

# Cornell finds new grape nematode

ITHACA, N.Y. — A new nematode species that scientists have never seen before is attacking grape plants in New York State. This discovery is sparking a flurry of research activities to find countermeasures against this potential threat.

Soil-dwelling and microscopic in size, nematodes are destructive to a wide range of agricultural and ornamental crops throughout the world. Some types of nematodes even attack farm animals.

"Nematodes are so small that five to ten can sit on a pinhead comfortably," says Martin B. Harrison, a nematologist and associate professor of plant pathology in the New York State College of Agriculture and Life Sciences at Cornell.

Harrison and two visiting international scientists discovered the nematode in 1981 and in some of the research plots of Cornell's Vineyard Laboratory in Fredonia (Erie County), New York. The laboratory is administered by the College's New York State Agricultural Experiment Station at Geneva.

Sharing the discovery are Kazuya Hirano of Chiba University

in Japan and Hurui Cheng of Nanjing Agricultural College in the People's Republic of China. These scientists spent a year with Harrison working on nematode problems.

Based on a preliminary survey of the State's grape-growing areas, conducted in 1983 by the New York State Department of Agriculture and Markets, Harrison reports that the new nematode apparently is confined to the Fredonia research vineyard.

"We have no evidence that this new nematode is widespread at the moment," he says. "More extensive field surveys, however, may be needed to size up the true picture."

Several types of nematodes are known to attack grape plants in New York. Overall, at least 100 nematode species are present throughout the State, posing a potential threat to virtually all types of food and ornamental crops.

The newly discovered nematode belongs to a group called Meloidoderita. Little is known about this group. The first nematode species belonging to this genus was found in Russia in 1966;

the same species was discovered recently in Israel. It attacks mint plants in both countries.

The second species belonging to the same genus was found in a weed species in Maryland in 1981. More recently, scientists in South Africa reported another species, one that attacks sugarcane.

The nematode found in Fredonia is the fourth species of this genus. Worldwide, more than 2,000 species of plant-parasitic nematodes have been documented thus far.

This marks the first time scientists in Cornell University have reported on a new species of nematode to the scientific world.

"Nematodes are one of the most serious agricultural pests known," Harrison comments.

In the United States, nematodes annually cost farmers \$4 billion in crop losses. In addition, farmers spend more than \$60 million on chemicals each year to combat the pests on more than 1.7 million acres of cropland throughout the country.

Yet to be named, this new nematode attacks mainly young grape plants, stunting them severely, according to Harrison.

Its effect on grape yields is yet to be determined, because it takes several years before young plants come into production.

One of the curious aspects of this nematode is that, unlike other types, the female deposits eggs into her uterus, which develops into an egg-holding structure. When this structure is fully formed, other parts of the female's body deteriorate and die.

In spring, eggs held in the uterus hatch and young larvae crawl out of the protective structure. Each uterus can hold 100 to 200 eggs. Unique to this genus of nematodes, the egg-holding uterus is known to scientists as a "cystoid body."

Females live and die within a plant root, but males live in the soil outside the root. While spending its life in the soil, the male does not seek any food; it simply subsists on food reserves in its body.

"Unlike the female, the male does not have any feeding apparatus," Harrison points out.

More oddly, the male develops into a mature nematode directly from the juvenile stage of its development.

Studies of this nematode have shown that a number of grape

varieties are susceptible to the wormlike creature. Among them are Elvira, Dutchess, Delaware, Rosette, Aurora, Cascade, Chancellor, Cheloise, de Chaunac, and Concord.

Although the new nematode now poses little threat to New York's grape vines, the discovery is an exciting event in the world of science.

"It's very exciting to find a new nematode," Harrison says. "It's not only a new species, but it belongs to a group about which we scientists know very little."

Harrison is proposing "Vitis," the Latin word meaning grape, as the official name of the new species.

Meanwhile, Harrison and his colleagues are stepping up studies of the new nematode, in terms of biology, host range, and biological, cultural, and chemical control measures, among other things.

## Master Mix fund tops \$20,000

FORT WAYNE, Ind. — Central Soya Company, Inc., manufacturer of Master Mix feeds, has set aside over \$20,000 for dairy product promotion half way through the company's "Buck-A-Ton" program. That amount is expected to more than double by June 30.

Central Soya is donating \$1 per ton of dairy feed sold during May and June to national and local dairy associations, according to David Longmire, Master Mix dairy products marketing manager. The fund will be equally divided between the United Dairy Industry Association and local dairy groups for use in promoting dairy product consumption.

"With the passing of the Milk Diversion Program, it came across loud and clear that anyone involved with the dairy industry, from farmers to farm suppliers, needs to be involved in promotion," Longmire says. "We want to make our contribution to the effort to increase consumption of dairy products."

Central Soya is the first feed company in the U.S. to donate funds for dairy product promotion.

**DON'T  
BE  
SLOW**   
**Call Now To Place Your  
CLASSIFIED AD**  
Ph 717 394 3047 or 717 626 1164

## COMPLETE FARM PAINTING



**INDUSTRIAL RESIDENTIAL COMMERCIAL**  
**We Use Quality Paint  
AERIAL LADDER EQUIPMENT**

- Modern and Efficient Method
- Reasonable Prices
- Spray-On and Brush-In Method
- Sandblasting if Necessary

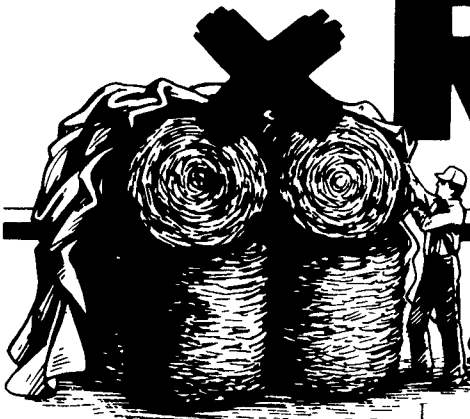
For Free Estimates Write or Call:

**ESH SPRAY PAINTING**  
717-687-7007 or 687-8262

**SPRAY-ON AND BRUSH-IN  
PAINTER**

637 Georgetown Rd.  
Ronks, PA 17572

# STOP THIS ROT.



**Anchor Sila-Lator 2X  
or Silage Inoculant 160X  
keeps out rot,  
seals in nutrients.**

Inside every untreated silo, pit and bale of hay lurks rot. The monster that eats protein and energy, leaving a trail of waste, nutrient loss and musty, stale forage behind it.

Now you can stop this rot with Anchor silage inoculants—Sila-Lator 2X for dry application or Silage Inoculant 160X for liquid. Both are proven microbiotic products that help preserve most types of silage—corn silage, haylage and high-moisture corn—and now baled hay.

This patented bacterial strain beats rot to the punch, multiplying more than twice as fast as other strains. And, unlike other strains, it grows in highly preservative pH's as low as 3.2 in both hot and cold conditions.

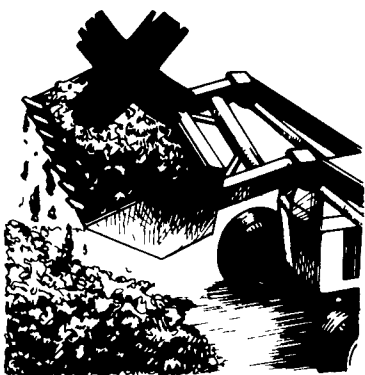
With rot under control, you get more protein and energy, more dry matter, improved palatability, less heat loss and runoff. That's proven in leading university trials. So you can store your silage or baled hay longer, and get better-doing animals from better-quality silage or hay.

You might think that fighting rot is a costly battle. Not true with Anchor silage inoculants. It's less than a dollar a ton to treat silage. And it's only a fraction of the cost of acid preparations to treat baled hay. Application's also a snap.

Now's the time to control musty rotten forage. And nothing does it faster than Anchor silage inoculants—for higher-protein, higher-energy silage and hay.

Ask for Anchor Sila-Lator 2X or Anchor Silage Inoculant 160X today from your Anchor animal health supplier. Or call toll-free 1-800-821-7467 (In Missouri, call collect 1-816-233-1385.)

**ANCHOR**  
ANCHOR ANIMAL HEALTH  
2621 N. Belt Highway, St. Joseph, MO 64502



With Anchor silage inoculants, you get the fastest protection possible against rot. That's because they contain a specially selected team of beneficial bacteria, aided by four enzymes, featuring something no one else has—*Streptococcus faecium* Cernelle 68\* U.S. Patent No. 4,133,818