Research Centers Win Award for Biological Control of Food Pests

Washington, D.C.—The Nigeria-based International Institute of Tropical Agriculture (IITA) and the Colombia-based Centro Internacional de Agricultura Tropical (CIAT) have achieved major success in the biological control of one damaging African food pest, and made progress towards controlling another.

Success in controlling the cassava mealybug has benefited more than 200 million Africans for whom cassava is a staple food. The benefit:cost ratio of the cassava mealybug program has been calculated at 149:1—$149 worth of food saved for every $1 of research or development invested.

For their work on biological control programs, IITA and CIAT have won the King Baudouin Award from the Consultative Group on International Agricultural Research (CGIAR), a consortium of over 40 donor countries and development organizations, which currently supports IITA and CIAT, and 11 other international agricultural research centers. The Award will be presented Friday, November 2 during the final afternoon session of the annual Washington, D.C. meeting of the CGIAR.

The CGIAR King Baudouin Award is given every two years to CGIAR-supported agricultural research centers for a particular technology or discovery that has improved the lives of farmers in developing countries.

In 1980, the CGIAR itself won the King Baudouin Prize for International Development, a prize established in commemoration of the first 25 years of the Belgian monarch’s reign. The original prize of $50,000 is held in trust. The CGIAR King Baudouin Award, which has ranged from $6,000 to $15,000, is made from earnings accrued. Winners are selected by members of the CGIAR Technical Advisory Committee.

Begun in 1977 to combat two imported pests of cassava, the IITA Biological Control (More)
Programme, in association with CIAT, scored its first success by finding and introducing natural enemies to combat the devastating cassava mealybug in the late 1980s. The IITA Biological Control Programme’s $3.5 million Benin Research Station was opened near Cotonou, Benin in December 1988. The program had previously operated out of IITA headquarters in Ibadan, Nigeria.

The cassava mealybug, which was accidentally brought to Africa from Latin America in 1971, caused crop losses of up to 80 percent.

A particularly effective parasitic wasp, Epidinocarsis lopezi, has been distributed by IITA and its many national program collaborators at over 150 sites in Sub-Saharan Africa countries and is bringing the cassava mealybug population below damaging levels.

According to the director of the Benin Research Station, Hans Herren: “with biological control methods, no extensive pesticides are required, and the small-scale African farmers who depend on crops like cassava and mango to feed their families are freed of a damaging pest by nature itself."

Swift action against the mango mealybug, which three years ago threatened mango production across much of West and Central Africa, was patterned after the successful program against the cassava mealybug.

Control of this second imported mealybug pest, Rastrococcus invadens, has been made possible by close collaboration among national plant protection services in Benin and Togo, the British-based Commonwealth Institute of Biological Control (CIBC), and the IITA Biological Control Programme.

A parasitic wasp which is a natural enemy of the mango mealybug has been released in five of the affected countries. About six months after the release, the mealybug population appears to have dropped substantially.

The mango mealybug control program included identification of the rapidly spreading pest as an accidental import form Southeast Asia; the discovery of natural enemies of the pest in India by CIBC; and the release of two promising parasitic wasps following their quarantine, testing, and mass-rearing.

Several affected countries where natural "enemies" were released in 1988 enjoyed a mango crop in 1989, following an almost total production loss during the previous two years.

The IITA Biological Control Programme has also announced some long-awaited progress against an older target—the cassava green mite.

Other food crop pests currently under study include the larger grain borer, a major pest of stored grains, locusts and grasshoppers, and the complex of pests found on cowpea. Certain weeds, such as water hyacinth and the parasitic witchweed are also considered likely candidates for control by biological methods.

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