact of ant parasitoids such as eucharitid wasps and phorid flies. Mites and nematodes have demonstrated some promise in controlling *Solenopsis* spp., but their effectiveness requires more investigation. Biological control is never likely to provide complete eradication however, rather only control.