Control of Black Sigatoka in Bananas in Ecuador

Products: ECOFLORA & ECOSIL **Setting: Commercial farm Hacienda San Pablo**
Crop: Bananas **Location: El Triunfo, Guayas, Ecuador**

Treated area: 50 hectares
Control area: 200 hectares

Problem

Black Sigatoka is a fungal disease that affects bananas. The disease is caused by the fungus *Mycosphaerella fijiensis* Morelet (anamorfo: *Paracercospora fijiensis* Morelet). The disease causes a significant reduction in the photosynthetic area of the leaves, loses in fruit production in Colombia, Costa Rica and Ecuador averaging 50%, and premature maturation of the fruit, a very serious problem for export. Fungicides have been widely used; however, tolerance of the fungus to fungicides has increased so the number of fungicide applications in many countries has increased from 25 to 40 per crop cycle.

Method of product application

The initial incidence of the disease was 56% (56% of the leaves were infected). The applications of all products were carried out by airplane fumigation. Six applications were carried out with ECOSIL mixed along with the traditional chemical funguicides. The application of ECOSIL stimulated the proliferation of leaves but did not stop the spreading of the disease to the new leaves. Consequently, the level of incidence of the disease rose to 77%. The application of chemical fungicides was suspended and replaced by an application of ECOFLORA and ECOSIL. The product applied per hectare was prepared as follows: 500 grams of ECOFLORA were mixed with 100 ml of ECOSIL, 8 liters of vegetable oil and 8 liters of water.

Results

After one application of ECOFLORA and ECOSIL, the incidence of the disease was reduced from 77% to 28%. A month later the incidence of the disease increased to 38%. The banana plants were treated a second time with ECOFLORA and ECOSIL (prepared at the same dosage rate). The incidence of the disease was reduced to 15% of the leaves. Control fields had a disease incidence higher than 60% at the end of the observation period. These trials were carried out in the rainy season, which is the most difficult time to control the disease. According to the banana producers, their goal is to maintain a level of disease that does not go beyong 35% of the leaves.