

Scientists Pause To Ponder Pestilence of Pests

By Darcy Meeker

GAINESVILLE — Hundreds of scientists from all over the world gathered in Gainesville July 21-24 to talk about what sickens insects, oysters, crabs, coral, barnacles and other spineless creatures.

They talked about the effects of pesticide residues on estuary life, about microbes that could protect food crops, insect cells which could culture vaccines for human diseases, barnacle-like creatures that clog water pipes in power plants, and diseases of culinary crustacea like shrimp and lobsters, especially when attempts are made to farm them.

It was the annual meeting of the Society for Invertebrate Pathology, hosted by the University of Florida's Institute of Food and Agricultural Sciences (IFAS) at the J. Wayne Reitz Union.

"Using microbes to control insects has everybody excited right now," says Drion Boucias, one of half a dozen IFAS researchers studying insect diseases. "Home gardeners and commercial growers alike are using *Bacillus thuringiensis*, and industry researchers are developing and patenting new strains all the time."

The microbe, used to control gypsy moths and spruce bud worms in the Northeast and pests that transmit a

blinding disease in the Third World, were the subject of 14 papers given during the four days of meetings. Another variety of the bacterium shows promise for controlling mosquitoes.

Most insect diseases are very host-specific, so they control pests without harming "non-target" organisms — such as humans, dogs, birds and useful predator insects.

In addition to bacteria, fungi and viruses can also be used as biocontrols.

"It's wonderful to think that science will be able to design bacteria and fungi and viruses to control weeds, harmful insects and other pests," says Dr. K.R. Tefertiller, the UF vice president who directs IFAS.

"It means we can fight pests Nature's way, by balance — the goal being not so much to kill pests as to prevent economically significant damage. That means less dependence on chemical pesticides and less stress on the environment."

Boucias sees economic opportunities in insect pathogens.

"Some can be produced via industrial scale fermentation techniques, and major chemical firms are turning in that direction," Boucias said.

However, for the many insect pathogens that only afflict a small number of pests, Boucias envisions a "cottage" industry: agriculturists in developing nations or small businesses in the United States propagating the microbial biocontrols. ■



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