# STATION NEWS

NEW YORK STATE AGRICULTURAL EXPERIMENT STATION

*Celebrating the past, shaping the present, inspiring the future.*

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Happy New Year 2008

## BRIEFS

### Mike Dickson Receives Award

Emeritus Professor Mike Dickson was the recipient of the "Vegetable Breeding Award of Excellence for Outstanding Contributions to Vegetable Breeding in Carrots, Snap Beans and Crucifers" The Award was made at the recent Bean Improvement Coop Meeting in Madison, Wisconsin.

### Total Quality Focus

Cornell University and Cornell Cooperative Extension are vital partners in the industry's success and future, and 2007 dramatically reaffirmed that. Dean Susan Henry of the College of Agriculture & Life Sciences, Dr. Tom Burr, director of the Geneva Experiment Station, and Dr. Tim Martinson who coordinates Cooperative Extension statewide have provided leadership and commitment which is shared by the many world-class scientists.

For over two decades, the New York Wine & Grape Foundation, with funds from the State of New York and several private sector partners, has funded a comprehensive research program focused on viticulture and enology. In 2007, with additional funds, a "Total Quality Focus" program was added which literally starts from the ground up (with a space-based, color-coded map of New York State showing where you can and cannot grow grapes reliably) and extends to grape growing practices, winemaking techniques, and the communication of the results to grape growers and processors. Budget permitting, the program will be continued and expanded in 2008.

Another highlight of 2007 was the October groundbreaking for a new Cornell Lake Erie Research and Extension Laboratory, reflecting years of efforts by industry rep-

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# Program Reinstatement Means Benefits for the Grape Industry

The New York State wine industry has grown by leaps and bounds since passage of the Farm Winery Act in 1976. Maximizing vineyard yield and producing quality wine are ongoing concerns for the industry, and they have a new partner in the effort. The federal government recently funded the reinstitution of the Grape Virus Indexing and Certification Program at the Station. Funding for the program also comes from New York State.

*Grape leaf exhibiting grape leaf roll virus symptoms*

The Grape Virus Indexing and Certification Program will facilitate the selection of clean grape material, the establishment of healthy vineyards, and the safe introduction of new germplasm from foreign and domestic sources that is suitable to local conditions. It is illegal to bring living plant material into the United States without it first going through the stipulated quarantine procedures. The quarantine is designed to ascertain the health of plant material, and protects the U.S. from diseases and pests the plants may carry that are not yet present in the United States. By selecting Cornell as only the second site designated to carry out quarantine and certification (after U.C. Davis), the federal government is recognizing the superior scientific capability Cornell offers.

The Grape Virus Indexing and Certification Program will test grape material in quarantine for growers who want to introduce foreign grape varieties into their vineyards. It will also certify material currently available through nurseries. Grapes are certified by the program as being true to type, and safe according to the current capability to test. Certification involves three basic types of testing. The first uses a bioassay to determine if host plants such as tobacco can be infected. In the second test, material from the quarantined vine is grafted onto an indicator vine, which will exhibit symptoms if a disease is present. The third test uses molecular testing in the lab to complement field techniques. The entire process can take four to five years, but waiting for certified material is worth it according to Plant Pathologist Marc Fuchs who directs the Cornell program. The program will also foster awareness through prevention education and recognition of virus symptoms among

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(BRIEFS, continued)

resentatives and the leadership of Senate Agriculture Committee Chair Catharine Young and Assemblyman Bill Parment. This state-of-the-art facility in far Western New York will not only benefit that region, but the entire state through research into quality and sustainability.

*The Wine Press*

## Former Geneva Student Gives Birth to First New Year's Baby In Norway

Berit Nordskog, a student who did some of her Ph.D work at the Experiment Station, gave birth to a son, Magnus Dahl Nordskog, at two minutes after midnight, January 1, 2008. He was the first baby to arrive in Norway in the new year. Both Berit and the father (Lars Robin Dahl) were interviewed and seemed quite astonished by all the attention they received from media all around Norway. Berit was here in 2003 (for one full year) and worked with Dave Gadoury, Chris Smart and Bob Seem on downy mildew. She received her Ph.D. from the Norwegian University of Life Sciences in 2006.

## New Applicator Orientation January 15 & 16, 2008

This message is for anyone who should become a certified pesticide applicator, per the requirements below. Agenda to follow.

**WHAT:** Annual Pesticide Applicator Certification Orientation (for new users of pesticides) and Pesticide Applicator Examination

**WHY:** The Cornell Pesticide Use and Application Procedures require that all new pesticide users at Cornell attend an orientation concerning the policies, procedures, and guidelines for safe and effective use of pesticides. At present, pesticide use is defined as any handling of pesticides, including: 1) pest control within buildings, outdoors, on University grounds, plants or animals; 2) teaching/demonstration of pesticide application(s); 3) recommendation of pesticide application or use; 4) pesticide-related efficacy testing, studies of impact on biological control agents, leaching, residue analysis, environmental fate, etc., and 5)

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(GRAPEVINE, continued)

grape growers.

In a recent survey of Finger Lakes vineyards, Fuchs found that two thirds of randomly selected plots were contaminated with grape leaf roll virus. Leaf roll virus is common worldwide; there are 10 strains of the disease. Three strains were identified in the New York vineyard plots, two of which were new to New York and had likely come in on contaminated vines that never underwent proper quarantine and testing. In an area that has seen such a rapid growth of the wine industry, focus has been on establishing vineyards now; viruses in those vineyards are only recently getting attention and being recognized as a threat.

"Viruses constitute a major limiting factor to grape and wine production," says Fuchs. "Viruses reduce vine vigor, cause yield losses, affect fruit quality and shorten the productive life span in vineyards. Once vines are infected by a virius, there is no cure in a vineyard. The only way to secure a healthy and high quality crop is to ensure that the planting material is virus-tested and healthy, and that factors that contribute to re-infestation are well controlled."

Grape viruses tend to be overlooked because they often do not kill the plants. The vines continue to produce, and in a new vineyard, the diseased plants may get lost in the mix. Leaf roll infected vines produce less, however, leading to yield losses of up to 30% or more. The virus also causes fruit to ripen as much as two to three weeks late which is a major concern in a cool climate like the Northeast where late ripening grapes lend green pepper and other off flavors to wines, which is a real quality concern. Moreover, viruses can change the overall fruit chemistry by increasing titratable acidity and lowering sugar content in fruit juice, both of which lead to difficulties for wine producers.

Starting with healthy planting material will increase yield and quality for wineries in the region. The Grape Virus Indexing and Certification Program can certify that vines have no known disease. Growers, and the nurseries which supply them, are expressing increasing interest in Fuchs' program, gaining an increased appreciation for the damage viruses do, and how to prevent them.

"The virus indexing and certification program will fill an existing gap in the production of healthy grape material in New York," says Fuchs. "The program is expected to benefit the grape and wine industry by providing it with a competitive edge in terms of improved quality and sustainability. It is a privilege to serve this important industry, and I am looking forward to working closely with federal and state officials, nurseries, growers, and extension specialists."

*L. Keller*

# Juice Waste Turned to Gold

In 2006, the grape industry in New York State processed 108,600 tons of concord grapes into juice valued at nearly $17 million. That figure could increase significantly if juice waste is processed into grape seed oil, but the grape industry needed an efficient, cost effective way to do it. Dr. Olga Padilla-Zakour and her team at the New York Food Venture Center (FVC) have optimized the process for cold-pressing high quality concord grape seed oil from concord grape juice waste, which is made up of seeds, skins, and stems. Through their efforts, the grape industry can take something with no economic value (waste) and produce something with significant economic potential.

The Grape Growers Cooperative Juice Company in Westfield, NY provided the FVC with 1000 gallons of juice waste to conduct their research. Padilla-Zakour then evaluated various methods for separating the seeds from skin and stems, determining that the seeds were best separated by first drying the waste in a grain dryer, or nut or coffee roaster for smaller batches. The dried mass is then sifted with a thresher and a clipper screen separator, resulting in output that is 95% seeds, ideal for pressing. An additional discovery was that wet grape juice waste contains an average of twice as many seeds as grape pomace (a drier waste product) making grape juice waste a better choice for oil processing.

The team used a mechanical press designed for fruit seeds to cold-press the separated seeds. They then experimented with methods to filter and clarify the resulting oil using readily available, commercial equipment. The most promising method was a combination of centrifuging followed by pad filtration. The resulting oil is nearly clear, and thus acceptable in appearance for retail. The color is good and with an aroma of Concord grapes; the oil has gotten rave reviews from Wegmans' chefs who recognize its gourmet potential.

Grape seed oil is prized for its health benefits and as a superior product for frying, other types of cooking, and use in dressings. It is cholesterol free, very low in saturated fats, contains linoleic acid and antioxidants which benefit the heart and positively affect cholesterol levels, is rich in Vitamin E, and contains high-density lipoprotein, which helps lower high blood pressure. Grape seed oil is widely used in skin care products because it is easily absorbed by the skin but doesn't feel greasy.

Most grape seed oil for sale in the U.S. is imported. If the New York grape industry can produce quality oil, and Padilla-Zakour and her team have proven that they can, then the oil could be a very attractive addition for wine trails and specialty foods markets as a specialty/regional product.

*L. Keller*


*(BRIEFS, continued)*

transportation or storage of pesticides.

**EXEMPTIONS:**

1) Licensed veterinarians and licensed veterinary technicians working under the direct supervision of a licensed veterinarian in a vet facility are exempt from the requirement for certification when applying "general use" pesticides. 2) Small laboratory quantities of pesticides used for analysis and treatment of samples in a laboratory and in an environmentally non-dispersive manner are exempt from the requirement of attending the orientation.

**WHO SHOULD ATTEND:**

1) Anyone newly involved in, or who is expected to be involved in, pesticide use, as defined above. 2) Anyone involved in pesticide use, as defined above, who has not previously attended this orientation program.

**WHEN:** One afternoon and one morning, both required: January 15; 12:00-5:00 and January 16, 2008 8:00-12:45

**WHERE:** 400 Riley-Robb

**REGISTRATION:** All interested persons should contact Eric Harrington, 5-0485 or eh22@cornell.edu. We will discuss the categories of certification that you require, your eligibility, and other details as necessary.

**PRE-REGISTRATION IS MANDATORY.**

**ELIGIBILITY:**

You can become a Certified Commercial Technician if you have: - completed a 30-hour training course or - completed a bachelor's or associate's degree in a related field or - have 2 years experience as an apprentice (applying under a fully certified applicator's supervision)

You can become a Certified Commercial Pesticide Applicator (fully certified) if you have: - more than 1 year experience as a technician + 12 hours of category specific recertification training or - more than 2 years experience as a technician or - more than 3 years experience within the last 5 years as an apprentice or - more than 3 years experience within the last 5 years as a private applicator or - certification in a state with a NY reciprocity agreement (i.e. Pennsylvania).

Any person who cannot meet the education and/or experience requirements to become a technician or fully certified applicator

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## CALENDAR of EVENTS
JAN 4 - 18, 2008

## MEETINGS

### CHAIR'S MEETING
**Date:** Tuesday, January 15, 2008
**Time:** 8:30 AM
**Place:** Director's Office

### CHAIR'S & UNIT LEADERS MEETING
**Date:** Thursday, January 17, 2007
**Time:** 1:30 PM
**Place:** Jordan Hall Staff Room

STATION SAFETY COMMITTEE

## SAFETY TIPS

### Operation Status
Call the information line at 787-2011 or visit www.nysaes.cornell.edu to learn about the Station's operational status during inclement weather or closure due to an emergency.

## CLASSIFIEDS

**FOR SALE:** Technics Digital Piano. Perfect for student or hobbyist musician. Size of a Spinet Piano, with roll top keyboard cover. Nice furniture and a very nice piano with true piano sounds including Grand, Rock, Honky Tonk, and electric. Other sounds include vibes, harp and more. Very nice key action and touch. Includes on-board metronome and one-touch scale octave changing. Has earphone plugs for quiet playing and monitoring, 3 pedals to sustain staccato, and includes a mini-sequencer and MIDI in, out and thru. Very nice instrument in excellent condition. $1000 firm. (Exact same instrument has been for sale in Finger Lakes Times for $1600). Call Ed Lavin at x2241 or email EHL2@cornell.edu.

*Congratulation to Ping Wang, his wife, Kelly & daughter, Lucy on the arrival of Lilly Wang on December 28, 2007. Everyone is home doing fine.*

## TAEKARDIO AND BOKKENKICK

**Day:** Monday and Wednesday
**Time:** 12 - 1 PM
**Place:** Jordan Hall Auditorium
**Cost:** $25 for 6 weeks

Beginning with the New Year, Tina Felice of Geneva Martial Arts will introduce a new exercise called "BokkenKick". BokkenKick is a low impact cardio workout using wooden "bokken" sword techniques and Taekwondo kicks set to music. Tina will alternate between BokkenKick and TaeKardio classes

Come, join in the fun and fitness!
For more information, contact Tina Felice at email:
mastertina@genevamartialarts.com

**New participants receive two free classes. Please bring water, floor mat, towel and wear comfy clothes.*

## *Restorative Yoga Class*

Stress of the holidays leaving you feeling run down? Tense? Anxious?
Or all of the above?
Join us for a relaxing and rejuvenating evening of restorative yoga poses and relaxation techniques. Mats and blankets provided, come with an empty stomach.
Prior yoga experience not required.
Monday, December 17, 5:30-7 PM
Jordan Hall Auditorium $10
RYT Margaret Newland

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must become a Commercial Pesticide Apprentice. An apprentice must receive 40 hours of pesticide use experience under the supervision of a certified applicator including 8 hours of "core" instruction. Apprentices must work under the direct supervision of a fully certified applicator until they have gained enough experience to become Technicians. Apprentices may attend the orientation program in January to receive hours toward their core training requirement. Apprentice training should be documented on the form "Documentation of Apprentice Training", available at http://oeh.cals.cornell.edu/AppTrain.html. More detailed information about supervising apprentices can be found at http://oeh.cals.cornell.edu/AppGuide.html.

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**PROOF OF EXPERIENCE:** Must be provided on letterhead from the certified applicator under whom you gained your experience and must be within the last 5 years. I can provide details at the time of registration.

**PROOF OF EDUCATION:** Must provide an official copy of your transcript, or a 30 hr course certificate.

You will be required to bring proof of experience and/or education to the exam, not the orientation program itself.

**REQUIRED READING:** Each applicator needs to have:

1) a copy of the Pesticide Applicator Training Core Manual (Sixth Printing, 12/03; blue and white binder);

2) at least one category manual, for the specific category of certification, and

3) the Cornell University Pesticide Applicator Handbook (PAH). In addition, anyone taking the category 1A exam (ag plant), category 2 exam (forest), or category 4 exam (seed treatment) must have a copy of the EPA How-to-Comply manual for information about the Worker Protection Standard. All manuals and the PAH are available from the PMEP Educational Resources Office at 255-7282. The Resources Office can send the manuals to a campus address through campus mail, and will take Cornell account numbers or procurement cards for payment. We will discuss the required category manuals when you call to register.

**EXAM:** The exam will be offered on the Ithaca campus by the DEC on February 1, 2008. More details on the exam will be provided at the Orientation Training.

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