PDA And Penn State

(Continued from Page A1)

-- Plant disease control $15,967.

-- Control of the apple bud moth $18,031.

-- Crop management $35,088.

-- Fruit and vegetable post-harvest loss $83,628.

NEW PROJECTS

-- Biological controls for mushroom diseases $32,222.

-- survey of integrated pest management $30,375.

-- Potato blight disease $20,203.

-- Biological control of leaf diseases $27,256.

-- Integrated weed management for row crops $23,662.

-- Christmas tree integrated pest management $37,514.

-- Integrated pest management of Colorado potato beetle $33,156.

Contrary to popular belief, the agricultural community has been concerned about the effects of pesticides on the environment. Between 1973 and 1983 the Federal Government allocated $48 million to the Federal Extension Service to develop and implement Integrated Pest Management practices in all 50 states. In one year, these IPM programs more than paid for the 10-year investment made by the Federal government.

If attendance on the Integrated Pest Management tours during Ag Progress Days is any guage of the agricultural community's interest in this alternative to chemical dependance, then Penn State researchers will have ample opportunity to see their successful projects implemented on farms.

According to a recent national survey, growers using IPM techniques in 15 states in nine different crops realized a $54 million per year difference in net return as compared to those growers who were not using IPM practices.

Penn State IPM Projects

Dr. Jim Travis of the plant pathology department explained the IPM research to control fruit disease and curb pest damage while reducing the need for pesticides. A computer located in the field monitors environmental conditions through the use of sensors located through the field sending data to be stored on the computer.

Using this information researchers can accurately predict the optimum conditions for diseases and cut their use of pesticides by spraying only when conditions are right instead of following a continous spray program. Apple growers spend millions of dollars per year on pesticides. This practice can cut the amount of pesticides used without reducing the quality and quantity of the apple crop.

The cost of these field computers may run $3,000. Travis added that researchers are also working on sensors which can send data up to 12 miles and can be used with a growers personal computer. Sensors would be located in each field, but only one computer would be needed keeping costs closer to $500 for the system.

Red mite poses a great threat to apple growers. A project with the potential to save apple growers millions is the use of beetles to control the European red mites.

Another successful project to benefit fruit growers is the use of synthesized sex phermone which attracts the male peachtree borer, a big threat to peach growers.

Twisties which resemble the ties used to close bread bags is impregnated with the synthetic pheromone. The twisties are placed throughout the orchard to confuse the male in search of a mate. The resulting reduction in mating success lowers pest population without the use of spraying.

According to Dr. Ed Rajotte, these twisties are being made by an Austrailian company and may be made available to growers as early as next spring.

Work is being done to develop apples which are disease resistant. Presently there are two such strains resistant to apple scale and powdery mildew and go by the name of 'Freedom' and 'Liberty'.

Pennsylvania farmers use 1.7 million acres to grow corn and soybeans and approximately 3.5 pounds per acre of pesticides. That's six million pounds of pesticides each year. Dr. Greg Roth of the agronomy department said that while pesticides may not be eliminated from corn and soybean production they can be reduced sharply with the use of Integrated Pest Management.

Success with IPM practices in corn and soybeans depends on the weed species and population, crop rotation and tillage system. Mechanical cultivation, which has gone out of vogue, may have some redeeming qualities which may make it worthwhile to producers. According to Roth, new cultivators, faster tractors makes this practice more appealing than it used to be.

Sweet corn production in Pennsylvania totals more than $10 million. Even light damage to this state's corn crop can be mean serious economic loss. Researchers are working on reducing the use of insecticide and integrating biological controls.

Spraying every two days, as many growers do, is very effective but is also very expensive considering chemical costs run as much as $150 per acre..

Information gathering for sweet corn growers comes in the form of scouting the fields to identify pests and then trapping them to determine their number. The number of insects trapped correlates to a field population and allows the farmer to spray only when there is a threat of insect damage and not every two days. The groer may be abel to achieve the same results with spraying every six days. The savings on this project was nearly $90 per acre.

According to John Losey, entomologist, researchers are using wasps to control the European corn borer in sweet corn. The wasp destroys the eggs before they are allowed to be larvae, the form which actually damages the corn. This wasp has been used since the 1930s with success on cotton and tomatoe crops. These wasps are a naturally occurring species in the field.