

CORNELL UNIVERSITY

# STATION NEWS

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## BRIEFS



### NEW INTERNS IN COMMUNICATIONS SERVICES

During the next few months, you may be approached by a few unfamiliar faces. Communications Services has two new interns who will be helping produce the "Station News" and doing other work for the unit around the campus. Kelly Stevens, from Ontario, New York, will be doing photography and graphic design for Station publications. Peter Seem, of Seneca Falls, New York, will be writing stories and press releases. Both will be helping with poster production and events, as needed. Stevens is a graduate of the Rochester Institute of Technology, with a degree in Biomedical photography. Seem is a student at L. B. Pearson United World College, in Victoria, British Columbia, where he is working toward an International Baccalaureate.



**The Sterling Renaissance Festival**  
Sterling, NY  
Saturdays and Sundays Only  
**July 1 to August 13**

OPEN RAIN OR SHINE  
GET REDUCED COST TICKETS  
FROM THE STATION CLUB  
JULY 1 - 2 IS  
CHILDREN'S WEEKEND  
ADMISSION IS \$3

ADULT: \$12.50 • CHILDREN: \$5  
Purchase your tickets through Station Club and also receive a coupon for \$5 off embroidered sweatshirts at the Renaissance Festival. Contact Cheryl TenEyck at x2379 or e-mail cnt1@nysaes.cornell.edu

## Entomologists Fight Apple Pests Organically

The Experiment Station has teamed up with Singer Farms in Niagara County to develop more effective methods of controlling the pests that damage organically grown apples.

Jim Bittner, president of Singer Farms, dedicated 30 acres of his 500-acre farm to the organic production of apples five years ago. Singer Farms is a diversified operation, with 250 acres of stone fruit under production as well as apples. Singer Farms is the only commercial orchard in the Northeast growing organic apples.

"Yields were lower and the trees seem to be getting weaker and weaker," said Bittner, citing thinning and pests as the two biggest problems facing his organic crop.

Thinning three or four of every five apples so the remaining fruits receive enough of the tree's resources to grow to useable size is traditionally done chemically. There is no good organic substitute to chemical thinning. Organic growers are also severely limited in the tools they have to fight diseases. "[Apple] scab is challenging, because you only have sulfur," Bittner explained.

The decision of what is permissible for organic production is made by independent organic certification agencies. Inspectors visit Bittner's farm annually to certify that he is growing his apple crops organically. Different agencies, however, have different standards, and there is disagreement within the industry. "There is no legal definition of organic.... some people feel 'organic' production shouldn't involve using plastic irrigation hose, because plastic isn't natural," Bittner said.

Bittner approached entomologists Art Agnello and Harvey Reissig looking for better ways to ward off pests.

Agnello recognizes the challenges Singer Farms faces. "Apples are probably the hardest crop to grow organically... I can't think of any other crop that has so many different pests," he said. The team is testing three different methods on plots on the Singer Farm.

The most traditional approach is an alternate spraying program, which replaces pesticides with natural compounds, chiefly horticultural oil, kaolin clay, and Bt compound. The oil is a petroleum product permitted by the Organic Certification Agency that is partially absorbed into the leaves and controls mites. Kaolin is a fine clay that is sprayed every other week and covers the trees. "It looks like they've been white washed," said Agnello, describing the clay. Scientists are not certain of the mechanisms behind it, but the clay covering deters insects. Bt is an abbreviation for *Bacillus thuringiensis*, a natural bacterium that produces a chemical lethal to caterpillars.

Some of these sprays have already been proven effective in more arid climates with far fewer insects and diseases than in the Northeast. This spring's frequent rains have made spraying programs more difficult and less effective. Bittner's voice trails off in disgust, when describing the Kaolin clay, "It has been effective on the West Coast, in a desert climate. Here, where we get rain ever week it may not be as effective."

Michigan State University (MSU) has developed a microsprayer aerosol canister controlled by a microcircuit timer in conjunction with Ford. MSU is field testing the device, and provided the Experiment Station with units to test on the Singer Farm. With a deceptively quiet click, the device releases a burst of pheromones into the foliage of the tree it hangs in every three minutes. Pheromones are chemical signals produced naturally by insects to aid in attracting mates. The microsprayers disrupt the insects' mating and prevent reproduction by filling the air with pheromones. Smaller than a two-liter bottle, the microsprayer contains a combination of three pheromones sufficient to cover a quarter-acre for the entire 90-day growing season. Although this technique has shown promise in the field for codling moth, oriental fruit moth and obliquebanded leafroller, the phero-

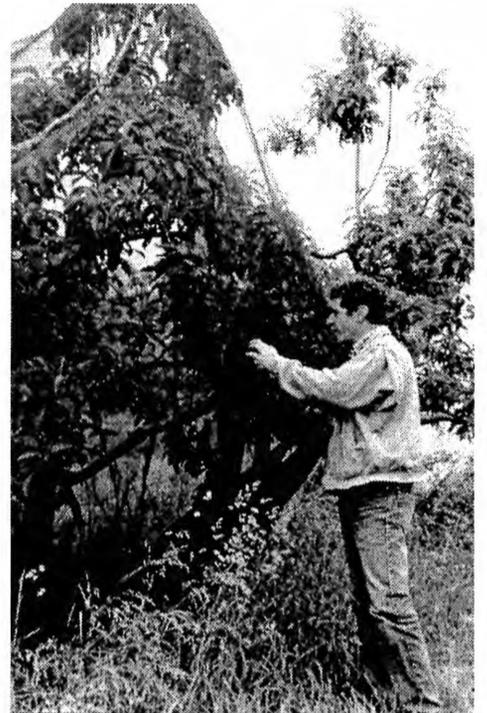


PHOTO BY KELLY STEVENS

*Entomologist Art Agnello demonstrates physical exclusion using cloth mesh cages, one of the methods of organic pest control they are testing on apple trees in Jim Bittner's orchard.*

(Continued on page 2)

CALENDAR of EVENTS

JUNE 23-30, 2000

FITNESS

AEROBICS

**Date:** Every Monday, Wednesday and Friday  
**Time:** 12:10 -1 p.m.  
**Place:** Sawdust Cafe

CLASSIFIED

PLEASE HELP US STAY CURRENT

If the item that you have placed in the CLASSIFIED section of Station News has sold, please notify Donna Boyce, x2492, so we can remove the ad.

**COMPUTERS FOR SALE** - great condition, good lab/office power and performance, ideal for students/families looking for a inexpensive system:

1) 200 Mhz Pentium MMX, 32 Mb EDO RAM, 4.3 GB hard drive, 40x CD-ROM, 2 Mb video card, sound blaster sound card, 56k flex modem, & 15" monitor.\$300 or BO.

2) 233 Mhz Pentium Celeron, 32 Mb SDRAM, 4.3 GB hard drive, 32x CD-ROM,

2 Mb video card, yamaha sound card, 56k flex modem, & 15" monitor. \$350 or BO.

E-mail Frank at fpw1@cornell.edu, or call x2406.

**FOR SALE:** 1986 Nissan 300ZX, 2 door, steel blue, standard 5 peed, sun roof, several more options, 120K miles, still runs like new! Asking \$3,000. Contact George at x2374 or gsa1@nysaes.cornell.edu.

**FOR RENT:** Large, 3 bedroom apartment above The Yarn Shop on Exchange St. in Geneva. \$500 includes all utilities and trash removal. Contact Nancy Long at x2288 or by e-mail at npl1@cornell.edu.

**FOR SALE:** Computer desk with paper shelves, pull-out for printer, keyboard tray, file drawer. Almost new condition. \$100 firm. Contact: Judy at 2273, 315-946-4953 or jla2

**WANTED TO RENT:** One bedroom furnished apartment for male graduate student. Needed August 20, 2000 for one year. Close proximity to NYSAES. Contact Sami El-Rakshy, sme22@cornell.edu

**FOR SALE:** Dog cage for large dog, like new. \$20. Call Dave x2496.

**FOR SALE:** 1990 Plymouth Acclaim, good condition, 3.0L V6, new trans & radiator. \$1500/BO. E-mail Pat at pgw2 or call x2221 before 2:30, 331-3941 evenings.

**WANTED TO RENT:** Post-Doc and PhD Student need a house to rent near the Station. Dawn and Torey will be moving here in July and anticipate living in Geneva or the surrounding area for 2 or 3 years. They have 2 large dogs and are looking for a nice, quiet home to rent. If you have any ideas, please call 607-539-3293.

**WANTED TO BORROW:** Area rugs or carpeting for Visiting Scientist now through mid-September. Contact Alan Taylor agt1@cornell.edu or x2243.

**PIGS FOR SALE:** Approx. 90-100 lbs. sold live. \$60.00 each. You pick up. Call Dave at x2496 or Jason at 315-585-2248.

**APARTMENT FOR SUBLET:** 2 bedroom apartment, heat included, off street parking, air conditioning available, small deck, pool access, 1 mile from the station, small pets ok. Available August until October 31st. New lease your option after October 31st. email Michelle at: mmc15@cornell.edu or call x2282.

**APARTMENT WANTED:** 1 bedroom, furnished for female Italian scientist. June 29- October 6, 2000. Non-smoker. Within walking distance of Station preferred, but may purchase car upon arrival. Second choice is a room with privileges. Contact Donna Soper (dns1) at x2234.

**HOUSE FOR SALE:** Close to the Station. 2 story, 3 bedroom home. Situated on a picture perfect lot with beautiful landscaping. Family room with fireplace, screened in porch, maintenance free exterior, newly painted trim, newer roof. Move-in condition! Have use of pavillion tennis courts, volleyball, basketball court. Great location. Call Bea Stoyla 315-789-3114.



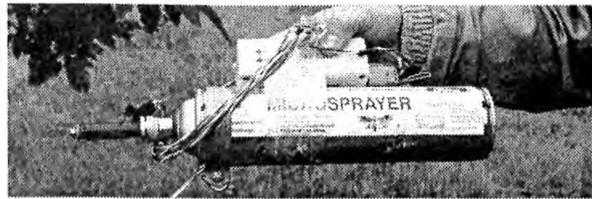
**SAVE THE DATE**  
**Red Cross Blood Drive**  
**August 28, 2000**  
**8 a.m.-1 p.m.**  
**Sawdust Cafe**

(APPLE PESTS, continued from page 1)

mones are very pest-specific. "Each pheromone only controls one specific insect, unlike pesticides," explains Bittner.

Agnello and Reissig are also testing a very unconventional approach to pest control they dub "physical exclusion using whole-tree screen cages." After pollination, they covered a row of apple trees on the Singer Farm with a simple loose-mesh, drawstring bag. Agnello explained the reasoning behind this method, "There are farms where they cover each individual fruit, but those are operations directed toward the very high-end market, like overseas and specialty food distributors."

"There's actually a company that manufactures those bags. We thought if it was feasible to bag each fruit, we could at least bag the tree," said Reissig.



Two views of the microsprayer developed by Michigan State University used for pheromone disruption. Lower photo shows position in tree.



PHOTOS BY KELLY STEVENS

Bittner said the market for organic products "is completely consumer driven. There is a market willing to pay a premium."

Prices for organic products are approximately double that of their conventional counterparts, but this is not always enough to make up for lower yields and increased costs. Last

year, organic apples from Singer Farms made little profit because of small amounts of fruit and insect damage.

The two researchers are optimistic that they can help Singer Farms improve over last year, when 30 to 40 percent of the crop was lost. Even with improvements, all of the organic apples produced are slated for processing. Without pesticides, Bittner said it is impossible to produce the quantity of organic apples perfect enough for sale as fresh produce in the Northeast. "People say they will accept blemishes [for organic fruit], but when they go to the store, it's the biggest, reddest apple they pick up."

Peter Seem

**Entomology and Plant Pathology Administrative Offices Moving**

The Entomology and Plant Pathology Administrative Offices must be vacated to allow removal of asbestos from the hallways. As of June 26, the offices will be located in the Barton Lab First Floor tower area. Please see below the new locations for the Administrative Staff.

**Entomology:**

- Wendell Roelofs Room 425 (fourth floor Barton Lab)
- Donna Roelofs Room 115
- Nancy Reissig Room 115
- Cindy Smith Room 109
- Donna Swartwood Room 109

**Plant Pathology:**

- Helene Dillard Room 114
- Janice Valerio Room 110
- Amy Andersen Room 110
- David Schusler Room 110

All phone extensions will be moved and remain the same for all staff. Please note that the offices will be moving June 26 and 27, and staff may not be accessible during that time. Your patience is appreciated.