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California: Here We Come!

North American Strawberry Growers Association Winter Meeting 2007 and the 6th North American Strawberry Research Symposium

February 9-12 , 2007

Crowne Plaza Ventura Beach, Ventura California

Strawberry growers know that the best information isn't always found in books or web sites. Often the most valuable tips about strawberry production and marketing come from participating in the North American Strawberry Growers Association. This organization is well known for providing learning opportunities and for supporting research. The collective knowledge available when researchers, growers and industry suppliers get together make the annual winter meeting a popular destination for members year after year.

This year the NASGA winter conference is in conjunction with the 6th North American Strawberry Research Symposium. Plus, the meeting will be held Ventura California, surrounded by one of North America's major strawberry producing regions.

Researchers from across North America have been invited to present the most recent advances in strawberry plant breeding, marketing and pest management. Growers from the east, west, north and south will meet to learn about the latest developments in sustainable production, season extension, labour management, and new approaches to marketing. A trade show, poster session and farm visits will round out the program.

Program highlights:

- Grower showcase
- Research symposium
- Speakers and round table topics
- Poster session and trade show
- Bus tour of Oxnard strawberry production region
- Silent auction for Strawberry Research Foundation
- Pre-conference tours to local attractions

Stay after the conference and take in the World Ag Expo, Tulare California , Feb 13-15, 2007

Mark Your Calendar Now! Early bird registration special in effect until November 30.

For program information, trade show and sponsor opportunities see www.nasga.org or contact Kevin Schooley, NASGA Executive Secretary, 613-258-4587

Highbush Blueberry Cultivar Trial in Ontario, Canada

Adam Dale, University of Guelph and James Hancock, Michigan State University

A replicated trial of 11 cultivars was planted at Simcoe, Ontario in 1991. Plants were first harvested in 1994. After 8 harvest seasons, “Bluegold” was the highest yielding cultivar, averaging 6.8 t/ha, and ‘Toro’ had the largest berries, averaging 1.8 grams/berry. ‘Bluetta’ was the earliest cultivar with on average 50% of its yield picked by July 16, and ‘Elliott’ was the latest, with on average 50% of its yield picked by August 27.

As a result of this trial, the authors have recommended two cultivars as suitable for Ontario – ‘Duke’ and ‘Nelson’. ‘Duke’ is a high yielding early cultivar that are similar in size to ‘Bluecrop’ and ‘Nelson’ is slightly later than ‘Bluecrop’ with superior yield and larger berries. Although ‘Bluegold’ consistently out-yielded the other cultivars, it was a very twiggy plant. Large numbers of small shoots increased pruning costs.

Table 1: Mean annual yields, individual berry weight, and date of 50% harvest of 11 highbush blueberry cultivars 1994-2001 in Simcoe, Ontario.

Cultivar	Yield (t/ha)	Berry wt (g)	Date of 50% harvest 1=July 1
Bluegold	6.8 a	1.40 cd	31.6 c
Duke	5.7 b	1.37 d	16.6 h
Bluejay	5.2 b	1.26 e	21.9 f
Nelson	5.2 b	1.63 b	33.9 b
Sunrise	4.7 c	1.44 c	17.0 h
Sierra	4.7 c	1.36 d	25.2 e
Toro	4.5 c	1.82 a	25.4 e
Elliott	4.3 c	1.08 f	57.4 a
Bluetta	4.0 d	1.11 f	15.1 i
Bluecrop	4.0 d	1.36 d	29.0 d
Spartan	3.8 d	1.66 b	19.4 g

Different letters within the same column indicate significant differences 99% of the time according to Duncan's Multiple Range Test.

Adapted by Pam Fisher from an article in International Journal of Fruit Science, Volume 5, Number 2, 2005, page 73-76 Reprinted with permission. ©2005, The Haworth Press, Inc.

Editor's note : *Nelson has not performed well in some grower plantings, apparently due to winter injury. Plant this variety in small quantities to determine its performance on your farm.*

See “Notes on Blueberry Varieties” <http://www.omafra.gov.on.ca/english/crops/hort/berry.html> It's new!

Wendy, A New Early Season Strawberry

Andrew Jamieson, Agriculture and Agri-Food Canada

The Origin of Wendy: Wendy from the cross K96-5 x Evangeline. (Cavendish and Sable are included in the background parentage of K96-5).

Distinctness: Wendy is most similar to its parent Evangeline in plant characteristics but can be readily distinguished by flowers or fruit. The inner calyx is smaller than the outer for Wendy but the same size for Evangeline. The petal length/width ratio is greater for Evangeline. Wendy has a longer truss than Evangeline. The achenes of Evangeline are much more indented than for Wendy and Evangeline fruit are more uniformly conic (Figure 1).

Yield and fruit size: Compared with early season cultivars Annapolis and Evangeline, Wendy has a similar mean harvest date. The yield and fruit weight of Wendy is generally greater than Evangeline and comparable to Annapolis, the leading early season cultivar in Canada. The most recent harvest data, from the 2006 harvest of plots planted in 2004, is summarized below.



Figure 1: New cultivar “Wendy” has higher yields and larger fruit than “Evangeline”

Cultivar	Marketable Yield t/ha	Berry size g/berry	Mean harvest date at Kentville in 2006
Wendy	21.8 a	13.8 a	June 28
Annapolis	15.4 b	12.8 a	June 28
Veestar	15.1 b	8.7 b	June 28
Evangeline	14.0 b	9.8 b	June 28

Fruit characteristics: Primary fruit are wedge-shaped; subsequent fruit are conic. Fruit are larger than for Evangeline with similar color and firmness. Berries of Wendy have excellent fresh flavor and are considered superior to Annapolis by the breeder.

Disease resistance: Plants are vigorous and produce stolons freely to fill matted rows. Plants are moderately resistant to powdery mildew but susceptible to *Verticillium* wilt. The reaction to red stele root rot has not been defined, however seedling families from crosses involving Wendy contain a higher number of resistant individuals than would be expected if Wendy were fully susceptible.

Availability: Plant Breeders Rights have been granted in Canada (#2467) and a Plant Patent has been filed in the USA. A list of nurseries providing certified plants can be obtained from the author.

Ontario experience: (by Pam Fisher) Wendy was planted in 2005 at 8 grower sites across Ontario. This variety is worth a trial on your farm, especially if you are located in eastern or northern Ontario. Size and quality were less favourable in southern Ontario in 2006, perhaps due to the early frost and subsequent high temperatures during harvest.

Variety Update for Strawberries and Raspberries

Pam Fisher, OMAFRA Berry Crop Specialist

In Ontario, OMAFRA, the University of Guelph, and the Ontario Berry Growers Association have a group approach to testing new varieties. Our goals are to develop new strawberry varieties for Ontario conditions, test new varieties from regions most similar to our own, keep an eye on varieties developed in other regions, and test the outstanding varieties from regions not like our own. Replicated research plots are tended at several University of Guelph locations, including Simcoe, Ridgetown (Cedar Springs) and New Liskeard. On-farm variety trials are coordinated by OMAFRA. New varieties are planted at approximately 10 Ontario grower sites, in single plots. The OBGGA is an important supporter of the variety trials program.

Would you like to be involved? We welcome new co-operators from different production regions. The cooperating grower should be a member of the OBGGA. Your job is to plant and care for the varieties provided, give us a map and pertinent production details, make observation on the plants, and pick and weigh berries from 2 m plots. Financial assistance is available to compensate for harvest costs.

Raspberries: In many regions of Ontario we are still looking for the ideal red raspberry with good winter hardiness, quality, size and flavour. The most commonly grown red raspberry varieties in Ontario are Boyne, Nova, Killarney and Autumn Britten. Boyne is hardy with good flavour, but lacks the size and quality for fresh market. Nova has good fruit size and quality but is not as hardy in colder regions of Ontario (ie eastern and northern Ontario). Killarney is hardy, with brighter fruit than Boyne, but very susceptible to cane diseases. Cane die-back has been a problem with this variety in recent years, likely due to some interaction between cane diseases and winter injury. The primocane-fruiting, fall bearing variety Autumn Britten has the best quality of the 4 main varieties.

Growers should consider disease resistance when choosing a raspberry variety. For example Boyne, Killarney and Qualicum are very susceptible to anthracnose. Royalty, Titan, Canby and Reveille are susceptible to spur blight. These cane diseases are associated with increased winter injury. Titan, Lauren, and Heritage are examples of cultivars susceptible to phytophthora root rot. These cultivars should only be planted in well drained soils where water never accumulates.

Below are some comments on newer red raspberry varieties tested in Ontario and observations we have made. For more details on these and other cultivars, see *Raspberry variety descriptions* :
<http://www.omafra.gov.on.ca/english/crops/facts/raspvarc.htm>

Prelude (NY718 x Hilton)

- released from Cornell University, Geneva, New York
- produces spring and fall crops
- spring crop is very early, several days ahead of Boyne
- somewhat soft, average flavour, medium size
- bright red, round in shape

Encore (Canby x Cherokee)

- released from Cornell University, Geneva, New York
- very late, fruits in late July, early August
- firm, mild flavour, fruit dry to touch
- does best with a trellis
- susceptible to fire blight
- apparently hardy, although maybe not in colder areas of Ontario

Qualicum (Glen Moy x Chiliwack)

- released from the Pacific Agric. Research Center
- large firm fruit, conic, a little glossy
- very susceptible to anthracnose
- very susceptible to winter injury
- not hardy outside of south-western Ontario (Cedar Springs, Niagara, Harrow)

Strawberries:

Over 42 strawberry varieties have been tested in the on-farm variety trials since 1998. Of these, Brunswick, Cabot, Sable and Mira have shown potential for some situations; Mira is the most widely grown. Other varieties which may float to the top include St. Pierre and Orleans. There are many new strawberry varieties that are worth a close look. Some comments on newer June bearing strawberry varieties tested in Ontario and observations we have made are included below.

For more details on these and other cultivars, see *June Bearing Strawberry Variety Descriptions* :
<http://www.omafra.gov.on.ca/english/crops/facts/strawvar.htm>

Except for Serenity, most of these varieties are not available or available in limited quantities (Orleans, L'Amour, and Clancy) from Ontario propagators.

L'Amour ((MDUS5252 x Etna) x Cavendish)

- a New York selection
- described as early mid-season, bright red, conical, fancy calyx, firm, good eating quality and flavour.
- we noticed consistent colour and shape, nice sepals, very susceptible to angular leaf spot.
- limited plant quantities available in Ontario

Clancy (MDUS4774 x MDUS5199)

- a New York Selection
- described as late season, with dark, round, firm fruit.
- we noticed it was very firm, sometimes mushroom shaped, and also susceptible to angular leaf spot
- limited plant quantities available in Ontario

St. Pierre (Chandler x Jewel)

- a Quebec selection
- bright red fruit, with great shelf life
- consistent round shape
- susceptible to anthracnose and powdery mildew
- similar in size to Jewel
- limited plant quantities available in Quebec

Orleans (L'Acadie x Joliette)

- a Quebec selection
- great post harvest quality
- high in antioxidants
- similar in size to Jewel
- limited plant quantities available in Ontario

Harmonie (Yamaska x Joliette)

- a Quebec selection
- remarkable for its late, concentrated high yields
- berry size small to average
- bright red fruit
- limited plant quantities available in Quebec

Darselect (Parker x Elsanta)

- selection from France
- sweet flavour, large calyx, large fruit
- early mid season
- very susceptible to leaf diseases such as powdery mildew
- not available from Ontario plant growers

Serenity (137A84 x Chandler)

- selection from Simcoe, Ontario
- high yields, bright red shiny fruit, with very large primaries
- later fruit can be small, bullet-shaped
- tendency to seedy tips, occasionally split
- plants available in Ontario

Itasca (Seneca x Allstar)

- selection from Minnesota
- apparently vigorous, hardy
- resistant to leaf diseases and red stele
- early season, between Annapolis and Honeoye
- flavour described as "classic strawberry" but may be strong
- fruit round in shape, similar in size to Annapolis
- plants not available in Ontario or Canada

When choosing varieties for your berry farm, consider your market, the local climate, field history, soil type, herbicide tolerance and pest resistance. Sources of information include nursery suppliers, OMAFRA publications and web pages. Some berry varieties are very much regionally adapted, which means they do well in some regions, but not others. Neighbours and fellow growers in the same region as you can provide good insights. Growers should conduct their own trials before planting large amounts of a particular variety.

Links to more information:

- Recommended berry varieties for Ontario: <http://www.omafra.gov.on.ca/english/crops/facts/berryrec.htm>
- June bearing strawberry varieties: <http://www.omafra.gov.on.ca/english/crops/facts/strawvar.htm>
- Raspberry variety descriptions : <http://www.omafra.gov.on.ca/english/crops/facts/raspvarc.htm>
- OMAFRA publication #360 (for information on disease resistance for currants, gooseberries, raspberries, strawberries)

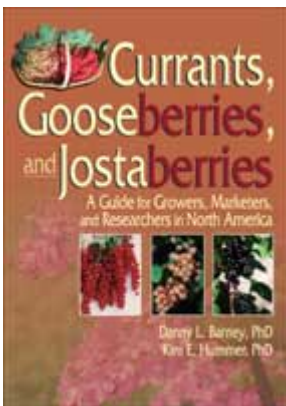
- Strawberry trial results: <http://www.omafra.gov.on.ca/english/crops/hort/berry.html>
- Ontario Berry Plant Suppliers and Propagators
<http://www.omafra.gov.on.ca/english/crops/resource/berrypropstraw.htm>

Research Brief

Fumi Takeda, USDA-ARS, Kearneysville, WV and Michael Newell, University of Maryland, Queenstown, MD.

Fall flowering in ‘Chandler’ and ‘Sweet Charlie’ strawberry occurs if the transplants from runner tips are prepared in early July. In 2002, 100% of ‘Chandler’ transplants produced in early July from average-size runner tips flowered in fall, but none of the August-plugged ‘Chandler’ transplants did. In 2003, 73% of ‘Chandler’ transplants produced in mid July from average-size runner tips and less than half of transplants from small-size runner tips flowered in fall, but none of August-plugged plants did. Under protected cultivation, July-plugged ‘Sweet Charlie’ plants bloomed earlier and produced more fruit in November and December than those plugged in August. This novel technique for propagating short-day strawberry transplants combined with protective cultivation offers an opportunity for strawberry production in late fall and early spring in the mid-Atlantic coast region. (or for protected culture in the northeast..... NB editor)

New Publication



Currants, Gooseberries and Jostaberries - A Guide for Growers, Marketers and Researchers in North America

Authors: Danny L. Barney and Kim E. Hummer

This new book explores the biology and history of growing currants and gooseberries as commercial crops in North America. It provides authoritative information on the potential risks and profits of growing these small fruits and offers step by step details for establishment, production and post harvest activities.

Published by Haworth Press.

www.HaworthPress.com

Berry Good Meetings

November 9-11, **Southeast Strawberry Expo**, Sea Trail Conference Center, Sunset Beach, NC. For more information, call 919-542-3687, email ncstrawberry@mindspring.com, or visit www.ncstrawberry.com.

December 5-7, **Great Lakes Fruit, Vegetable and Farm Market Expo**, DeVos Place, Grand Rapids, Michigan. For more information: <http://www.glexpo.com> .

January 16-17, 2007, **NABGA National Bramble Conference**, Columbus, Ohio, in association with the Ohio Fruit & Vegetable Congress. For more information: <http://www.raspberrylblackberry.com>.

February 9-12, **North American Strawberry Growers Association and the North American Strawberry Scientists**, Ventura, California For more information, 1-613-258-4587, email kconsult@allstream.net, or visit <http://nasga.org>

February 12-17, **NAFDMA 23rd annual convention in Calgary, Alberta.** For more information, www.nafdma.com 1-888-884-9270.

February 14-15, **Empire State Fruit and Vegetable Expo**, Syracuse, New York

February 21-22, **Ontario Fruit and Vegetable Convention**, St. Catharines, Ontario <http://ofvc.ca/>
1-800-387-FARM (3276)

Feb 22-23, **Ontario Berry Growers Association Annual Meeting and Conference**, in conjunction with the Ontario Fruit and Vegetable Convention, St. Catharines, Ontario For more information, 1-613-258-4587, email kconsult@allstream.net, or visit <http://ontberries.com/>

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