

# Benefits Of Sweet Corn IPM Valued In The Millions

UNIVERSITY PARK (Centre Co.) — In just one year, Pennsylvania vegetable growers realized more than \$13 million in economic and environmental benefits by using integrated pest management tactics in their sweet corn crops, a recent study estimates.

Integrated pest management, or IPM, aims to manage pests — such as insects, diseases, weeds and animals — by combining physical, biological and chemical tactics that are safe, profitable and environmentally compatible.

The study, conducted by Jason Beddow, a graduate student at Virginia Polytechnic Institute and State University, found that IPM in Pennsylvania sweet corn crops produced economic benefits of about \$6.7 million and environmental benefits valued at about \$6.8 million in one growing season.

"This research makes it clear that IPM provides significant economic and environmental benefits to the state," said Ed Rajotte, Pennsylvania IPM coordinator and Penn State professor of entomology, who served on Beddow's advisory committee.

The study was designed to help develop a uniform set of tech-

niques for evaluating the economic and environmental effectiveness of state IPM programs. The research used Pennsylvania and Massachusetts sweet corn IPM programs as case studies.

Pennsylvania growers plant more than 20,000 acres of sweet corn annually, ranking the state among the top ten nationally in sweet corn production. But this \$25 million crop is at risk to such devastating pests as the corn earworm, fall armyworm and European corn borer.

As part of the project, Beddow surveyed sweet corn growers to collect data on the growers' use of selected production practices, with an emphasis on pesticide use.

Respondents included both large and small farms, ranging in size from 2.5 to 2,500 acres. The results of the survey indicate that the majority of respondents use several IPM tactics in their sweet corn operation. Ninety-two percent of respondents reported rotating at least some of their sweet corn with other crops, while 77 percent and 91 percent, respectively, said they scouted for insects and weeds before deciding to apply insecticides and post-emergent herbicides.

More than 60 percent of the growers cultivated sweet corn fields to control weeds. When the practice was used, it was employed on an average of 51 percent of sweet corn acreage. Overall, the technique was used on 26 percent of acreage.

An important component of the Pennsylvania sweet corn IPM program is a telephone hotline (800-PENN-IPM) and related Website (<http://pest-watch.cas.psu.edu>) that provide statewide scouting information for important sweet corn insect pests. Exactly half of the respondents reported calling the hotline. Users of the service made an average of 4.7 calls to the toll-free number over the course of the growing season.

According to Beddow, the adoption of IPM practices may result in a combination of cost increases and decreases. For example, IPM adoption is expected to decrease the cost of chemical pesticides as non-chemical controls are substituted for pesticides. However, implementation of IPM practices

will increase some information-gathering costs, such as labor costs for scouting. IPM adoption may influence returns via price premiums or changes in yields.

"Adopters spent less on chemicals and chemical applications and spent more on scouting and trapping when compared with non-adopters," Beddow said. "Overall, adopters in the sample spent \$100 less than non-adopters per acre of sweet corn. Assuming a constant price of \$2.25

per dozen ears, per-acre total revenue for adopters in the sample was \$279 greater than that of non-adopters. The difference in net revenue between adopters and non-adopters was \$295."

Beddow's research can be viewed on the Web at <http://scholar.lib.vt.edu/theses/available/etd-09272000-14340016/>.

## Plant Germplasm Center Steadily Builds Collection

COLUMBUS, Ohio — The Ohio State University Ornamental Plant Germplasm Center has come a long way since its grand opening a little more than a year ago.

The center, whose main purpose is to save, assess and promote the use of ornamental plant germplasm for industry and researcher use, is home to over 1,100 accessions from 62 genera, and the list continues to grow.

"Our primary function is to conserve, evaluate and distribute germplasm that would be important to the researcher or to the industry," said David Tav, director of the Ornamental Plant Germplasm Center. "It all goes back to conserving a plant species because you don't know where the next cure for cancer will come from. We need to take advantage of plants that have traits like disease resistance, stress tolerance, or carry pharmaceutical and nutraceutical compounds."

Germplasm is currently being collected from the following priority genera: *Aglaonema*, *Alstroemeria*, *Antirrhinum*, *Aquilegia*, *Aster*, *Baptista*, *Begonia*, *Campanula*, *Chrysanthemum*, *Dianthus*, *Dieffenbachia*, *Euphorbia*, *Geranium*, *Hemerocallis*, *Impatiens*, *Iris*, *Lilium*, *Narcissus*, *Pelargonium*, *Petunia*, *Phalaenopsis*, *Philodendron*, *Phlox*, *Rudbeckia*, *Salvia*, *Spathiphyllum*, *Tagetes*, *Verbena*, *Veronica* and *Viola*.

Researchers at the center are using insects, mainly honeybees and bumblebees, as pollination tools to aid in their germplasm collection. The insects, said curator Susan Stieve, are quicker and more efficient than hand pollination, and also allow year-round germplasm seed production in the greenhouse.

"Hand pollination takes time and is expensive, but honeybees are cheap at \$40 a colony. An average colony holds 20,000 bees and they can work for several weeks pollinating as long as there are flowers

available," said Stieve. "They are also perennial, which means they can overwinter and live year to year."

One drawback Stieve has found working with honeybees is that the insects tend to dislike restricted areas, such as greenhouses.

Bumblebees, on the other hand, are content to working in contained spaces. But they are more expensive (\$100 for a colony of 75-100 bees) and they only live for three to four months.

## NOTICE! Binkley & Hurst Bros. Inc. ANNUAL YEAR END DISCOUNT SALE DAYS

Check the December 7th issue of Lancaster Farming

Section C - Farm Equipment Page 1-19

Section D - Construction Equipment Page 10

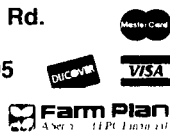
Save on Thousands of Parts Items and  
New & Used Equipment including Tractors, Skid  
Loader, Farm Machinery, Excavating Equipment,  
Trailers & Much More!

**NOW IS THE TIME TO SAVE!**

P.S. NOTE! Certain New Machinery Discount  
Programs Expire on Dec. 31, 2002

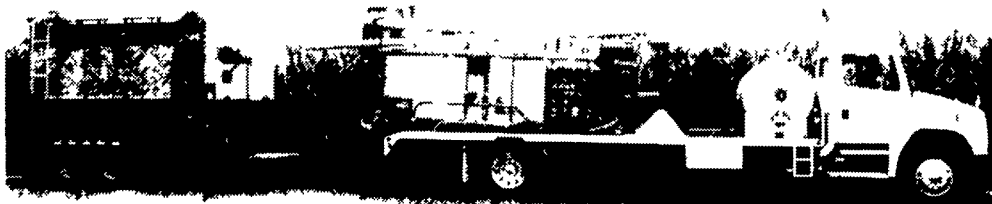
**BINKLEY-HURST  
BROS. INC.**

133 Rothsville Station Rd.  
P.O. Box 0395  
Lititz, PA 17543-0395  
(717) 626-4705  
1-800-414-4705



**Lancaster  
Farming's  
Classified  
Ads Get  
Results!**

## The ROAST-A-MATIC Grain Roaster & Cooler Unit is superior to other methods of heat processed grain



~ Prevents deterioration of elevator legs from hot grain condensation ~ Saves handling time ~ On the farm drying  
Have your soybeans, corn, wheat, oats, sorghum and barley roasted, cooled and stored on your farm

**SCHNUPP'S GRAIN ROASTING, INC.**

416 Union Rd. Lebanon PA 17046  
1-800-452-4004 717-865-6611  
David N. Groll  
Rt #3, Lewisburg, PA 17837 570-568-1420

Contact us for the  
availability of roasted  
corn and soybeans



## Not Just Another Belt!

**SUPER HC® AND SUPER  
HC® MOLDED NOTCH  
BELTS** are designed for use  
where conventional V-Belt  
drives are impractical, where  
space, weight or sheave  
limitations are present and  
where increased horsepower  
capacity and higher speeds are  
required.



### FEATURES:

- **Gates "Curves"**  
Concave sides, Radius Relief and Arched Top combine to minimize wear and assure proper support and strength
- **Full Oil & Heat Resistance**  
Special material used throughout the belt provides resistance and also helps resist ozone, sunlight, weather and aging
- **Tough Tensile Members for Extra Strength**  
Superior resistance to fatigue and shock loads. Special bonding material surrounding tensile members provides long service without separation
- **Molded Notches Reduce Bending Stress**  
Notches are precision engineered for uniform distribution of stresses. Also dissipate the heat of rapid flexing
- **Bandless, Precision Machined Edge for Even Wedging Action**  
Precisely machined to exact dimensions for uniform fit and reduction of belt slippage



The world's most trusted name  
in belts and hose.

### DEALER INQUIRIES

Join the leading team in belt marketing today. We are looking for dealers to market this competitive quality belt in new locations. Call Jay Laughman to discuss several dealership options.



**BeilettHydraulics**  
HYDRAULICS • PNEUMATICS • POWER TRANSMISSION  
322 East Main St. • Leola, PA 17540 • 717-656-4878 • Fax: 717-656-4682