

# **The Vegetable & Small Fruit Gazette**

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## Quote for Thought from Pete Ferretti

*One man's wage rise is another man's price increase.*

*~Harold Wilson*

# Day-Neutral Strawberry Production Events

Kathy Demchak, Penn State Horticulture

If are you growing or considering growing day-neutral strawberries, there are two occasions coming up in September and October where you can learn about them and share experiences with other growers. The first is in Oakland, MD at Harry Swartz's new farm on September 18, and the second will be at Penn State's Horticulture Research Farm at Rock Springs on October 16. You can attend either one. Please see the details on each below. These events are conducted as part of a three-year Northeast SARE Research and Education Grant, "An Integrated Approach to Developing a Day-Neutral Strawberry Production Industry".

## **Appalachia Strawberry Field Day** Oakland, MD

September 18, 2008 5:30pm

(Adapted from an announcement by Willie Lantz, Univ. of MD)

This evening field event will feature research conducted through the above grant, which has focused on propagation and production of day neutral strawberries in an annual system. The system is designed to produce fruit during the summer months when local fruit is typically not available. The production system is a great fit for growers in cooler areas of the region as strawberries require cool summer temperatures. The goal of the project is to develop a system of propagating, growing and marketing high quality fruit throughout the summer months.

### **Topics:**

- Variety Trial – Participants will be able to view one of two variety trials with 13 different day neutral varieties
- Plastic Mulch Colors for Day Neutral Strawberries
- Post Planting Flower Removal
- Spring versus Fall Planting of Day Neutral Strawberries
- Production on 2<sup>nd</sup> Year Plantings
- Fertilization of Day Neutral Strawberries
- High Tunnel Production with June Bearing Plants

### **Speakers:**

Dr. Harry Swartz, Associate Professor – Horticulture, University of Maryland  
Kathy Demchak, Sr. Extension Associate – Horticulture, Penn State University  
Dr. Lewis Jett, Extension Specialist – Horticulture, West Virginia University  
Willie Lantz, Extension Educator, Maryland Cooperative Extension  
Sherry Frick, Extension Program Assistant, Maryland Cooperative Extension

### **Location:**

The field day will be held at the newly established farm of Dr. Harry Swartz. The farm is located south of Oakland along Rt. 560 and the address is 4771 Gorman Road, Oakland, MD 21550.

### **Registration:**

The cost of the field day is free and includes a barbeque meal afterwards. If you are planning on attending please call the Garrett Co. extension office to register at 301-334-6960.

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The Pennsylvania State University

**Day-Neutral Strawberry Production Workshop** Rock Springs, PA

October 16, 2008 10:00am – 3:30pm

**Topics:**

Information will be presented both indoors and in the field, where growers can walk through our day-neutral cultivar experiment and see the performance of 12 different cultivars and selections. Results from earlier high tunnel experiments with other day-neutral cultivars and selections will be presented, as well as the topics discussed at the Maryland meeting as listed above.

**Speakers:**

Presenters will be Kathy Demchak from Penn State University, and Dr. Harry Swartz and Willie Lantz from the University of Maryland.

**Location:**

This event will be held at the Penn State's Horticulture Research Farm at Rock Springs, PA, which is located on Rt. 45, west of Pine Grove Mills, PA. Coming from the East, watch for the Russell E. Larson Agricultural Research Center sign on the right, then watch for lettered entrances, and turn left at Gate H. Coming from the West, this entrance is just after the ones for Ag Progress Days and will be on your right.

**Registration:**

The event is free, and includes a lunch (probably involving strawberries), and refreshments. However, we do need to limit attendance to 45 people. Please call 814-863-7716 by October 9<sup>th</sup> and leave a message that states that you'll be attending the day-neutral workshop, your name, how many will be attending, and contact information, preferably an email address, or a phone number in case we need to contact you. A mailing address is third preference. We won't contact you unless something unusual happens that requires cancellation of the workshop, like a hurricane.

# Statewide Cultivar Trials: Bell Peppers

Elsa Sánchez and Mike Orzolek, Penn State Horticulture; Tim Elkner and Lee Young Penn State Cooperative Extension

Selecting cultivars is one of the most important production decisions made every year because it influences all other production practices. It is not uncommon for a cultivar to perform well in one region or state and poorly in another because environments and soil types differ. With that in mind we've initiated a statewide coordinated effort to conduct cultivar trials on different vegetable crops to provide more information that can be used in selecting cultivars. This year's trials are being funded by the Pennsylvania Vegetable Growers Association and the first crop we're evaluating is green bell peppers.

Bell pepper cultivars are being evaluated in the field at the following locations: in central PA at the Russell E. Larson Research and Education Center in Rock Springs, in eastern PA at the Southeast Research and Extension Center in Landisville and in western PA at Janoski Farms in Allegheny County. Additionally, cultivars are being trialed in three high tunnels at the Russell E. Larson Research and Education Center. If you live or are traveling near any of these locations and want to see how the trial is progressing, contact any of the authors of this article to arrange a tour.

The cultivars being trialed in the field are: 'Snapper' from Johnny's Selected Seeds, 'Red Bull' from Sakata, 'Socrates' from Stokes, #209, ACR 285, 'Escalade', 'Excursion', 'Excursion II' and 'Escape' from Abbott & Cobb, 'Polaris' and 'Legionnaire' from Seedway, 'Stiletto' from Siegers and 'Lynx' and SP-05-47 from NuSeed. Additionally, four standard cultivars, 'Lantern' from Johnny's and 'Revolution', 'Aristotle' and 'Paladin' from Stokes, are being grown for comparisons.

In the high tunnels we're evaluating 'Snapper', 'Escalade', 'Excursion II', 'Lynx', SP-05-47, 'Aristotle', 'Lantern' and 'Paladin' from the same seed sources as above.

The peppers are being grown in a plasticulture system using drip irrigation, black plastic and a double row of peppers with 12 inch spacing between plants. The first harvest occurred in late July at all field locations and we've been harvesting from plants in the high tunnels since early July.

By trialing the same cultivars in locations across the state we can provide statewide and region-specific recommendations for selecting cultivars once the trials are completed over two years. In the 2009 growing season the bell pepper trial will be conducted again to verify repeatability of the results we get this year. In 2010, we hope to provide updated recommendations in the Commercial Vegetable Production Recommendations guide and in presentations at winter meetings.

# Diagnosis, Visual Assessment and Management of Plant-Parasitic Nematodes of Vegetables and Small Fruit in the Northeast

Beth Gugino, Penn State Plant Pathology

Ever wonder what plant-parasitic nematodes do to your crops and profitability, or how you can manage them on an as-needed basis? Then plan on attending one of our NE-SARE funded workshops titled “Diagnosis, Visual Assessment and Management of Plant-Parasitic Nematodes of Vegetables and Small Fruit in the Northeast”. This workshop has been designed to train participants (county extension educators, regional specialists, crop consultants, IPM practitioners, interested growers and other ag service providers) throughout the Northeast in nematode diagnosis and management and to provide hardcopy and electronic resources that can be used on-farm and in various outreach activities. The topics to be covered include: nematode biology and ecology (aka Nematology 101); signs and symptoms of nematode damage in the field and on vegetable, small fruit and some ornamental crops; soil nematode assessment (focusing on on-farm methods); and management options and managing nematodes on an as-needed basis. Workshop participants will receive a 3-ring binder containing printed resources, CD-ROM containing PowerPoint slides, fact sheets, etc. for use as a future reference, and a soil nematode assessment that contains all the supplies necessary to conduct on-farm nematode assessments in several fields.

The three workshops will be held this fall on October 10<sup>th</sup>, 21<sup>st</sup> and November 18<sup>th</sup> in Newport, RI, Westampton, NJ and Allentown, PA, respectively. The first workshop on **October 10<sup>th</sup>** will be held in conjunction with the Northeast Division Meeting of the American Phytopathological Society (APS) Meeting. To accommodate this venue, the workshop will be slightly condensed and run from 8:30 am (registration) to 2:00 pm at the **Hyatt Regency Newport in Newport, RI**. The following two workshops will be held all day from 8:30 am to 5:00 pm on **October 21<sup>st</sup>** at the **Rutgers Cooperative Extension Office – Burlington County in Westampton, NJ** and on **November 18<sup>th</sup>** at the **Lehigh County Cooperative Extension Office in Allentown, PA**.

The workshop facilitators include George Abawi from Cornell University, Jim LaMondia from The Connecticut Agricultural Experiment Station, Deb Neher from the University of Vermont and Beth Gugino from the Penn State.

Although there is no fee to attend (and lunch and coffee breaks are provided), pre-registration is requested for planning purposes. The registration deadlines are September 30<sup>th</sup> for RI, October 14<sup>th</sup> for NJ and November 11<sup>th</sup> for PA. For additional information or to register for any of these workshops please contact Beth Gugino at (814) 865-7328 or [bkgugino@psu.edu](mailto:bkgugino@psu.edu). If you cannot attend any of these workshops, this workshop will be held 2 or 3 more times in the Northeast during spring 2009. For more specific information is also available at <http://www.ppath.cas.psu.edu/FACULTY/Gugino.htm>.

Funding for these nematode workshops is being provided through a grant from Northeast Sustainable Agriculture Research and Education (NE-SARE) Professional Development Program.

# Crop Removal of Nutrients Estimate from “Knott’s Handbook for Vegetable Growers – 4<sup>th</sup> edition”

Submitted by [Mike Orzolek](#), Penn State Horticulture

Sometimes crop removal values are used to estimate fertilizer needs by crops. Removal values are obtained by analyzing plants and fruits for nutrient content and then expressing the results on an acre basis. It is risky to relate fertilizer requirements on specific soils to generalized listings of crop removal values. A major problem is that crop removal values are usually derived from analyzing plants grown on fertile soils where much of the nutrient content of the crop is supplied from soil reserves rather than from fertilizer application. Since plants can absorb larger amounts of specific nutrients than they require, crop removal values can overestimate the true crop nutrient requirement of a crop. The crop content (removal) values suggested in the table below are presented for information purposes and are not suggested for use in formulating fertilizer recommendations.

Vegetable	Yield (cwt/A)	Nutrient Absorption (lbs/acre)		
		N	P	K
Broccoli	100 heads	20	2	45
	other	<u>146</u>	<u>8</u>	<u>165</u>
		165	10	210
Brussels Sprouts	160 sprouts	150	20	125
	other	<u>85</u>	<u>9</u>	<u>110</u>
		235	29	235
Carrot	500 roots	80	20	200
	tops	<u>65</u>	<u>5</u>	<u>145</u>
		145	25	345
Celery	1000 tops	170	35	380
	Roots	<u>25</u>	<u>15</u>	<u>55</u>
		195	50	435
Honeydew melon	290 fruit	70	8	65
	Vines	<u>135</u>	<u>15</u>	<u>95</u>
		205	23	160
Lettuce	350 plants	95	12	170
Muskmelon	225 fruit	95	17	120
	Vines	<u>60</u>	<u>8</u>	<u>35</u>
		155	25	155
Onion	400 bulbs	110	20	110

	Tops	<u>35</u> 145	<u>5</u> 25	<u>45</u> 155
Pepper	225 fruit	45	6	50
	Plants	<u>95</u> 140	<u>6</u> 12	<u>90</u> 140
Potato	400 tubers	150	19	200
	Vines	<u>60</u> 210	<u>11</u> 30	<u>75</u> 275
Snap bean	100 beans	120	10	55
	Plants	<u>50</u> 170	<u>6</u> 16	<u>45</u> 100
Spinach	200 plants	100	12	100
Sweet Corn	130 ears	55	8	30
	Plants	<u>100</u> 155	<u>12</u> 20	<u>75</u> 105
Sweet Potato	300 roots	80	16	160
	Vines	<u>60</u> 140	<u>4</u> 20	<u>40</u> 200
Tomato	600 fruits	100	10	180
	Vines	<u>80</u> 180	<u>11</u> 21	<u>100</u> 280

# Corn Earworm: Results of Pyrethroid Resistance Tests from Pennsylvania

Shelby Fleischer, Penn State Entomology

*Published in Vegetable Gazette, May 2006, volume 10, number 5*

*Updated Aug. 11, 2008*

Sweet corn is attacked regularly by three lepidopterans. Two of these, the corn earworm and the fall armyworm, are primarily immigrants from the south when they appear in Pennsylvania. These two are members of the same insect family, the Noctuidae, which include relatively strong-bodied species that are good flyers. The other species, the European corn borer, is a smaller species that overwinters well in our area.

Corn earworm populations in the southern U.S. have shown reductions in susceptibility to pyrethroid insecticides, where they are used to target the same insect species in cotton, sorghum, soybeans, and vegetables. Pyrethroids, however, are also the main class of chemistry currently used to protect against corn earworms in sweet corn in Pennsylvania. Examples include Asana, Baythroid, bifenthrin, Mustang, permethrin, and Warrior. We hypothesized that emigrants from southern populations showing increased tolerance to pyrethroids could affect insect pest control in the Northeast. Data testing the susceptibility of corn earworm to another pyrethroid, cypermethrin (Ammo<sup>®</sup>), has been accumulating for several years from southern and Midwestern states. Therefore, we looked at the susceptibility of corn earworms captured in Pennsylvania to cypermethrin. Studies were partially funded by PVGA.

We used moths collected in two methods from the Southeast Agricultural Research and Extension Center in Landisville, Lancaster County, PA in 2003, 2004, and 2005. First, we used moths collected from pheromone traps – this tests only males that have flown for an unknown distance, and are of unknown ages. Second, we collected larvae from corn ears in the field, and reared them on a diet. This tests both males and females, prior to them flying, and at a very young adult age. In both cases, adult moths were held in cages for 24 hours with sugar water prior to the bioassay, and we only tested moths that appeared healthy at the time of the test.

We used a standardized adult vial test (AVT) bioassay. The insides of glass vials were coated (in acetone) with technical grade cypermethrin. The concentrations were 5 micrograms and 10 micrograms of cypermethrin/vial. Control vials were treated with acetone alone. The acetone was allowed to evaporate, leaving a coating of cypermethrin on the glass vials. One moth was placed in each vial, the vials were capped loosely and held at room temperature, and mortality recorded 24 h after the test was initiated. In a perfect situation, we should expect to see 100% survival of the moths in the control vials, very close to 0% survival of the moths tested at the 5 microgram rate, and definitely 0% survival at the 10 microgram rate.

Survival of pheromone-trap collected moths has been relatively low in the cypermethrin-treated vials. At the 5 microgram rate, survivorship ranged from 0 – 8% in Pennsylvania. Survival at the 10 microgram rate was even lower: from 0-3% in Pennsylvania. Some of this could be due to moths that tolerate the insecticide, but some could be due to random variation. Our only way to look at the random variation was to look at the control vials. In these controls, where we expect 100% survival, we observed 72% to 100% survival.

Dramatic increases, however, were clearly evident in the survival of adults reared from field-collected larvae relative to those collected from pheromone traps. Survivorship from reared moths was 12 to 27% at the 5 microgram rate, and 2 to 5% at the 10 microgram rate, in Pennsylvania. And we had cleaner tests when using reared moths: survival of reared moths in the control vials was always 100%.

This is part of a larger project where similar tests were conducted in neighboring states: More than 22,000 moths were bioassayed in five states from 2003 to 2005. Again, adults collected from pheromone traps tended to be susceptible. But we could detect a pattern: moths from locations closer to the eastern shore tended to show higher survivorship than those farther inland. Also, in the worst case evaluation of the data, using moths reared from field-collected larvae, averaged across locations and years, show 31% survival at the 5 microgram rate and 11% survival at the 10 microgram rate.

We know resistant moths are present in the south, extending into the north central states, including strong resistance in southern Indiana. Our results suggest that pyrethroid-resistant corn earworms occur in the northeastern U.S. each year, but not everywhere, not all the time, and we cannot predict where and when. Since we are dealing primarily with migrants, we also cannot do much to alter the selective pressure that the moths are subjected to. In other words, altering the chemicals we use here will probably not have much impact on the population genetics of the corn earworm. That will require alterations at the place where breeding is occurring, which is to the south of us. This may happen in the future, due to factors such as the newer transgenes being developed for both corn and cotton, and due to resistance management efforts in these more southerly locations. It thus helps northeastern agriculture if we participate in more regional efforts looking at these migratory species.

In the Midwest, small plot efficacy trials clearly showed a great deal of variability, including a loss of efficacy, in multiple locations in 2005. We have not been able to document field failures from Pennsylvania. However, under extremely high pest pressure in 2007, we demonstrated that mid-to-low rates of 4 applications of pyrethroids were insufficient to control corn earworm, and that newer chemistries performed better.

So what alternatives exist for Pennsylvanian growers? First, realize that corn earworm often arrives late. Using pheromone traps on your farm, and watching the immigration roughly approximated by a network of pheromone traps, helps you gauge when this pest is arriving. Penn State Extension and PVGA help display these data at [www.pestwatch.psu.edu](http://www.pestwatch.psu.edu). Second, we currently expect the pyrethroids to continue to work, especially at lower population densities, and most of Pennsylvania rarely gets extremely high densities. When using pyrethroids, use the highest labeled rate, and increase the frequency of applications under high pressure. Third, Bt-sweet corn is an option. You could use Bt-cultivars for plantings you expect to harvest in late August or thereafter. Do NOT expect to eliminate all sprays: Bt-sweet corn is very effective against European corn borer and corn earworm, but less effective against fall armyworm, and in the absence of any sprays we have seen problems with sap beetles, several species feeding on silks, and some aphid problems. Fourth, some suggest tank-mixing with, or switching to, the older carbamates or phosphates (Lannate or Larvin) if high rates of immigration occur. Tank-mixing did not help in our small plot trials in 2007, but we are trying again in 2008.

Fifth, switching to an entirely new class of chemistry is an option. As of August 11, 2008, Pennsylvania has a Section 18 for the use of Coragen<sup>®</sup> in sweet corn. This is the first of a new class of chemistry that targets the ryanodine receptors, which are proteins at the neuromuscular synapses, and these materials are showing great promise for activity against corn earworm. Coragen is the first of this class of chemistry to gain registration. It was registered for fruiting vegetables in 2008, but the full federal label did not include sweet corn. We now have a Section 18 allowing its use in sweet

corn in 2008. Growers will need a copy of the Section 18. In our 2007 small plot trials with Coragen, we added 0.5% of methylated soybean oil (MSO) as an adjuvant. Coragen was not sufficient to completely control earworm under the extremely high pest pressure of 2007, but it did outperform the mid-to-low rates of pyrethroids. Our trials suggest a 5 to 7 fluid ounce per acre use rate, and the maximum allowed per crop is 15.4 fluid ounces, so growers will be limited to 3 or 4 applications per crop.

Another different class of chemistry is based on the spinosyn microbial metabolites, labeled as SpinTor<sup>®</sup>, Entrust<sup>®</sup>, or Radiant<sup>®</sup>. Spintor was effective in tests in New York, but less so under higher pressure in neighboring Mid-Atlantic states, and we don't currently have much data from Pennsylvania. We are including Radiant in 2008 trials. Sixth, there is the old method of putting oil on the silks. This has been developed as a method for growing organic sweet corn, with a backpack application method called the Zealator.

Clearly, we need some more research in this area, and regionally coordinated efforts at understanding the biology, migration, and management of the corn earworm, and other migratory noctuids. Hopefully, this report provides a snapshot of what we are currently seeing in our data.

## Upcoming Meetings

If you have a meeting you would like to announce, please send the meeting title, date, location and contact information to [esanchez@psu.edu](mailto:esanchez@psu.edu).

### Local

- ✓ Sept 2, 2008, **Twilight Potato Meeting**, 6:30 pm, Neffs, PA Lehigh County at Tim Geiger Farm. For more info contact Bob Leiby 610-391-9840 or [rleiby@psu.edu](mailto:rleiby@psu.edu).
- ✓ Sept. 3, 2008. **Southwest Pepper Variety Twilight Meeting**, Janoski Farms in Clinton, Beaver County. A twilight meeting will be held at the farm to discuss variety selection, pest management, and probably also nutrient management. Depending on how a cucurbit trial at the farm goes, the twilight meeting may also over downy mildew in cucurbits. Contact Lee Young for more information at 724-837-1402 or [ljs32@psu.edu](mailto:ljs32@psu.edu). This is a Pennsylvania Vegetables Growers and Penn State Cooperative Extension sponsored event.
- ✓ Sept. 3, 2008. **Organic Vegetable Production Pest Walk**, Liberty Gardens in Coopersburg, PA. The pest walk will be held from 5:00-8:00 p.m. The featured speaker will be Brian Caldwell, Research Technician with Cornell University's Organic Cropping Systems Project. The tour host will be Jeff Frank, Liberty Gardens <http://www.libertyorganic.com> in Coopersburg, PA. The goal for the evening will be to review current pest problems and discuss solutions in an organically managed system. Contact Emelie Swackhamer at 610-391-9840 for information. This is a Pennsylvania Vegetables Growers and Penn State Cooperative Extension sponsored event.
- ✓ Sept. 11, 2008. **Taste of Harvest Winery Tour**, J. Maki Winery at French Creek Vineyards, Chester Co. Pennsylvania Women's Agricultural Network (PA-WAGN) sponsored event. Registration \$15, which includes wine tasting. For more information visit <http://wagn.cas.psu.edu/Register0813.html>.
- ✓ Sept. 11, 2008. **Cucurbit Disease Twilight Meeting**, Buza's Greenhouses in Easton, PA from 5-8 pm. The featured speaker will be Dr. Meg McGrath, Associate Professor of Plant Pathology, from Cornell University's Long Island Horticultural Research & Extension Center. The tours hosts are Bev and Bob Hoyer, proprietors of Buza's Greenhouses. The goal for the evening will be to discuss diagnosis of cucurbit diseases, disease cycles and current management options, with an emphasis on a small powdery mildew research study and recent changes to fungicide recommendations. Contact Emelie Swackhamer at 610-391-9840 for more information. This is a Pennsylvania Vegetables Growers and Penn State Cooperative Extension sponsored event.
- ✓ Nov. 13, 2008. **Vegetable and Small Fruit Agricultural Educators Roundtable**, Sam Hays Livestock Evaluation Facility, Rock Springs, PA. For more information contact Bill Lamont at (814) 865-7118 or [wlamont@psu.edu](mailto:wlamont@psu.edu).
- ✓ Nov. 18, 2008 (tentative date). **Western Pennsylvania Vegetable & Berry Seminar**, Butler, PA. For more information contact Eric Oesterling at (724) 837-1402 or [reol@psu.edu](mailto:reol@psu.edu) or Lee Young at (724) 228-6881 or [ljs32@psu.edu](mailto:ljs32@psu.edu).

- ✓ Nov. 18, 2008. **Diagnosis, Visual Assessment and Management of Plant-Parasitic Nematodes of Vegetables and Small Fruit in the Northeast**, Lehigh County Cooperative Extension Office, Allentown, PA. For more information contact Beth Gugino at [bkgugino@psu.edu](mailto:bkgugino@psu.edu).

## Regional

- ✓ Oct. 10, 2008. **Diagnosis, Visual Assessment and Management of Plant-Parasitic Nematodes of Vegetables and Small Fruit in the Northeast**, Hyatt Regency Hotel, Newport, RI. For more information contact Beth Gugino at [bkgugino@psu.edu](mailto:bkgugino@psu.edu).
- ✓ Oct. 21, 2008. **Diagnosis, Visual Assessment and Management of Plant-Parasitic Nematodes of Vegetables and Small Fruit in the Northeast**, Hyatt Regency Hotel, Newport, RI. For more information contact Beth Gugino at [bkgugino@psu.edu](mailto:bkgugino@psu.edu).
- ✓ Jan. 13 – 15, 2009. **Atlantic Coast Agricultural Convention and Trade Show** (NJ Vegetable Meeting); Trump Taj Mahal. For more information contact Mel Henninger at (732) 932-9711 x 120 or [henninger@aesop.rutgers.edu](mailto:henninger@aesop.rutgers.edu).
- ✓ Feb. 3-5, 2009. **2009 Mid-Atlantic Fruit and Vegetable Convention**, Hershey Lodge and Convention Center, Hershey, PA. For more information contact William Troxell at 717-694-3596 or visit [www.mafvc.org](http://www.mafvc.org).
- ✓ Nov. 6-8, 2008. **Southeast Strawberry Expo**, Charlotte, NC. Workshops (“Strawberry Plasticulture for New Growers” and “Are You Making a Profit”), tour, educational sessions and trade show. For more information call 919-542-4037, email [info@ncstrawberry.com](mailto:info@ncstrawberry.com) or visit [www.ncstrawberry.com](http://www.ncstrawberry.com).

## National

### International

- ✓ Sept. 7-10, 2008. **19th International Pepper Conference**; Sheraton Hotel and Conference Center, Atlantic City, New Jersey, USA; contact Dr. Wesley Kline by phone (856) 451-2800 or email [wkline@aesop.rutgers.edu](mailto:wkline@aesop.rutgers.edu) or Dr. Andy Wyenandt by phone (856-455-3100 X4144) or email [wyenandt@aesop.rutgers.edu](mailto:wyenandt@aesop.rutgers.edu).
- ✓ Dec. 8-9, 2008. **North American Raspberry & Blackberry Conference**; Grand Rapids, MI, in association with the Great Lakes Fruit & Vegetable Expo (Dec. 9-11). For more information email [info@raspberryblackberry.com](mailto:info@raspberryblackberry.com), call 919-542-4037 or visit [www.raspberryblackberry.com](http://www.raspberryblackberry.com).

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The newsletter is also posted within three days on the Department of Horticulture Vegetable program website at: <http://hortweb.cas.psu.edu/extension/veg crops/newsletterlist.html>.

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