

Fragile Raspberries Need Extra Care

COLLEGE PARK, Md. — Every year, Maryland imports close to \$4 million in raspberries.

Because they are fragile, raspberries need extra care when they are being transported long distances. As a result, imported raspberries are more expensive than those grown locally.

Unfortunately, raspberries do not grow easily in Maryland's cold winters and hot summers. However, the Maryland Agricultural Experiment Station (MAES) researchers are working to develop new varieties to solve this problem.

Maryland can replace imported raspberries with berries grown here, said Harry Swartz, head of MAES' raspberry breeding program. Today the program has expanded to include cooperators from Virginia, New York, New Jersey, and Wisconsin.

"We're fulfilling a regional need," Swartz said. "This is one of the most comprehensive raspberry breeding programs around."

Swartz is using every available means at his disposal to improve the genetic makeup of raspberries, including something which hasn't been used with raspberries before: *Agrobacterium*-mediated transformation.

In a process known as transformation, *Agrobacterium*, the cause of crown gall disease, splices some of its own genes into the genetic makeup of its host plant. If Swartz replaces the bacterial genes with genes he has chosen — for example, genes which code for disease resistance or the ability to

grow in warmer climates — the bacteria will instead insert those genes into the raspberry.

Swartz can culture the modified *Agrobacterium* with raspberry leaf cells. The bacteria, in turn, transform those cells with the chosen genes. Then, after killing the bacterial cells, Swartz can culture the transformed raspberry leaf cells into a whole new plant containing the desired gene or genes.

MAES' raspberry breeding program was the first to demonstrate that culturing a few raspberry leaf cells can generate a whole new plant, which is a key step in many breeding methods.

Swartz and his collaborators were the first to verify that raspberries can be genetically engineered. They have also produced the largest group of raspberries adapted to warm weather — raspberries are usually considered cold weather plants, unable to live in climates that get too hot. They have provided a wide range of traits for breeders to work with and use the widest range of species to get their hybrids.

Swartz hopes to encourage the growth of a raspberry industry in Maryland. "There are opportunities to grow raspberries on the Eastern Shore and in Western Maryland," he said.

Unlike many crops, raspberries are immune to late season frost. Also, because raspberries in Maryland can be grown close to large population centers, he said, transportation won't be so much of a problem. "Once adapted," he said, "the plants can really do well here."

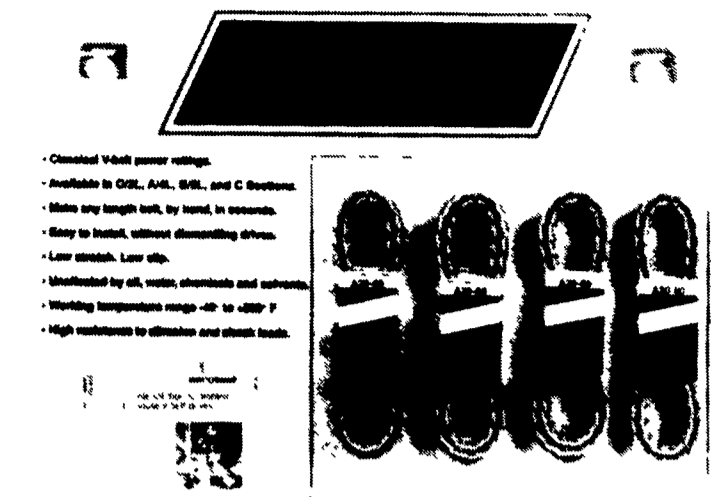
Aerotech Offers Belts As Replacements

LANSING, Mich. — The AeroLink™ belts that have proven so successful on Aerotech belt-drive fans are now available from Aerotech, Inc., for replacement of conventional V-belts on other fans and machinery.

AeroLink belts (PowerTwist belts from Fenner Manheim®) provide smoother operation, longer belt and bearing life, and eliminate the need for a belt tightener. They can be easily installed without dismantling drives. The unique link design of these belts lets you wrap the belt around the pulleys, add or remove links for proper length, and install the belt in seconds without special tools.

These belts are unaffected by oil, water, chemicals, and solvents. Because they combine high strength with low stretch, AeroLink belts are highly resistant to abrasion and shock loads while delivering classical V-belt ratings.

Also, these belts can be made to the required length by hand, in seconds. They are available in A/4L, 3L, B/5L, and C cross sections. The A/4L size is stocked in



- Classical V-belt power ratings.
- Available in CXL, AXL, BXL, and C sections.
- Make any length belt, by hand, in seconds.
- Easy to install, without dismantling drives.
- Low stretch. Low slip.
- Resistant to oil, water, chemicals and solvents.
- Working temperature range -40 to +250° F.
- High resistance to abrasion and shock loads.

Fenner Manheim

The AeroLink belts that have proven so successful on Aerotech belt-drive fans are now available from Aerotech for replacement of conventional V-belts on other fans and machinery.

packs of 5, 25, and 100-foot lengths.

Aerotech markets a full-line of environmental control products, including fans, evaporative cool-

ing systems, heaters, and controls.

For more information, contact Aerotech, Inc. 929 Terminal Road, Lansing, MI 48906, (800) 227-AERO or (517) 323-2930.

Georgia Site For Hereford Show

KANSAS CITY, MO. — Polled Herefords will be featured in the Peach State July 17-22 when junior members of the American Polled Hereford Association (APHA) travel with their families to Georgia to celebrate the 20th year of the Junior National Polled Hereford Show and Forum.

The "Georgia on My Mind" Polled Hereford extravaganza will be held in the town of Perry, located in Georgia's heartland,

two hours south of Atlanta. Junior National activities will take place at the state-of-the-art Georgia National Fairgrounds and Agricenter, a multipurpose complex dedicated to Georgia's youth and agriculturists.

APHA junior members ages 7 to 21 are expected to exhibit some 350 head of Polled Hereford heifers, cow-calf pairs, and steers at this year's event. Held annually, the Polled Hereford breed's national junior show is one of the nation's largest single breed junior cattle shows. The Junior National is a family event that features

some 1,500 total participants from more than 30 states nationwide.

In addition to the exhibition of breeding stock, 16 individual, team, and scholastic competitions are available to junior APHA members before and during the Junior National.

For additional information or to receive entry forms for the 20th Junior National, contact Marilyn Emory or Karen Miller at APHA, 11020 NW Ambassador Dr., Kansas City, MO 64153, (816) 891-8400. Entries are due by June 1.

**June Is Dairy Month
SPECIALS
for the DAIRYMAN**


 CO-FLEX HOOF WRAPS \$1.35 2"x5 yards	 LA-200 Injectable 250 ml \$33.95
 BAG BALM \$3.25 10 oz. can	SALT BLOCK 50 lb. white \$3.75 <hr/> KENVET COTTON 1 lb. roll \$3.00

**Good Selection Of
FLY SPRAY & BAIT In Stock!**

Specials Good Thru June 30, 1993

**HUBER'S
ANIMAL HEALTH SUPPLIES**

810 Tulpehocken Rd., Myerstown, PA
717-866-2246
 Hours: Mon., Thurs., Fri. - 7:30 to 8
 Tues. & Wed. 7:30 to 5; Sat. 7:30 to Noon




Free Milk

at Lebanon Valley National Bank

In honor of National Dairy Month, Lebanon Valley National Bank's agricultural loan professionals and LVNB-area farmers invite you to enjoy a refreshing glass of milk at our Womelsdorf, Myerstown, Schaefferstown, Pine Grove, Ephrata, Warwick Center, Elizabethtown and Harrisburg offices.

Milk's the One... and you are too! We're ready to serve your agricultural banking needs.

LVNB Ag Group:
 Mike Firestone - Sr. Agricultural Loan Officer
 Bob Donaldson - Agricultural Loan Officer
 Sean McKinney - Agricultural Loan Officer
 John Eaton - Agricultural Loan Officer
 Kathy Stewart - Sr. Agricultural Loan Coordinator
 Terry Hill - Agricultural Loan Coordinator
 Sally Derr - Agriculture Secretary (717) 274-6906



**Lebanon Valley
National Bank**

Member FDIC Equal Opportunity Lender
 Corporate Headquarters 555 Willow Street
 Lebanon, PA 17042

WATER FILTERS

Will Ship
UPS
at extra cost



\$1.99
Ea.

Qty. 128 Case Lot
 Micron Sizes
 1,5,10,20,30,50,100



**CRYSTAL CLEAR®
WATER SYSTEMS**

Myerstown, PA

VISA MASTERCARD DISCOVER

Call (717) 866-5388