Univ. of Minnesota Strawberry Yield Trials

http://fruit.cfans.umn.edu/breedingprogram.htm

- 3 locations
- Mulched + Nonmulched over winter at Grand Rapids
- Harvest 2 years
Univ. of Minnesota Strawberry Yield Trials
http://fruit.cfans.umn.edu/breedingprogram.htm

• Data collected on
  – Yield
  – Fruit size
  – Season
  – Disease incidence
  – Fruit traits
Strawberry Cultivar Trial at Grand Rapids MN: Adjacent Mulched and Nonmulched Plots
Soil Temperature: Snow Cover

![Graph showing soil temperature changes over time with different snow cover conditions.](Image)
Soil Temperature: No Snow Cover

![Soil Temperature Graph](image)

- **M-2in**
- **M-4in**
- **UM-2in**
- **UM-4in**

**Axes:**
- **Y-axis:** Temperature (°F)
- **X-axis:** Date

**Legend:**
- M-2in
- M-4in
- UM-2in
- UM-4in

**Graph Description:**
The graph shows the temperature changes over time for different depths and locations, highlighting the effects of snow cover on soil temperature.
Overwinter Stand Reduction in Nonmulched Matted Row Plots in Northern Minnesota (2006-2007)
Current Popular Varieties in the Upper Midwest

Widely Planted
- Annapolis
- Honeoye
- Cavendish
- Kent
- Mesabi
- Glooscap
- Jewel
- Winona

Trialing by Growers
- AC Wendy
- Itasca
- Brunswick
- Darselect
- L’Amour
- AC Valley Sunset
Recent Introductions

• AC Wendy
  – Ag Canada - Nova Scotia
  – Early Season
  
  **Strengths**
  – Excellent flavor
  
  **Issues**
  – Medium size fruit
  – Moderate Productivity
Recent Introductions

**Itasca** *(MNUS 138)*

- Early season
- **Strengths**
  - Productive
  - Good cold hardiness
  - Resistant to foliar diseases
  - Attractive berries
  - Tough skin
  - Resistant to red stele root rot
  - Good processing

- **Problems**
  - Medium sized berries
  - Moderately soft flesh
  - Tangerine flavor
  - Susceptible to Phytophthora cactorum crown rot
Recent Introductions

• Brunswick
  – Ag Canada – Nova Scotia
  – Midseason

Strengths
  – Large, attractive, uniform fruit
  – Attractive
  – Firm
  – Tolerant to leaf spot and scorch and bacterial angular leaf spot

Issues
  – Moderate yield
  – Mild Flavor
Recent Introductions

L’Amour

- Early midseason

**Strengths**
- Bright Red Attractive berries
- Large calyx
- Large sized berries
- Firm flesh
- Moderately Resistant to foliar diseases
- Excellent balanced flavor
- Good processing

**Problems**
- Productive ?
- Winter hardiness ?
Recent Introductions

• Darselect
  – France
  – Late midseason

Strengths
  – Attractive
  – Flavorful
  – well-presented fruit
  – soft but tough skin

Problems
  – Moderate yield
  – Winter hardiness ???
Recent Introductions

• **Valley Sunset**
  – Ag Canada - Nova Scotia
  **Strengths**
  – Very Late Season
  – Very Large fruit
  – Tough skin
  – Good flavor
  **Issues**
  – Less firm than Jewel
  – Medium Productivity
  – Winter hardiness ???
What’s New?
Recent and new varieties to try for 2012
Clé des Champs

- Midseason, just after Kent
- Yield similar to ‘Kent’ and ‘Jewel’.
- Size
  - Fruit larger than ‘Kent’
- Appearance
  - Attractive light red, glossy.
  - Firmer than ‘Kent’
  - Excellent shelf life.
  - No symptoms of powdery mildew or gray mold observed
  - High fruit levels of certain phenolics may confer fungus resistance.
- Plant
  - Moderately susceptible to leaf spot and leaf scorch
  - Good vigor and winterhardiness
AC® Laurel (K93-20)
Allstar x Cavendish

- **Midseason** after ‘Brunswick’, before ‘Jewel’.
- **Yield** medium at Kentville
- **Size** medium to large, similar to ‘Annapolis’.
- **Appearance**
  - medium red
  - lighter and more uniform than ‘Cavendish’
  - Medium firm to firm
- **Flavour**
  - excellent; sweet and aromatic with notes of melon; a staff favourite.
- **Plant**
  - Vigorous
  - medium in ease of picking.
  - High resistance to red stele root rot.
Herriot (NY99-21)
NYUS299 x Winona

- Late midseason (with Jewel)
- Yield 80% to 160% of Jewel
- Size moderately large, similar to Jewel
- Appearance
  - bright, shiny red with a light red interior
  - light green calyx.
- Flavor
  - Mild, very good, pineapple overtones similar to historic strawberry flavors
- Plant
  - vigorous and productive
  - better response to renovation than Jewel
  - better tolerance to root rot diseases
Summer Dawn (V151)
(FL82-1452 x Selkirk) x (Chandler x 137A84)

• Early season
  – Released as a replacement for Annapolis
• Yield high in Ontario
• Size similar to Annapolis
• Flavour “high quality”
Summer Rose (R14)

- Late season
- Yield moderate
  - Single large inflorescence per crown
- Size
  - Large slightly smaller than Serenity
- Flavour
  - excellent quality
  - as good as Jewel and Albion
Summer Ruby (2V55)
Sib of Serenity x (Elsanta x GU selection)

- Early Season
  - 1-2 days later than Summer Dawn
- Size Large
- Appearance
  - Medium red, firm, shiny
  - Some catfacing
- Plant
  - Susceptible to scorch
What’s Coming?
2013 and beyond
AC® Kentville Midseason Cultivar

- Midseason with ‘Brunswick’ or ‘Kent’
- Yield high at Kentville
- Size large at Kentville
- Appearance
  - Bright red color; lighter than ‘Wendy’
- Flavour
  - Very good refreshing mixture of sugars and acids
- Plant
  - Berries are firm and easily picked
  - Open plant habit for easy harvest
  - Some tolerance to red stele root rot
Cornell NY02-56

- **Midseason**
- **Fruit**
  - Firm, Short conic shape
  - Bright red color
  - Good sweet flavor
  - Multiple fruiting laterals
- **Plant**
  - Vigorous, good in replant situations
  - Possible tolerance to black root rot
UW-RF 02-3-4

• Early to early midseason.
• Yield high yields across multiple soil types/growing environments.
• Size Larger than Annapolis, Honeoye, Wendy
• Appearance
  – glossy, medium-red, with red flesh and fancy horizontal calyx
  – moderately firm, wide conic to blunt wedge
• Flavor
  – very good flavor w/ wild strawberry tartness
• Plant
  – winter hardy, vigorous and quite tall
  – excellent leaf health and runnering.
UW-RF 02-14-25

- Late midseason (later than 'Jewel')
- Yield high at UWRF and Iowa State
- Size larger than Jewel
- Appearance
  - Medium to dark red large, glossy
  - Prominent yellow achenes and horizontal calyx
  - Fruit shape very uniform wide conic
- Flavor
  - Very pleasant, rich strawberry flavor and red flesh
  - A true flavor-favorite for most in University trials.
- Plant
  - Vigorous, short-statured, heavy-runnering, winter-hardy
  - Quite tolerant to most leaf diseases.
MNUS 691
Cavendish x Winona

- Midseason with Kent
- Yield medium with Kent, Cavendish
- Size large
- Fruit
  - Bright, medium red, Flesh uniformly red
  - Conic-wedge to blunt wedge shape
  - Moderately firm,
  - Very good flavor
- Plant
  - Red stele resistant
  - Moderate resistance to leaf spot, scorch powdery mildew, leaf scorch and bacterial angular leaf spot
MNUS 796
Cavendish x Itasca

- **Late-midseason** with Mesabi and Jewel
- **Yield** very high in northern Minnesota
- **Size** medium, larger than Mesabi, similar to Jewel
- **Fruit**
  - Bright, uniform red color
  - conic-wedge to blunt wedge shape
  - firmer than Mesabi though softer than Jewel
  - Flavor pleasant and moderately intense
- **Plant**
  - Strong plant maker
  - Highly resistant to leaf diseases
Enjoy Strawberries!

Thank You!
Favorite Early Season Strawberry Varieties for Minnesota

• Annapolis
  – Ag Canada - Nova Scotia
  Strengths
  – Good winter hardiness and vigor
  – Med-Large fruit
  – Very Productive
  Problems
  – Light (orangey) color
  – Fair flavor - better in north
  – Somewhat soft but tough skin
Favorite Early Season Strawberry Varieties for Minnesota

• **Honeoye**
  - Cornell – over 30 years ago!
  - Early (mid)Season
  **Strengths**
  - Excellent winter hardiness and vigor
  - Very Productive
  - Good flavor - better in north and on sandy soils
  **Problems**
  - Color can be very dark in heat
  - Soft flesh
  - Medium size fruit

Photo from Nourse Farms
Favorite Early Midseason Strawberry Varieties for Minnesota

• **Cavendish**
  - Ag Canada – Nova Scotia
  **Strengths**
  - Large fruit
  - Good flavor
  - Good winter hardiness and vigor
  - Very Productive
  - Mod firm fruit

**Problems**
- Color can be blotchy
Favorite Early Midseason Strawberry Varieties for Minnesota

- **Kent**
  - Ag Canada – Nova Scotia
  - **Strengths**
    - Med-Large fruit
    - Good flavor
    - Very Productive
    - Good winter hardiness and vigor
  - **Problems**
    - Mod soft fruit – problem in hot weather
    - Color can be blotchy
    - Very susceptible to leaf diseases
Favorite Late Midseason Strawberry Varieties for Minnesota

**Mesabi**

**Strengths**
- Very Hardy
- Very Productive
- Attractive berries
- Creamy texture

**Problems**
- Medium size
- Soft in hot weather
- June Yellows
- Intolerant of high soil pH
Favorite Late Midseason Strawberry Varieties for Minnesota

• Glooscap
  Strengths
  – Very hardy
  – Very productive, tough plants
  – Good flavor
  – Medium-large fruit
  Problems
  – Soft
  – Dark in hot weather
  – May have June Yellows
Favorite Late Season Strawberry Varieties for Minnesota

• Jewel

  **Strengths**
  – Outstanding flavor and texture
  – Very attractive
  – Very firm
  – Large fruit
  – Moderate to high yield

  **Problems**
  – Moderate hardiness
  – Use in Southern MN
  – Northern MN if you like to live dangerously

Photo from Nourse Farms
Favorite Late Season Strawberry Varieties for Minnesota

Winona

**Strengths**
- Productive
- Very vigorous
- Med-Large berries
- Disease resistant
- Peach flavor

**Problems**
- Irregular shaped berries
- Berries held close to crown
- Skin softness in hot or wet weather
- Alternative to Jewel in Northern Minnesota