

**The Vegetable & Small Fruit Gazette**  
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### **Finleyville Farmer Robert Trax Wins PACAA “Honorary County Agent” Award**

[Lee Young](#), County Extension Director, Penn State Cooperative Extension in Washington County

Robert Trax received the “Honorary County Agent” award at the JCEP (Joint Council of Extension Professionals) annual awards banquet on November 1, 2006, at the Atherton Hotel. The award is sponsored by the Pennsylvania Association of County Agricultural Agents (PACAA), and was presented by PACAA members Lee Young and Eric Oesterling. The purpose of the award is to give recognition and show appreciation to an individual who has befriended the agricultural community through career efforts beyond Cooperative Extension.

Bob Trax is a fifth-generation farmer and President of Trax Farms, a 400 acre fruit, vegetable and greenhouse operation in Finleyville, eleven miles southeast of Pittsburgh. Trax Farms is currently operated by thirteen family members, and members of the seventh generation are now working at the farm.

Bob Trax has long been recognized as a leader in Pennsylvania’s vegetable, fruit and farm direct marketing industries, having served as a director for the Pennsylvania Vegetable Growers Association and the Pennsylvania Vegetable Marketing and Research Board. Trax Farms has been closely involved in Extension programs, including hosting twilight meetings and on-farm research and demonstration projects, since the 1950’s when the family first converted their dairy barn into a retail market. Bob Trax has a long history of developing strong working relationships with local Cooperative Extension staff, opening his farm and his heart to County Agricultural Agents and Extension Specialists.

Bob Trax and Trax Farms have received numerous agricultural awards in the past, each highlighting a valuable aspect of Trax Farms: farm continuity; excellence in crop production; marketing success; conservation; and managing a family business. With the “Honorary County Agent” Award, he is now also recognized for his longstanding and unwavering support for Cooperative Extension, and for his service to Pennsylvania agriculture.

## **Intensive Bramble Production Workshop to be Offered**

From [Dick Funt](#), Ohio State University

Bramble ABCs is a three-hour workshop for potential and novice fruit growers and experienced growers who want a refresher. Raspberry and blackberry production management and marketing are the major topics. The workshop will be held during the Ohio Fruit and Vegetable Congress from 1:30 to 4:30 PM on Monday, January 15, 2007 in Columbus, Ohio, at the Greater Columbus Convention Center. This workshop will be interactive between growers and the presenters: Richard Funt, Professor Emeritus, Ohio State University; Tom Althaus, an Ohio raspberry grower; and Tom Walters, NW Washington Research and Extension Center and the North American Bramble Growers Association's vice-president.

The workshop will ask three questions: Where are you now? Where do you want to be in five years? And how will you get there? It will cover the planning process, financial risk, profits, the supply chain, current industry trends, soil/water management, cultivar selection, pest control, marketing, and other key aspects of a bramble operation.

The Bramble ABCs workshop has limited registration and preregistration is required. Cost for the workshop is \$50, with a lower charge for a spouse or second farm/family member attending. This workshop is part of the three-day National Bramble Conference sponsored by the North American Bramble Growers Association (NABGA). Additional bramble sessions and NABGA's annual meeting will be held on Tuesday, January 16 and Wednesday, January 17. For more information, contact NABGA at [nabga@mindspring.com](mailto:nabga@mindspring.com) or 919-542-3687 or visit [www.rasperryblackberry.com](http://www.rasperryblackberry.com). Information on the full Ohio Fruit and Vegetable Congress and registration forms are available at [www.ohiofruit.org](http://www.ohiofruit.org) or by calling (614) 246-8235.

## **Berry Cultivar Update**

[Kathy Demchak](#), Department of Horticulture, Penn State University

There are a number of berry cultivars that have become available in recent years. Not all are new varieties – some are older ones that serve new purposes, or that have not been available to growers until recently. Cultivars marked with an asterisk either have been recently trialed in PA or are currently in field trials in PA. Year of release and origin are given when known, as this information may be useful in judging potential adaptability of a cultivar to a given region.

### **June-bearing Strawberries (matted-row production)**

\*Evangeline - 1999, AAFC – Nova Scotia. Early season. Dark red fruit, with good flavor and uniform size and shape. Resistant to leaf diseases, so caps remain green. However, fruit is very small.

\*Itasca – 2005, Univ. of Minnesota. Early season. Though ripening begins with Earliglow, harvest continues for a longer period of time resulting in high yields. Maintains size better than Earliglow, but berries can be soft and low on flavor. Was trialed at PSU as MNUS 138.

Wendy – 2005, AAFC – Nova Scotia. Early season. Has similar color and firmness to Evangeline, one of its parents. However, in 2006, fruit size in Nova Scotia was about 40% larger than for Evangeline, and yields about 50% higher. Susceptible to verticillium wilt. Resistance to red stele has not been characterized.

\*Bish – 2002, North Carolina State Univ. Early-mid season. Developed for use in plasticulture, but it produces plenty of runners in the matted-row system. Excellent flavor, but low yields due to many blossoms opening black, an indication that it comes out of dormancy too early in PA.

\*Brunswick - 1999, Nova Scotia. Early-mid season. Yields well, but has average flavor that can be a bit acidic. More likely to perform better in cooler locations. Susceptible to phytophthora crown rot.

\*L'Amour – 2003, NYSAES, Geneva, NY. Early-mid season. Excellent all-around performer. Good foliar disease resistance. Nicely-shaped fruit with good size, medium-red color and above-average flavor.

\*Clancy – 2003, NYSAES, Geneva, NY. Mid-season in central PA, though it produced fruit later in NY. Deep red color with good size, but yields were low in PA trial where it produced few runners. May fare better in more Northern locations in the state, as it appears to be performing better in states to the North of PA.

\*Darselect – 1995, Darbonne nursery, France. Mid-season. Nice size, shape, and flavor. Yields are typically not astronomical as expected, but are still above average. Susceptible to anthracnose fruit rot and leaf scorch.

\*Cabot – 1998, AAFC, Nova Scotia. Mid-late season. Huge fruit, high yields. Produces few runners. Primary berries are oddly-shaped. Good flavor, but fruit center may be hollow. Probably better-suited to U-pick operations.

Canoga - 1979, NYSAES, Geneva, NY. Mid-late season. Older cultivar that has been resurrected mainly for use in plasticulture due to low runnering. Grower reports indicate that size, flavor and yields are acceptable in matted-row production and plasticulture.

\*Winona - 1996, Univ. of Minnesota. Mid-late season. Berries may color unevenly, and have short pedicels, so fruit is in close contact with the ground and is prone to various fruit rots.

\*Ovation – 2003, USDA-Beltsville. Late season. Nicely-shaped berries with medium-red color. Good flavor. Yields are low for the amount of foliage, and not as high as expected. This seems to be happening in a number of locations.

88-74-1 – Italy. Late season. Hasn't been trialed in PA. Yields have been variable in trials in various locations, though there does appear to be the potential for high yields. Average to large size fruit.

### **June-bearing Strawberries (plasticulture production)**

\*Bish – 2003, NC State Univ. See matted-row cultivar info above.

Canoga – See description above under matted-row production.

\*Carmine – 2004, University of Florida. Deep red fruit, with good quality, but yields were less than half that of Chandler in PA trial in high tunnels and berries were small. Performance has been better in other locations.

\*Ovation - 2003, USDA – Beltsville. See description above for matted-row production. Growers also report that yields are not sufficiently high in the plasticulture system.

\*Ventana – 2003, University of California. Fruit quality, size, and color was good, but yields were only about half that of Chandler in PA.

### **Day-neutral Strawberries**

Albion – 2006, University of California. Fruit is reported to be very large and sweet in original trials. Said to be resistant to verticillium wilt, phytophthora crown rot, and anthracnose crown rot. 2006 was the first year that material could be allowed outside of California for testing. If anyone has an opportunity to try this one and has results to share, let me know.

\*Everest - from Edward Vinson, Ltd. U.K. breeding program. Soft fruit with mild flavor. Watch rotations due to verticillium wilt susceptibility.

Evie-2 – also from Edward Vinson, Ltd. U.K. breeding program. Though Evie-2 has some good qualities, there are later cultivars from this same program that are expected to have improved characteristics.

\*Seascape - 1992, University of California. Excellent flavor, size, color, and productivity in PA trials. However, it tended to be a bit soft and split easily with rain.

### **Summer-bearing Red Raspberries**

Lauren – 1997, MD-NJ-WI-VA breeding program. Early season. Large fruit, long harvest season, and as with all cultivars from this breeding program, excellent flavor. Subject to winter injury, so plant in protected mild locations. Also susceptible to phytophthora root rot.

\*Prelude – 1998, NYSAES, Geneva, NY. Early season. Actually a primocane-fruiter, but it was expected to fruit so late that most of its crop would be produced as an early summer-bearer. In central PA, although it fruited well in the summer, it also produced a fair amount of fruit in the fall. Fruit is medium-sized and has good flavor.

Moutere – from New Zealand. Early-mid season. Very little trialing has been done in the U.S. Medium to large fruit size.

Encore – 1998, NYSAES, Geneva, NY. Late season. Good flavor. Nearly spineless canes.

K81-6 – AAFC, Nova Scotia. Late season. Large fruit, good flavor, productive. Winter hardy, but susceptible to fluctuating temperatures. Susceptible to phytophthora crown rot and fire blight.

### **Primocane-bearing Red Raspberries**

Jaclyn – 2004, MD-NJ-WI-VA breeding program. Very early fruit on primocanes. Large uniform dark fruit on long receptacles. Can be soft in high temperatures.

Joan J - from Kent, England. Thornless canes, large dark red fruit with good flavor. Has been very productive in most trials.

\*Josephine – 2001, MD-NJ-WI-VA breeding program. Josephine is a productive late-season cultivar with large flavorful berries. However, due to a problem with propagation, this cultivar is not available at this time.

### **Black raspberries**

\*Mac Black – Yields have varied among sites, and there have been some reports of problems with winter hardiness – though not to any greater extent than with other cultivars. However, size is good, and the best part is that it extends the black raspberry harvest season, since it ripens 7-10 days later than other cultivars.

### **Blackberries - Thorny**

\*Chickasaw - 1999, University of Arkansas. Very good flavor and very large fruit. Had some trouble with plant establishment in PA, which was probably due to low quality of plants received.

\*Fort Kent King – Selection from Maine. Could be very winter hardy, but I'm not sure it matters. Produces numerous canes, and a lot of vegetation, so it's difficult to find its many small, flat-flavored fruit. May be OK for processing, however - will try that later.

\*Kiowa -1996, University of Arkansas. Very large fruit, relatively long harvest season. Winter hardiness uncertain.

### **Blackberries - Thornless**

\*Apache - 1999, Univ. of Arkansas. Large fruit with good flavor. Very erect plants.

\*Ouachita – 2005, University of Arkansas. Fruit not quite as large as for some other cultivars, but productive and firm. Not yet tested for winter-hardiness.

\*Triple Crown - 1996, USDA Beltsville. Very good flavor and high-yielding, but for milder areas of state, or high tunnels. Semi-trailing, so a trellis will be needed.

### **Blackberries – Primocane-bearers**

Because canes are cut to the ground, winter hardiness is not the limiting factor to yields, though lateness of harvest season might be.

\*Prime-Jan – 2004, University of Arkansas. Thorny. Flavor is decent. Canes less stocky than for Prime-Jim.

\*Prime-Jim – 2004, University of Arkansas. Thorny. Flavor is acceptable. Stocky canes.

### **Blueberries**

Notes on fruiting characteristics are based on trials in other states, as PA blueberry cultivar trials have not been fruited yet.

\*Reka - 1989, New Zealand. Early season. Limited availability in U.S. until recently. Medium-sized fruit, high yielding where tried in other states. Thought to be adaptable to a wider range of soil types than other cultivars.

\*Draper - 2003, Michigan State University. Early-mid season. Uniform berry size, medium-large fruit. Excellent flavor.

\*Bluegold – 1988, USDA – Beltsville. Mid-season. Though this cultivar has been around for a while, it hasn't received much attention until recently. Very productive with a concentrated harvest season. Cold hardy. Bushy growth habit. One problem trait is that the stem tends to remain on the fruit, or tears the skin when removed.

\*Legacy – 1993, USDA – New Jersey and Rutgers University. Mid-season. High yields during a long harvest season. However, it tends to hold its leaves during the winter. Good flavor. For trial in milder sites in PA.

\*Chandler – 1994, USDA - New Jersey. Mid-late season. Large fruit, high yields, though winter hardiness hasn't been well-tested. Ripens over a relatively long period.

\*Aurora - 2003, Michigan State University. Late season (begins ripening after Elliott). Medium-large fruit. Good flavor.

\*Liberty. 2003, Michigan State University. Late season. Very good flavor.

So, the most promising cultivars to try...

June-bearer matted-row strawberries – L'Amour and Darselect.

Plasticulture June-bearers – there's still nothing better than Chandler.

Day-neutral strawberries: Seascape

Summer-bearing red raspberries – nothing new that I'm ready to recommend yet.

Primocane-bearing raspberries – Josephine, when plants become available, in areas of the state with a longer growing season, or in a high tunnel. Fallgold is interesting also.

Black raspberries – Mac Black has potential.

Blackberries – Apache and Triple Crown are at the top of the list for warmer areas of the state.

Blueberries – should have more info next year, but for now, Bluegold looks good.

## Does it Pay to Grow Bt Sweet Corn?

Galen P. Dively, Department of Entomology, University of Maryland  
(With minor edits from Shelby Fleischer, Penn State)

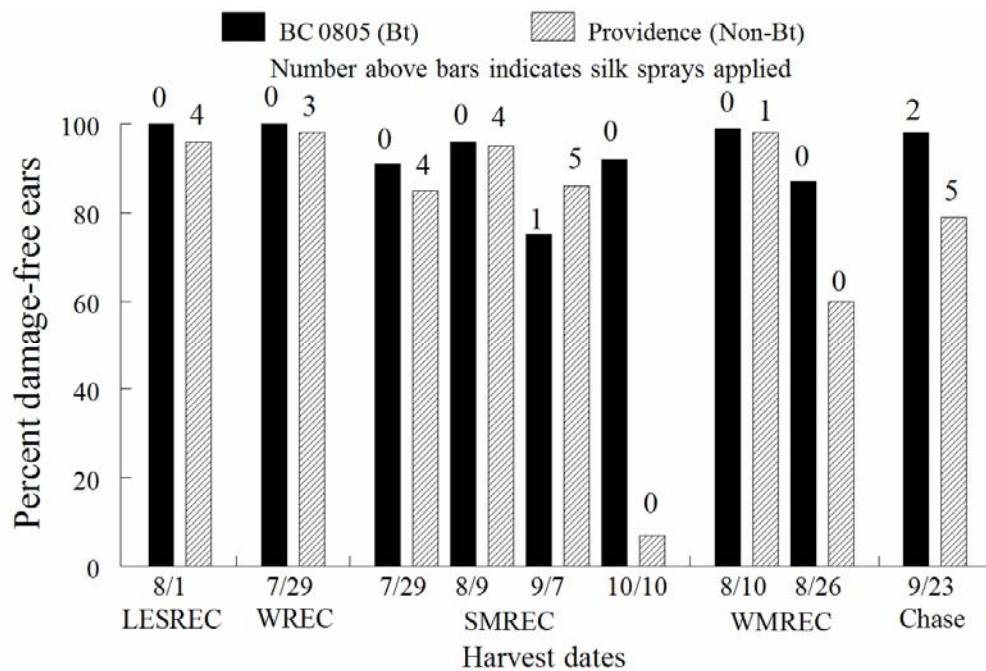
The demand for quality sweet corn requires growers to frequently apply conventional insecticides to control ear-invading insects. In the North Central states, European corn borer and corn earworm are the primary ear invaders, followed by fall armyworm, sap beetles, and western bean cutworm as occasional pests. The degree of infestation varies with the year, time of season, and location. Infestations typically cause damage on 5 to 25% of the ears in early season plantings, and often greater than 50% ear damage in late season plantings if not controlled. Insecticide control programs are costly, potentially pose exposure risks to the applicator and farm workers, and require considerable time and management to implement. Typically, 2 to 4 sprays per processing crop or 4 to 7 sprays per fresh market crop are applied at an application cost of \$12-\$16 per acre. European corn borer and fall armyworm also infest the whorl and tassel stages requiring additional sprays prior to silking to prevent yield losses.

Until recently, the only control option available for sweet corn growers was broad-spectrum insecticides. Pyrethroids are most commonly used but substantial amounts of Lannate, Larvin, and Sevin are used as well. Newer reduced risk chemistries such as indoxacarb (Avaunt) and spinosad (Spintor) are now available but have not replaced the industry standards. The newest and most potent bioinsecticide available today for sweet corn insect control is the Attribute® Insect Protected varieties expressing the *Bacillus thuringiensis* Cry1A(b) delta-endotoxin. This technology was registered by EPA and commercialized by Syngenta Seeds in 1998. Initially, the first transgenic varieties were developed primarily for processing and restrictions on seed purchases limited their availability to fresh market growers. New Roger Brand Bt varieties for roadside markets are now available in smaller seed units, including the supersweets GSS0966 (yellow, PrimePlus type), BSS0977 (bicolor), BSS0982 (bicolor), and WSS0987 (white), and TripleSweets® BC0805 (bicolor, Providence type) and WH0809 (white, Avalon type). Adoption of Bt sweet corn also has been limited due to concerns over consumer acceptance of GMO foods. However, consumer attitudes are changing as shown in a recent survey by Purdue University, which indicated that most consumers would purchase Bt sweet corn if it reduces their exposure to pesticides. Market studies suggest a more complex picture of how consumers respond than often is suggested by surveys alone (James et al. 2005). Adoption of Bt sweet corn has increased in recent years with the introduction of the fresh market varieties, totaling about 5% of the U.S. acreage. Furthermore, cultivars used in processing acreage is much more defined by narrow marketing channels, whereas fresh market growers have greater diversity of options

Clearly, Bt sweet corn provides growers with a more targeted and sustainable tool to control insect pests and can significantly reduce the number of conventional insecticides. In field trials in Maryland (Fig. 1), season-long insect protection of the BC0805 variety eliminated all whorl treatments for European corn borer and fall armyworm and reduced silk sprays for the ear-invading caterpillars by as much as 4 applications. Silking sweet corn is a dramatically important reservoir for beneficials at a farmscale level in diversified vegetables (Hoheisel and Fleischer 2007, and studies in New York (Musser and Shelton 2003) and Maryland reported that Bt sweet corn had little adverse effects on foliage-dwelling beneficial insects, whereas applications of pyrethroid

insecticides reduced natural enemy communities by as much as 70%. Bt-sweet corn also sustained ground-dwelling beneficials (Leslie et al. 2007).

**One question is does it pay to grow Bt sweet corn?** Depending on the variety, seeds cost in the range of \$35-40 more per acre than non-Bt seed. Based on control costs, if you typically apply a whorl treatment for European corn borer and 3 or more applications during silking within a single crop season, Bt sweet corn will result in cost savings, assuming that you are providing your customers with varieties they want. However, there is more to this question than just reducing control costs. Bt sweet corn can significantly reduce the time that growers spend in managing insect pests, as well as reduce the exposure risks from handling and applying insecticides. These benefits are valued by many growers who are willing to pay more for the Bt technology.



**Figure 1.** Percentage of insect damage-free ears at harvest in paired plantings of BC0805 Bt sweet corn and its non-transgenic isogenic variety Providence. Performance was evaluated in mid to late season plantings at five locations across the state. Applications of supplemental silk sprays was based on pheromone trap thresholds of moth activity. Four of the nine Bt plantings received no supplemental insecticides, yet more than 95% of the ears were insect damage-free. Bt plantings required 3-4 fewer insecticide sprays than the non-transgenic variety. 2005.

**Are supplemental insecticides required in Bt sweet corn?** Although Bt varieties provide excellent protection against the caterpillar complex, supplemental insecticide sprays may be needed to ensure fresh market quality ears. In the case of corn borers, control is virtually 100%, so insecticide sprays are not needed during the whorl or tassel stages, as well as during silking if this insect is the only pest infesting your sweet corn. The Bt trait also provides suppression of fall armyworm infestations during the whorl stages, which should eliminate pre-silk sprays for these caterpillars in most situations, but more study is needed under higher fall armyworm pressure. For

corn earworm, Bt sweet corn provides at least 90% control of the larvae and significantly reduces the extent of kernel injury, without any insecticide applications. However, when moth activity is high, a greater portion of eggs are laid on wilted or brown silk, which express less active Bt delta-endotoxin. Thus, earworms hatching within 10 to 14 days from harvest have a greater chance of surviving and invading the Bt ear through the silk channel. If larvae reach kernels on the ear tip, they are exposed to a mosaic of Bt expression because only three-fourths of the kernels contain the delta-endotoxin. They become intoxicated (sick), develop very slowly, and cause minor injury on the ear tip (usually less than 5 kernels damaged). However, the presence of small earworms (usually less ½ inch in length) and noticeable kernel injury still poses a quality problem for fresh market outlets. Under very high moth activity (levels that require 2 day spray schedules in non-Bt corn), it is not uncommon to find 20-30% of the Bt ears infested or showing minor tip damage. Even higher levels of damage have been observed in ears with poor tip coverage if plants are stressed by drought or high temperatures.

The timing of insecticide application in Bt sweet corn is different from non-Bt corn, because most larvae hatch and enter the ear after fresh silking. The first supplemental spray should be directed at the ear zone at full silk (usually 4-5 days later than the timing of the first silk spray in non-Bt corn). A second spray should be applied 4 days later if heavy moth activity continues, and sometimes a third treatment is necessary. Fall armyworms and western bean cutworms are more tolerant to the expressed Bt delta-endotoxin and can damage husk leaves and/or enter the ear. The timing of supplemental sprays recommended for corn earworm should control these caterpillars as well.

More research is warranted for IPM using Bt-sweet corn. In eastern Pennsylvania, for example, dramatically increased problems from sap beetles and rootworm beetles have occurred in Bt corn where sprays are removed. The expressed protein is not effective on these insects. Although sap beetles in conventional corn are less likely to infest ears without worm damage, they can be primary invaders and have invaded 30% or more of the ears in unsprayed Bt-sweet corn in eastern Pennsylvania. On farms with a history of sap beetle problems, one insecticide application should be timed when female beetles start to lay eggs on silks. This coincides with the first supplemental spray for earworms and usually prevents sap beetles from causing economic ear damage, especially in varieties like BC0805 which exhibit good ear tip coverage. Similarly, a single supplemental spray at mid to full silk will prevent silk clipping and poor pollination caused by rootworm adults. Rapid silk clipping may also enable higher rates of entry of worm pests. Scouting is essential to avoid being surprised by release of other pests when sprays against worms are removed.

As with all Bt-crops, resistance management plans are advised and required by law. In the case of Bt-field corn, a refuge of non-Bt cultivars is required within a prescribed distance. But in the case of sweet corn, we view the much larger acreage of field corn to essentially act as the refuge. Furthermore, sweet corn is harvested as an immature fruit, compared to field corn where the grain is allowed to dry prior to harvest. This earlier harvest makes it harder for worms to complete development. The reduced acreage and earlier harvests enable easier resistance management requirements for sweet corn. Growers are required to sign agreements that enable companies to track plantings, and to chop, disk, or plow-down the crop within 1 month of harvest.

In summary, Attribute Bt sweet corn ideally fits the IPM philosophy of combining host plant resistance with supplemental insecticides based on moth activity thresholds, rotating modes of

action to facilitate resistance management, and using a reduced risk bioinsecticide for worker and environmental safety. It works best and results in greater cost-savings if used in late season plantings which are subject to higher insect pressure. It also fits in well for situations where you only expect European corn borer pressure to occur and thus potentially eliminating all foliar sprays, such as early plantings, or for spatial locations where applying sprays are especially difficult. However, Bt sweet corn varieties are relatively new and have not been comprehensively evaluated under a wide range of growing conditions. Insect control performance may vary under more adverse weather or high insect pressure. Bt sweet corn fields will not be insect free, so regular scouting for insects not controlled by the expressed protein is recommended.

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Citations:

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## 2006 Onion Variety Trial

Mike Orzolek, Department of Horticulture, Penn State University

**Plot size:** Four rows/bed 6.0' long x 6" apart – 48 plants/rep.

**Transplanting Date:** April 13, 2006.

**Production system:** raised bed with black plastic mulch and 2 rows of drip tape – high flow 0.45 gal./min./100 ft at 12 orifice spacing.

**Herbicide Application:** Two post-emergence applications of Goal at 3.0 oz./A.

**Fungicide:** None.

**Insecticide:** Two applications of Warrior at 3.0 oz./A.

**Fertility:** Broadcast and incorporated 80 lbs./A-N, 60 lbs./A-P, and 120 lbs./A-K and two applications of calcium nitrate injected in the drip system for a total of 14 lbs./A N.

**Harvest Date:** August 4, 2006

**Drying:** Bulbs from individual plots were placed in 100 lb. potato Burlap bags and placed in a 17' x 96' high tunnel for 7 days.

**Date Graded:** October 5 and 11, 2006.

**Design:** Randomized Complete Block with 3 replications.

Varieties	Seed Source	Bulb color
1. Candy*	Seedway	yellow
2. Condor	American Takii	yellow
3. Eagle	American Takii	yellow
4. NuMex Arthur	New Mexico State U.	yellow
5. NuMex Freedom	New Mexico State U	yellow
6. Expression*	Seedway/Bejo	yellow
7. Exacta	Seminis	yellow
8. King Fisher	Seminis	yellow
9. Cowboy	Seedway	yellow
10. Milestone	American Takii	yellow
11. 9003G	American Takii	yellow
12. EM 398*	Emerald	yellow
13. Rosita	Bejo	pink

Table 1. The marketable yield of thirteen Spanish onion varieties evaluated at the Horticulture Research Farm, Rock Springs, PA – 2006.

Variety	Total MKT <sup>X</sup> Yield T/A	Avg. bulb <sup>Y</sup> wt. lbs.	% Colossal <sup>Z</sup>	% non-MKT
Candy	16.1	0.86	12.4	32.0
Condor	26.3	0.87	17.4	5.0
Eagle	21.7	0.78	12.2	12.0
NM Arthur	20.8	0.88	12.9	15.5
NM Freedom	15.8	0.64	1.7	17.2
Expression	25.0	0.85	20.6	8.0
Exacta	26.6	0.89	23.5	6.2
King Fisher	20.8	0.77	7.6	14.5
Cowboy	19.8	0.64	2.3	3.0
Milestone	16.8	0.55	0.0	4.6
9003G	20.5	0.66	1.6	3.0
EM 398	23.6	0.81	11.6	7.0
Rosita	18.4	0.87	11.3	23.7

X – The total marketable yield is based on an onion population of 50,000 plants/A including jumbo and colossal bulb sizes.

Y – The average bulb weight in pounds included all bulbs greater than 2.5 inches in diameter

Z – The percent colossal bulbs included all bulbs greater than 3.25 inches in diameter.

Table 2. The pungency and soluble solids (sugars) content of 13 sweet Spanish onion varieties evaluated at the Horticulture Research Farm, Rock Springs, PA – 2006.

Varieties	Pungency Mmoles PA/kg	% Soluble Solids
Candy	5.9	7.0
Condor	4.1	7.1
Eagle	5.4	8.3
NuMex Arthur	1.8	5.8
NuMex Freedom	3.2	5.9
Expression	4.3	6.5
Exacta	4.3	5.7
King Fisher	4.7	7.4
Cowboy	5.8	7.9
Milestone	7.2	8.8
9003G	6.0	7.7
EM 398	5.0	7.3
Rosita	<u>4.1</u>	<u>6.6</u>
Trial mean	4.8	7.1

Pungency and soluble tests were conducted by Waters Agricultural Laboratory, Inc., Camilla, GA on November 16, 2006.

Onion Pungency classification based on pyruvic acid levels:

Mmoles pyruvic acid/kg weight of bulbs

1 – 4 very mild sweet onion

5 – 7 mild sweet onion

8 – 10 intermediate pungency

11 – 15 pungent

>15 very pungent

## **The Organic Way – Upcoming Learning Opportunities**

Elsa Sánchez, Department of Horticulture, Penn State University

The Mid-Atlantic Fruit & Vegetable Convention and PASA's Annual Farming for the Future Conference are rapidly approaching. The meeting includes several opportunities for instruction as well as for camaraderie with other organic growers.

### **Mid-Atlantic Fruit & Vegetable Convention**

The annual Mid-Atlantic Fruit and Vegetable Convention will take place January 31 – February 2, 2007 at the Hershey Lodge and Convention Center in Hershey, PA. This year the organic session will be held on Tuesday afternoon, January 30<sup>th</sup>, from 1:30 pm to 4:30 pm. The program will begin with Glenn Evans, a graduate student from Cornell University, speaking on managing weeds on organic farms. Pennsylvania organic grower, Martin Lichey will then discuss how he grows vegetables organically. Dr. Shelby Fleischer, Entomologist at Penn State University, will speak on the use of beneficial insects. Entomologist, Dr. Ruth Hazzard from the University of Massachusetts will discuss organic sweet corn production. The program will end with Dr. Frank Louws, a plant pathologist from North Carolina State University speaking on bio-fumigation. The program also has speakers presenting topics of interest to organic growers in other sessions including season extension and greenhouse production. For more information on the Convention contact Pennsylvania Vegetable Association Executive Secretary, Bill Troxell at (717) 694-3596 or [pvga@pvga.org](mailto:pvga@pvga.org). Registration materials can also be obtained on the internet at [www.pvga.org](http://www.pvga.org).

### **PASA's Annual Farming for the Future Conference**

PASA's 16<sup>th</sup> annual Farming for the Future Conference will take place February 1 – 3, 2007 at the Penn Stater Conference Center Hotel in State College, PA. The theme for this year's conference is Cultivating Excellence – Farming to Serve the Common Good. On the program this year is a pre-conference winter picnic on Thursday evening with [Joel Salatin](#) as the featured speaker. Joel is the owner/operator of Polyface Farm in Virginia. The mission of the farm is "to develop agricultural prototypes that are environmentally, economically and emotionally enhancing and facilitate their duplication throughout the world." Friday's keynote speaker is author [James Howard Knustler](#). James's most recent book, *The Long Emergency*, explores the oil crisis, climate change, and other "converging catastrophes of the 21st Century." Farmer, photographer and author [Michael Ableman](#) is the keynote speaker on Saturday. Michael is the founder of the [Center for Urban Agriculture at Fairview Gardens](#) and author of *Fields of Plenty* A farmer's journey in search of real food and the people who grow it. For more information about the conference contact PASA at (814) 349-9856 or [info@pasafarming.org](mailto:info@pasafarming.org). Registration materials for the conference can be found online at [www.pasafarming.org](http://www.pasafarming.org).

## **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

- ✓ January 4, 2007. **KPA Study Circle**, Fleetwood, PA. For more information contact John Berry at (610) 391-9840 or [jberry@psu.edu](mailto:jberry@psu.edu) or Mena Hautau at (610) 378-1327 or [mmh10@psu.edu](mailto:mmh10@psu.edu).
- ✓ January 6 – 13, 2007. **Pennsylvania Farm Show**, Harrisburg, PA. For more information visit [www.agriculture.state.pa.us/farmshow](http://www.agriculture.state.pa.us/farmshow).
- ✓ January 15, 2007. **New Holland Vegetable Day**, New Holland, PA. For more information contact Tim Elkner at (717) 394-6851 or [tee2@psu.edu](mailto:tee2@psu.edu).
- ✓ January 19, 2007. **Commercial Vegetable Production 101**, Cochranville, PA. For more information contact Cheryl Bjornson at (610) 696-3500 or [cab46@psu.edu](mailto:cab46@psu.edu).
- ✓ January 23, 2007. **Buffalo Valley Produce Meeting**, Mifflinburg, PA. For more information contact Jeff Mizer at (570) 837-4252 or [jwm5@psu.edu](mailto:jwm5@psu.edu).
- ✓ January 25, 2007. **Northeast Regional Vegetable Growers' Meeting**, Newton-Ransom Fire Company, Newton Ransom Blvd, Clark Summit, PA. For more information contact John Esslinger at (570) 963-6842 or [cje2@psu.edu](mailto:cje2@psu.edu).
- ✓ February 9, 2007. **Kutztown Produce Auction/Extension Fleetwood Meeting**, Grange Hall, Fleetwood, PA. For more information contact John Berry at (610) 391-9840 or [jberry@psu.edu](mailto:jberry@psu.edu) or Mena Hautau at (610) 378-1327 or [mmh10@psu.edu](mailto:mmh10@psu.edu).
- ✓ February 17 & 18, 2007. **WPA Beekeepers**, Monaco, PA. For more information contact Lee Miller at (724) 774-3003 or [jlmliller@psu.edu](mailto:jlmliller@psu.edu).
- ✓ February 19, 2007. **Tri County Vegetable, Small Fruit and Greenhouse Growers' Meeting**, Shippensburg, PA. For more information contact Steve Bogash at (717) 263-9226 or [smb13@psu.edu](mailto:smb13@psu.edu).
- ✓ February 28, 2007. **Farm Production Day**, Lebanon, PA. For more information contact Ginger Pryor at (717) 270-4391 or [gmp4@psu.edu](mailto:gmp4@psu.edu).
- ✓ March 1, 2007. **KPA Study Circle**, Fleetwood, PA. For more information contact John Berry at (610) 391-9840 or [jberry@psu.edu](mailto:jberry@psu.edu) or Mena Hautau at (610) 378-1327 or [mmh10@psu.edu](mailto:mmh10@psu.edu).
- ✓ March 24, 2007. **Pond Management Meeting**, Chambersburg, PA. For more information contact Steve Bogash at (717) 263-9226 or [smb13@psu.edu](mailto:smb13@psu.edu).

- ✓ March 1, 2007. **Berry Growers' Meeting**, Scranton, PA. For more information contact John Esslinger at (570) 963-6842 or [cje2@psu.edu](mailto:cje2@psu.edu).
- ✓ July 25, 2007. **Kutztown Produce Auction Meeting**, Fleetwood, PA. For more information contact John Berry at (610) 391-9840 or [jberry@psu.edu](mailto:jberry@psu.edu) or Mena Hautau at (610) 378-1327 or [mmh10@psu.edu](mailto:mmh10@psu.edu).

## Regional

- ✓ January 30 & 31, February 1, 2007. **Mid-Atlantic Fruit & Vegetable Convention**, Hershey, PA. For more information contact Bill Troxell at (717) 694-3596 or [pvga@pvga.org](mailto:pvga@pvga.org). Registration materials can also be obtained on the internet at [www.pvga.org](http://www.pvga.org).
- ✓ February 1 – 3, 2007. Pennsylvania Association for Sustainable Agriculture's (PASA) **Farming for the Future Conference**, State College, PA. For more information about the conference contact PASA at (814) 349-9856 or [info@pasafarming.org](mailto:info@pasafarming.org). Registration materials for the conference can be found online at [www.pasafarming.org](http://www.pasafarming.org).

## National

None listed at this time

## International

None listed at this time

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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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