

Cabbage Root Aphid

(Order: Hemiptera, Family: Eriosomatidae, *Pemphigus populitransversus*, and others)

Description:

Adult: The adults are around 2 mm (1.6-2.6 mm) in length, they lack cornicles on the abdomen and have relatively short antennae and legs compared to other aphid species that occur on the crop foliage.

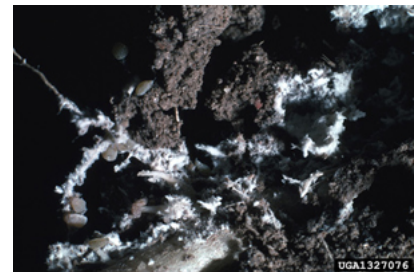
Immature stages: Nymphs that develop on Brassica roots are light gray and covered with a bluish-white wax (see photo). They have 5 instars and can overwinter in the soil to depths of 10-20 cm.



Cabbage root aphid placed in alcohol.

Biology:

Life cycle: Cabbage root aphid, also known as Poplar petiolegall aphid, has separate life cycles between its two host plants poplar trees (*Populus* spp) and Cruciferae (*Brassica* spp). The sexual reproductive cycle occurs on its primary hosts, poplar trees (*Populus deltoides*, *P. sargentii*), but it is the parthenogenic reproduction on the roots of leafy greens (*Brassica oleracea didyma*) beginning in the autumn of each year that can result in economic losses. The winged form occurs as aphids leave the leaf petiole galls in its poplar tree host in the summer. The wingless form colonizes the roots of *Brassica* plants in the early autumn and reproduce on the roots into the winter. Aphids in the soil do not burrow, but can move through cracks in the soil.



Cabbage root aphids in soil, note waxy secretions.

Seasonal distribution: Since cabbage root aphids move between poplar tree hosts and Brassica at certain times of the year, the only season where root aphids have been observed in leafy greens in Georgia has been in the autumn or winter on fall-planted crops.

Damage to Crop: The only damage observed in Georgia has been contamination of turnip roots, but this generally is not a problem if roots are cleaned before marketing. In southern Texas, heavy infestations can lead to yield loss in the form of stunted plants with reduced growth, but this was generally only seen in Brassica crops planted in September when the likelihood of infestation is greatest.

Management: Planting date is one of the most important factors affecting cabbage root aphid populations. Also, bear in mind that only the fall season is when this pest occurs in Brassica crops in the South. Based on observations in Texas, plants planted in September can have greater aphid populations than the plants planted later in the autumn. Thus, the main recommended cultural control is to delay planting in the fall of the year. However, in Georgia significant yield loss has not been documented and the authors believe that, unless the field population levels observed in recent years change, this is a non-economically important pest for Georgia.

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