

Biological Control: Other Successes

Mango Mealybug

West African mango trees were invaded by the mango mealybug, an exotic visitor from Asia. The same scientific team that solved the cassava mealybug problem used a similar approach with the mango mealybug. They found natural enemies in India. After testing to ensure they would not harm nontarget organisms, they were reared and released. They continue to control the mango mealybug.

Water Hyacinth

The water hyacinth was brought to many parts of the world from South America during colonial times as an ornamental plant. It is, however, one of the world's most obnoxious waterweeds when not controlled. Unfortunately it thrived in ponds and lakes in the tropics to such a great extent that it became more than a nuisance. In Lake Victoria, the second largest fresh water lake in the world, masses of water hyacinth covered parts of the lake near the shoreline, disrupting fishing. Intakes to water supplies and power plants were clogged and the ecological balance of the lake was changed.

IITA was part of a major effort to clean up water hyacinth on Lake Victoria. Two weevil species had been identified as biological control agents and IITA, in conjunction with the National Biological Control Unit of Uganda, embarked on a program to introduce the weevils to the waters of Lake Victoria. According to the Ugandan officials, the offspring of weevils obtained from the IITA African Center for Biological Control in Cotonou, Benin had destroyed 60% of the water hyacinth plants on the lake in a very short time. There was no need to use chemical controls.

Cowpea Thrips

IITA scientists have discovered a possible control agent for thrips, which is a severe pest of cowpea. Cowpea is a nutritious grain legume that farmers grow in large quantities in the dry savanna regions of West Africa. IITA scientists believe that the parasite which controls the thrips was probably an exotic introduced accidentally to West Africa from India.

Water Lettuce

Before water hyacinth began to dominate waterways in West Africa, a floating plant called water lettuce was a major weed. After the success of water hyacinth control using weevils, IITA scientists turned their attention to water lettuce. Zimbabwe provided another weevil, which proved successful in controlling the weed. At the height of weed infestation, parts of rivers in Benin had almost total weed cover. Since the introduction of the weevils, the river cover has been reduced to negligible amounts in the same areas. The impact on fishing communities along the rivers in Benin where the control is being used is substantial and the project also shows the value of "south-south" collaborations.