The Incidence of Citrus Blackfly on Citrus Grown in the Wild and in Banana Groves

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Introduction

The citrus blackfly (*Aleurocanthus woglumi*) is a member of the whitefly family and is most abundant in the tropics. It is seen as a pest species because it attacks citrus trees. Damage is caused by sucking sap from the leaves. Sooty mold consequently grows on the honeydew excreted by the flies.

Paracitic wasps normally control the growth of citrus blackfly; however, pesticides used in most banana groves kill these wasps. The amount of leaf coverage by citrus blackfly varies in different areas, which could be due to the use of these pesticides.

We hypothesize that citrus trees growing in banana groves, where pesticides are used, will exhibit severe damage, or extensive leaf coverage, from citrus blackfly. Also, we believe that citrus trees growing in the wild will exhibit little or no damage from citrus blackfly.

Materials and Methods

-Ziploc baggies- gallon size
-Stereo microscope

Leaves were collected from citrus trees growing in banana groves and in the wild. Twenty leaves exhibiting the most insect damage were collected from each site and then compared under a microscope.

Data

Location #1
Banana Grove
Syndicate Trail
27 May 1998
Primary Pest / Disease:
Leaves exhibit 75% to 100% coverage by blackfly
Secondary Pests / Diseases:
Mites
Sooty Mold
Armored Scale (f. Diaspididae)
Aphids (f. Aphididae)

Location #2
Wild
Trail to Middleham Falls- Cochrane
2 June 1998
Primary Pest / Disease:
fungi, moss
Note: No citrus blackfly present

Location #3
Small Banana Grove
Trail to Middleham Falls- Cochrane
2 June 1998
Primary Pest / Disease:
sooty mold
Note: No citrus blackfly present

Location #4
Wild
Mount Joy- Abandoned citrus crop
3 June 1998
Primary Pest / Disease:
No pests found

Location #5
Wild
Trail to Buttress Tree- Springfield Plantation
3 June 1998
Primary Pest / Disease:
small incidence of sooty mold
Note: No citrus blackfly

Conclusion

Our hypothesis that citrus blackfly would be more abundant on trees grown in banana groves versus in the wild is supported by our data. Although one tree in a banana grove did not exhibit any citrus blackfly, this may be due to the location of the grove. Citrus blackfly flourishes in dusty areas (e.g. along roadsides). This particular grove is in a low-traffic area where little dust is stirred up. Also, because this grove is small, pesticide levels may be less than the other groves.

Areas of Furthur Study

-Find the locations where the Dominican Department of Agriculture has released populations of parasitic wasps and study its effects on the blackfly populations.
-Study the correlation between areas of high citrus blackfly incidence and areas that are frequently traveled (dusty areas).

Works Cited

Borror, Donald J., et al. 1989. Insects. Saunders College Publishing, Philadelphia. pp. 335-336.