L-2312

Texas Agricultural Extension Service

Texas Citrus Miscellaneous Insect and Vertebrate Pests

B. Cartwright, H.W. Browning and L. Smith*

Insects

Lepidopterous Pests
(Caterpillars)

Orangedog
Papilionidae: *Papilio cresphontes* (Cramer)

This caterpillar owes its name to the fact that its head resembles the head of a dog. Mottled gray and brown in color, a mature caterpillar may reach a length of 6 cm. Adults are swallowtail butterflies that do not feed on citrus. Feeding by larvae may result in fairly heavy defoliation in limited areas of groves, but rarely are infestations numerous enough to cause serious damage. Orangedogs are often quite numerous in citrus nurseries, where leaf feeding is very noticeable.

Orangedog larva

Puss Caterpillar
Megalopygidae: *Megalopyge opercularis* (Smith)

These caterpillars, sometimes incorrectly referred to as "stinging asps," are covered with tan or gray soft hairs. Located among these hairs are specialized setae that produce venom capable of causing a stinging sensation upon contact. Some persons may react severely to this venom, thus the larvae should not be handled. Beyond their nuisance potential, larvae can cause limited amounts of defoliation through their feeding activity.

Puss caterpillar larva

Aphids
Aphidae

Aphids are small, pear-shaped, soft-bodied insects usually found in colonies. Most aphids found in these colonies are wingless, but winged forms do occur and provide a means for their dispersal. Aphid infestations are usually found on new growth flushes. Aphids suck sap from leaves and stems, resulting in curled, distorted leaves which can retard tree growth and cause fruit and blossom shed. In addition, aphids produce large amounts of honeydew that promote growth of sooty mold, which may reduce photosynthesis. Aphids are also associated with the transmission

*Former Extension entomologist, former Experiment Station entomologist and former Hidalgo County Extension agent (task management).

of plant diseases. Low to moderate infestations of aphids can be considered beneficial to the citrus ecosystem by providing food early in the season for natural enemies, such as lacewings and ladybeetles.

Two aphid species, the spirea aphid *(Aphis citricola* (Van der Goot)) and the melon or cotton aphid *(Aphis gossypii* (Glover)), are the most common aphids on citrus in Texas. The black citrus aphid *(Toxoptera aurantii* (Fonscolombe)) may also be found occasionally.

Aphids reproduce asexually with females giving birth to young nymphs. Within a week of their birth, the females mature sexually and are themselves capable of producing offspring. This rapid rate of reproduction can result in large infestations developing in a very short time. Many generations per year can occur on citrus before the winged aphids migrate to their alternate hosts during the winter. Fortunately, natural mortality factors, especially predators and parasites, are usually highly effective in limiting aphid populations.

Aphids

Planthoppers

Flattidae

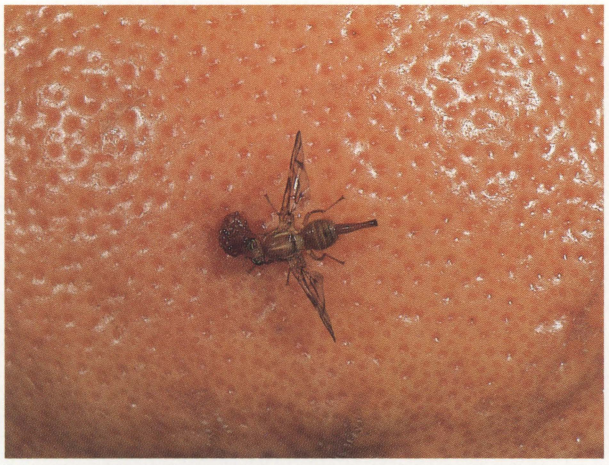
The planthopper *(Metcalfa pruinosa* (Say)) is a grayish-white hopper approximately 3/8 inch long that occasionally develops localized outbreak populations in Texas citrus. The hopper completes only one generation per year, with adults surviving until September in most years. Immature hoppers hatch from overwintering eggs in March and feed on twigs, often in the vicinity of fruit. The cottony secretions and honeydew produced by this hopper resemble those of the citrus mealybug, but the insect is easily distinguishable by its active jumping behavior when disturbed. Grapefruit trees appear to be favored over oranges, but pesticidal control usually is not required. Parasitization by small wasps may be quite high in some years.

Planthopper

Mexican Fruit Fly

Tephritidae: *Anastrepha ludens* (Loew)

Adults are yellowish-brown flies with dark markings on the abdomen, and are about the size of a housefly. Females lay eggs in mature fruit; the larvae hatch within a few days and begin feeding in the pulp of fruit. Larvae are small yellowish-white maggots, averaging 6 to 9 mm in length. The mouth hooks that are used for feeding appear as a tiny black dot on the smaller end of larvae. After tunneling in fruit, larvae emerge from the fruit and drop to the ground to pupate. The entire life cycle requires as little as 20 to 30 days, depending on temperatures. Although grapefruit is a favored host among the citrus crops, infestations have been confirmed on other hosts such as the mango, which allows year-round reproduction and survival. Although the Mexican fruit fly is a common pest in Mexico, the population is very low in Texas citrus. However, due to the hazard of introducing this pest to other uninfested citrus production areas via infested fruit, the Mexican fruit fly has become important from a regulatory point of view. In order to prevent the spread of Mexican fruit fly populations to uninfested regions, regulatory control efforts have been implemented.



Mexican fruit fly

Texas leafcutting ant

Ants
Formicidae

Texas Leafcutting Ant
Atta texana (Buckley)

The Texas leafcutting ant is the most serious ant pest of Texas citrus. Also known as the "town ant," "cut ant" or "parasol ant," the workers are reddish-brown and are about 3 to 5 mm long with a series of stout spines arising from behind the enlarged head and from the thorax region of the body. Worker ants remove leaves from the trees in order to culture a fungus for consumption by the ant colony. Over time, colonies may become enormous, excavating large areas of the orchard floor and creating problems for machinery operation. Such large colonies are also capable of removing a considerable amount of foliage. Multiple defoliation of young trees may slow tree growth or cause the tree to die.

Tropical Fire Ants
Solenopsis spp.

Tropical fire ants are generally considered minor pests of citrus. Workers are reddish-brown and are about 3 to 4 mm in length. Nests generally occur in areas least submerged or penetrated by irrigation. Nests appear as small mounds of fine soil usually no more than 3 to 4 inches in diameter and 2 to 4 inches tall. Damage occurs to young trees when ants damage bark beneath tree wraps and provide a point of entry for *Phytophthora* fungi. Damage to older trees is indirect; the ants harbor several sucking insect pests such as aphids and mealybugs, which are associated with honeydew production and sooty mold. Fire ants protect these pests against predators and parasites.

Vertebrate Pests

Vertebrate pests may cause sporadic or limited damage to citrus trees, fruit or equipment. On occasion, they can create serious problems for both individual growers and the industry as a whole. The major vertebrate pests experienced in Texas citrus include birds, jackrabbits, rodents and ground squirrels.

Grackles have become the primary bird pest responsible for serious crop losses during orchard recovery from the 1983 freeze. Grackle damage begins during summer months when birds begin pecking on young fruit. Injured peel tissue becomes blackened and develops a pock-marked surface cosmetically unacceptable for the fresh market. As the fruit approaches maturity later in the season, birds may penetrate into the pulp, thereby spoiling the fruit and causing it to drop.

Individual producer efforts to prevent grackle damage have met with only limited success. Birds rapidly become accustomed to conventional noise-

Grackle damage

generating devices. Pyrotechnic devices such as scare cartridges used in conjunction with noise-makers appear to have some value, but these require daily physical presence at each orchard site. Community-wide efforts to control birds by repellent action or by large-scale population reductions offer a more practical long-term solution to the problem, but are hindered under present migratory bird protection laws. Current information and assistance on grackle control, as well as control suggestions for other vertebrates, is available from local offices of the USDA Animal Damage Control Program.

Damage caused by jackrabbits is normally most severe on young trees during the first year after planting. Tender bark above the bud union is chewed from the trunk in vertical strips. Trees may be killed or damaged to such an extent as to require replacement. Trunk wraps used to prevent sprouting and trunk damage effectively control jackrabbit damage. For best results, wraps should be installed at planting.

Rodent damage may occur on larger trees, particularly oranges, in the form of girdled limbs, stripping of bark and partially eaten fruit. The common roof rat is the most common offender. An identification aid for this pest is its tail, which characteristically is somewhat longer than both head and body combined. Most serious damage has been observed to occur in fall months in orchards adjacent to uncultivated habitat. Exposed low-volume irrigation lines are subject to damage by rodents seeking water. Clean cultivation of orchard perimeters and neighboring habitat is a good preventive measure. Otherwise, rats may be controlled by use of weather-resistant anticoagulant baits. Before attempting to use baits, examine trees for signs of recent damage and active nesting, because periods during which injury occurred may already have ended by the time damage is first observed.

References

Amador, J., J.W. Sauls, L.R. Smith and C.T. Allen. 1981. *Texas Guide for Pest Disease and Weed Management for Citrus.* Texas Agricultural Extension Service, B-1336.

Dean, H.A., W.G. Hart and J.A. Deer. 1978. *Texas Citrus: Mites and Insects.*

Ebeling, W. 1959. *Subtropical Fruit Pests.* University of California Press, 436 pp.

Florida Citrus Integrated Pest and Crop Management Handbook. 1983. Florida Cooperative Extension Service, Sp-14.

Integrated Pest Management for Citrus. 1984. University of California, Publication #3303.

Issued in furtherance of Cooperative Extension Work in Agriculture and Home Economics, Acts of Congress of May 8, 1914, as amended, and June 30, 1914, in cooperation with the United States Department of Agriculture. Zerle L. Carpenter, Director, Texas Agricultural Extension Service, The Texas A&M University System.

1.5M—11-88 ENT