

**Sweetpotato whitefly** (Order: Hemiptera, Family: Aleyrodidae, *Bemisia tabaci* or *argentifolii* - silverleaf)

**Description:**

*Adult:* The adult is small, about 0.9 to 1.2 mm in length and holds its solid white wings roof-like over a pale yellow body while at rest.

*Immature stages:* Immature stages begin with a pointed oblong yellow egg (0.2 mm) which darkens at the apex just before hatching. The first instar or crawler stage (0.2-0.3 mm) settles down on the underside of leaves close to the egg shell and goes through three more molts as a sessile, flattened oval nymph. Late third and fourth instars begin to develop eye spots and are often referred to as red-eyed nymphs. The last instar, or "pupal stage" (0.7-0.8 mm, late instars are shown in the photo), has very distinct eye spots.

**Biology:**

*Life cycle:* The life cycle from egg to adult may be 18 days under warm temperatures (86°F) but may take as long as 2 months under cool conditions. The number of eggs produced is also greater in warm weather than in cool weather. The rate of reproduction ranges from 50 to 400 eggs (avg. 160, of which about two-thirds are female) per generation, hence a high capacity for reproduction.

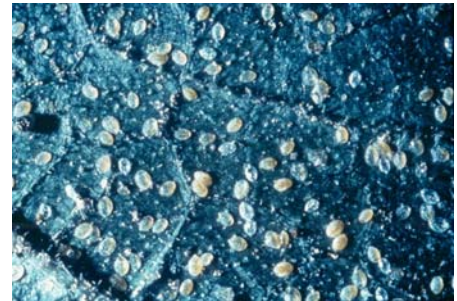
*Seasonal distribution:* In Georgia, whiteflies are generally not an economic problem in the spring growing season, unless the production is in an infested greenhouse. In the late summer and fall, whitefly numbers increase dramatically in some years.

**Damage to Crop:** In tomato, the main damage caused by whitefly results from the transmission of plant viruses (geminivirus) which cause a severe stunting of the tomato plant and a drastic reduction in yield. The presence of whiteflies in tomatoes can also cause a type of irregular ripening in the fruit. When virus is present in the field, even a low number of whiteflies can cause damage. In pepper, whiteflies generally do not reproduce well, but heavy migrations of adults can cause problems in seedlings. Whiteflies can transmit geminivirus in peppers, which can cause severe yield loss, however, problems with geminivirus in pepper have not been common in recent years.

**Management:** Whiteflies are generally only a problem in the late summer and fall in Georgia. Whiteflies have not required any curative action in any field crop in the spring in Georgia. Only use preventative or curative insecticide treatments when geminivirus is present or populations consistently exceed an average of 6 adults per leaf. Natural sources of mortality for the whitefly include predation by beneficial insects such as lacewing or coccinellid larvae, parasitization by wasps such as *Encarsia* or *Eretmocerus* species, mechanical injury, desiccation, insect pathogens such as *Beauvaria*, *Paecilomyces* or *Verticillium* species, and lack of host plant material.



Sweetpotato (silverleaf) whitefly adult.



Whitefly nymphs or "scales" under leaf.



Whitefly-transmitted geminivirus in tomato in south Georgia 2005.