

Cold Hardy Cherries



Bob Bors

Quebec
2002

Outline

History

North American Production

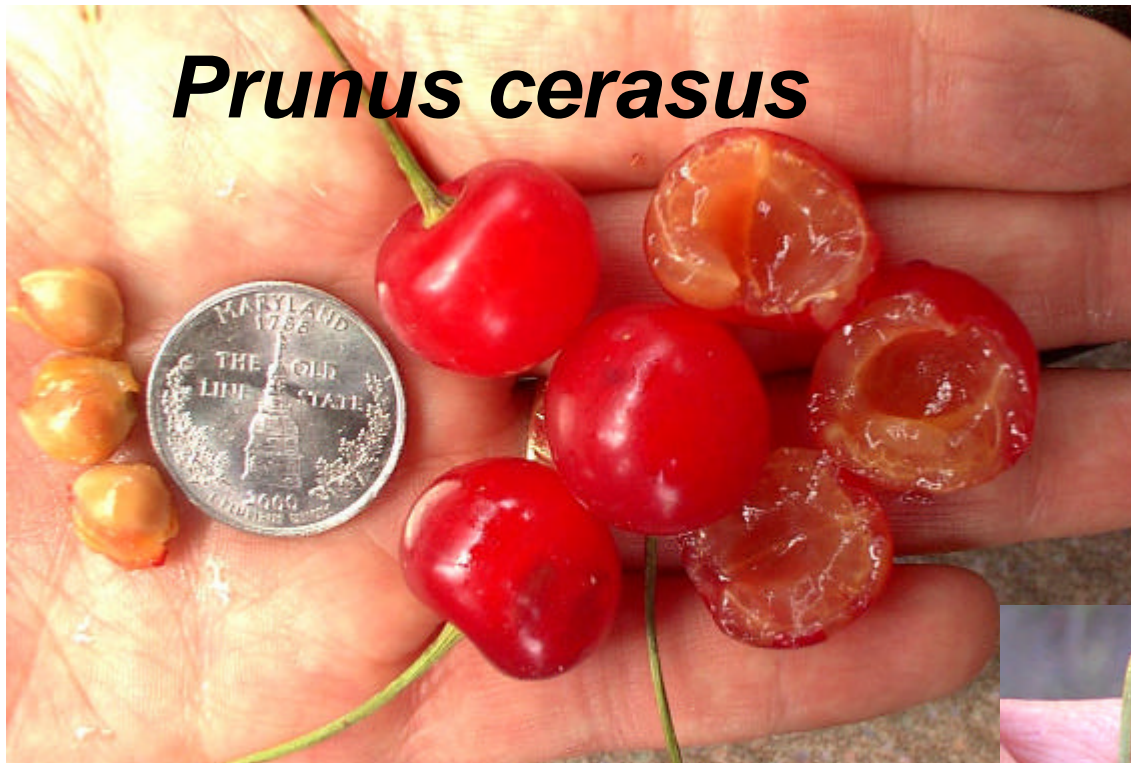
U. of Saskatchewan research

Varieties for Quebec

Orchard Establishment

Miscellaneous

Prunus cerasus



P. pensylvanica



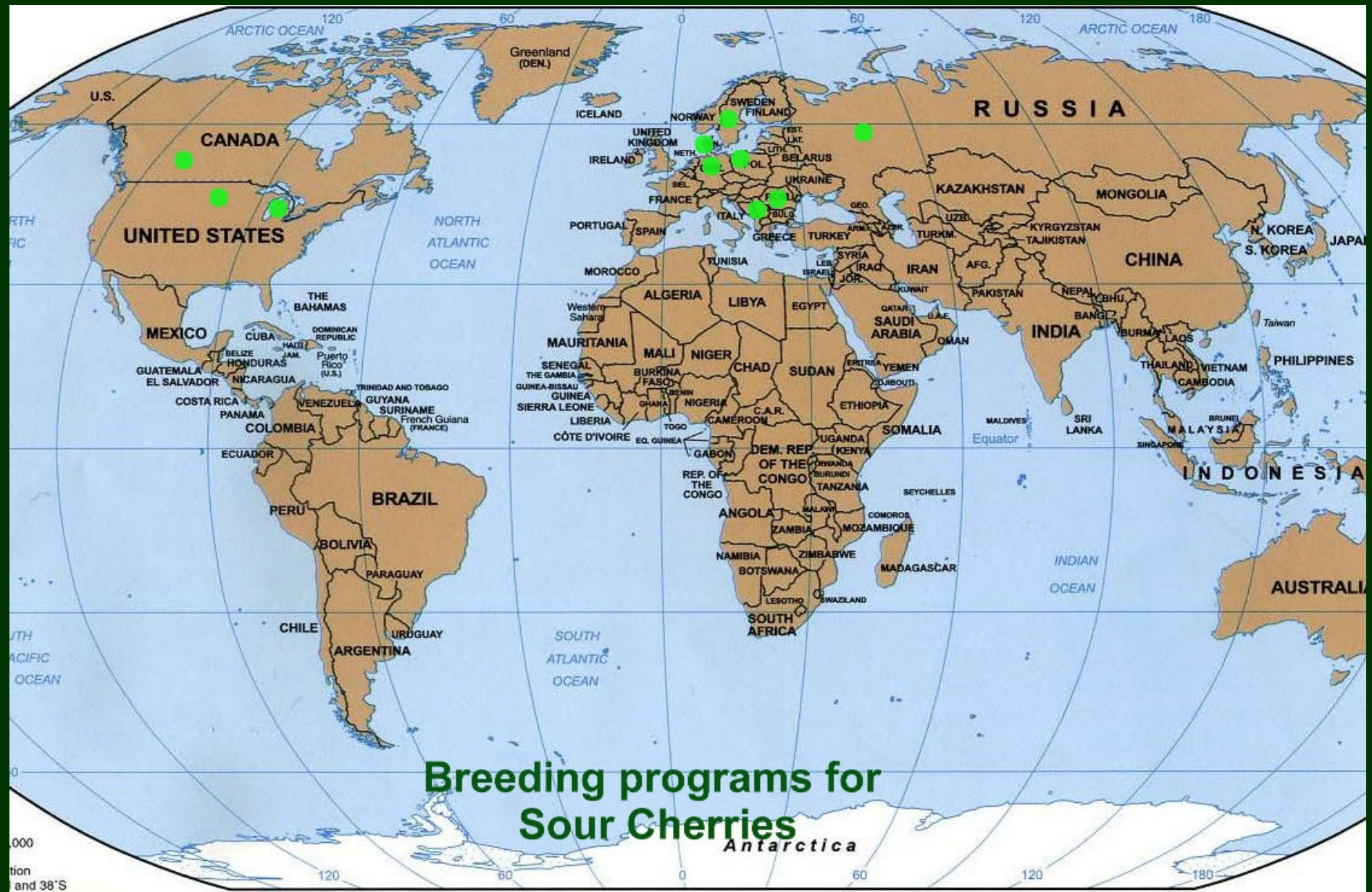
P. virginiana



P. avium







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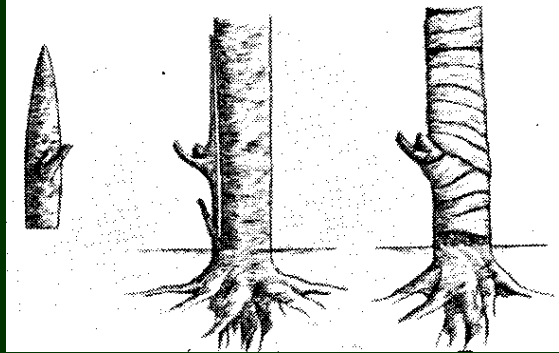
Miscellaneous

One variety = 95% of production



**Montmorency:
a 400 yr. old variety**

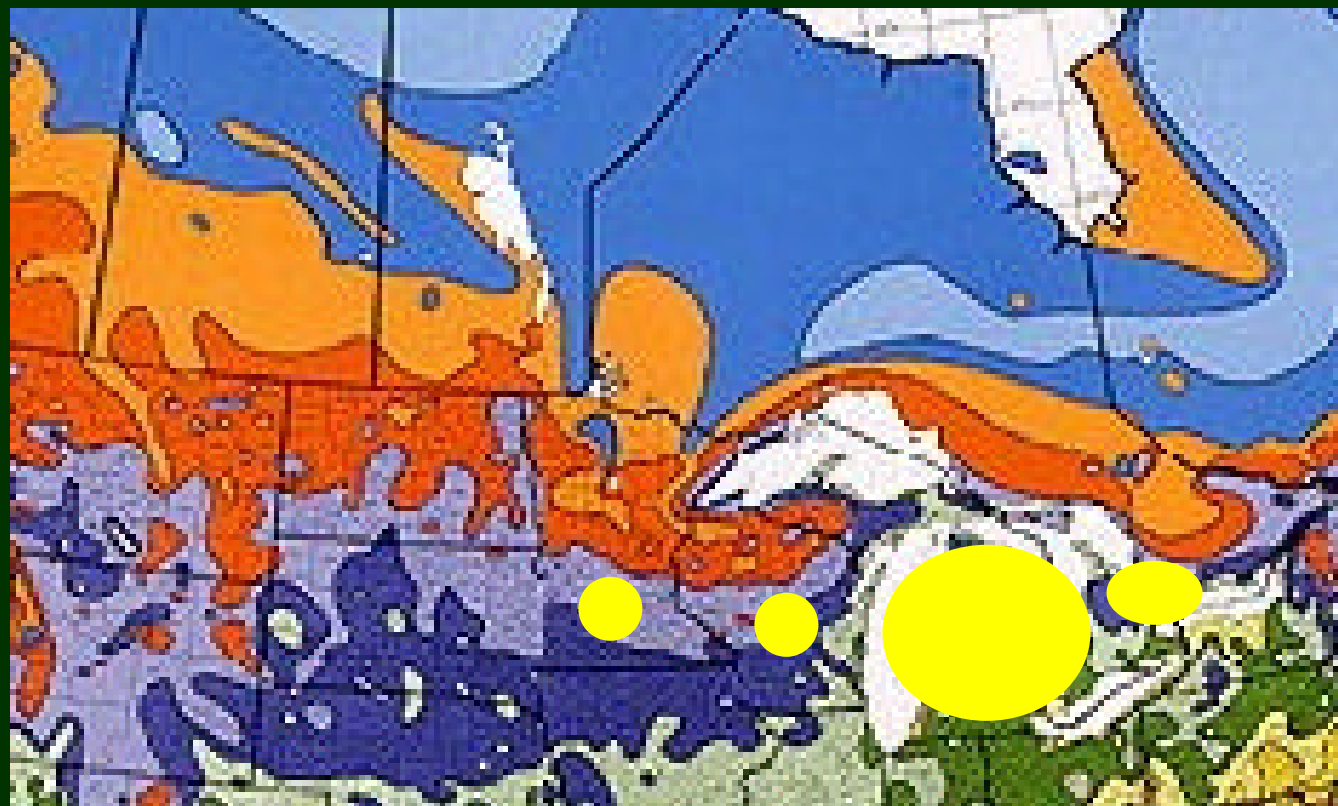




Sour Cherry Growers: in North America

**Average Annual
Minimum Temperature**

Temperature (F)	Zone
Below -50	1
-45 to -50	2a
-40 to -45	2b
-35 to -40	3a
-30 to -35	3b
-25 to -30	4a
-20 to -25	4b
-15 to -20	5a
-10 to -15	5b
-5 to -10	6a
0 to -5	6b
5 to 0	7a
10 to 5	7b
15 to 10	8a
20 to 15	8b
25 to 20	9a
30 to 25	9b
35 to 30	10a
40 to 35	10b
40 +	11



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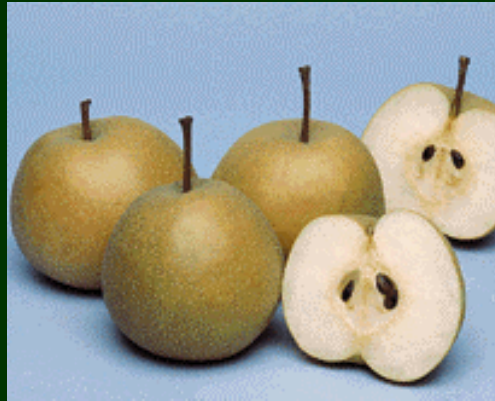
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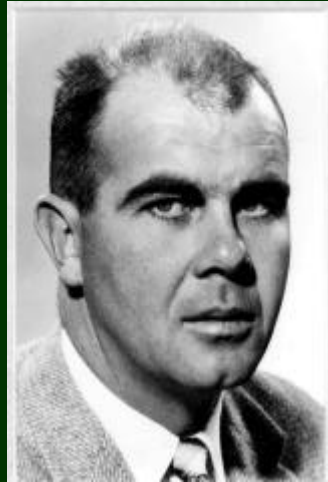


Prairie Sour Cherry Breeding



**1940 -
1982**

Les Kerr

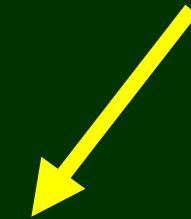


**1968-
1982**

Stewart Nelson



**Cecil
Stushnoff
1983-1989**



→ Rick →

**Bob,
Forrest**

**20,000 seedlings
in last 10 years**

3 types of sour cherries in Canada

Mongolian



**U of Sask
hybrids**



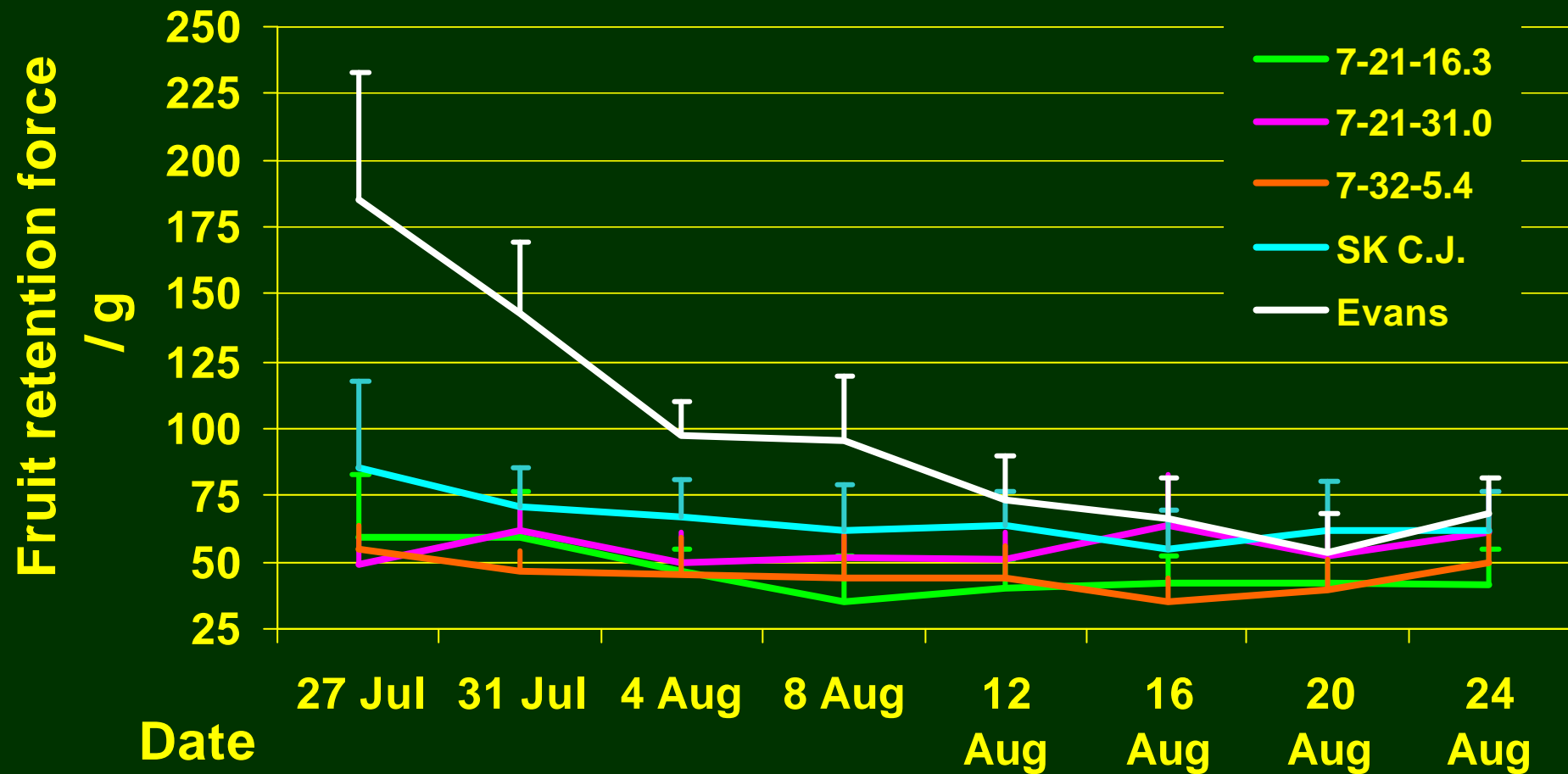
Sour Cherry (ie. Evans)



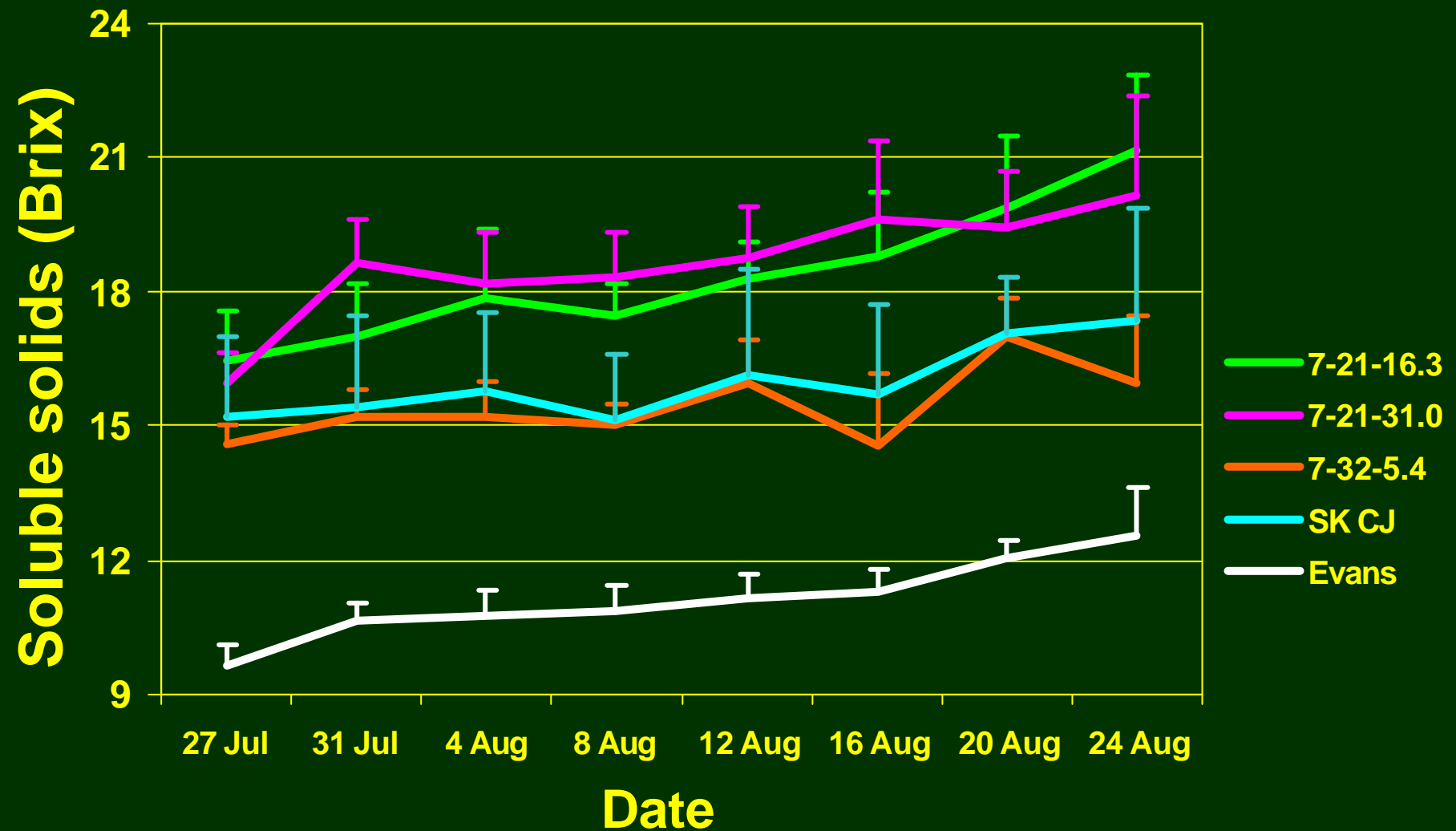




Ease of harvesting five cherry selections in 2000



Soluble solids of five cherry selections in 2000





June



July

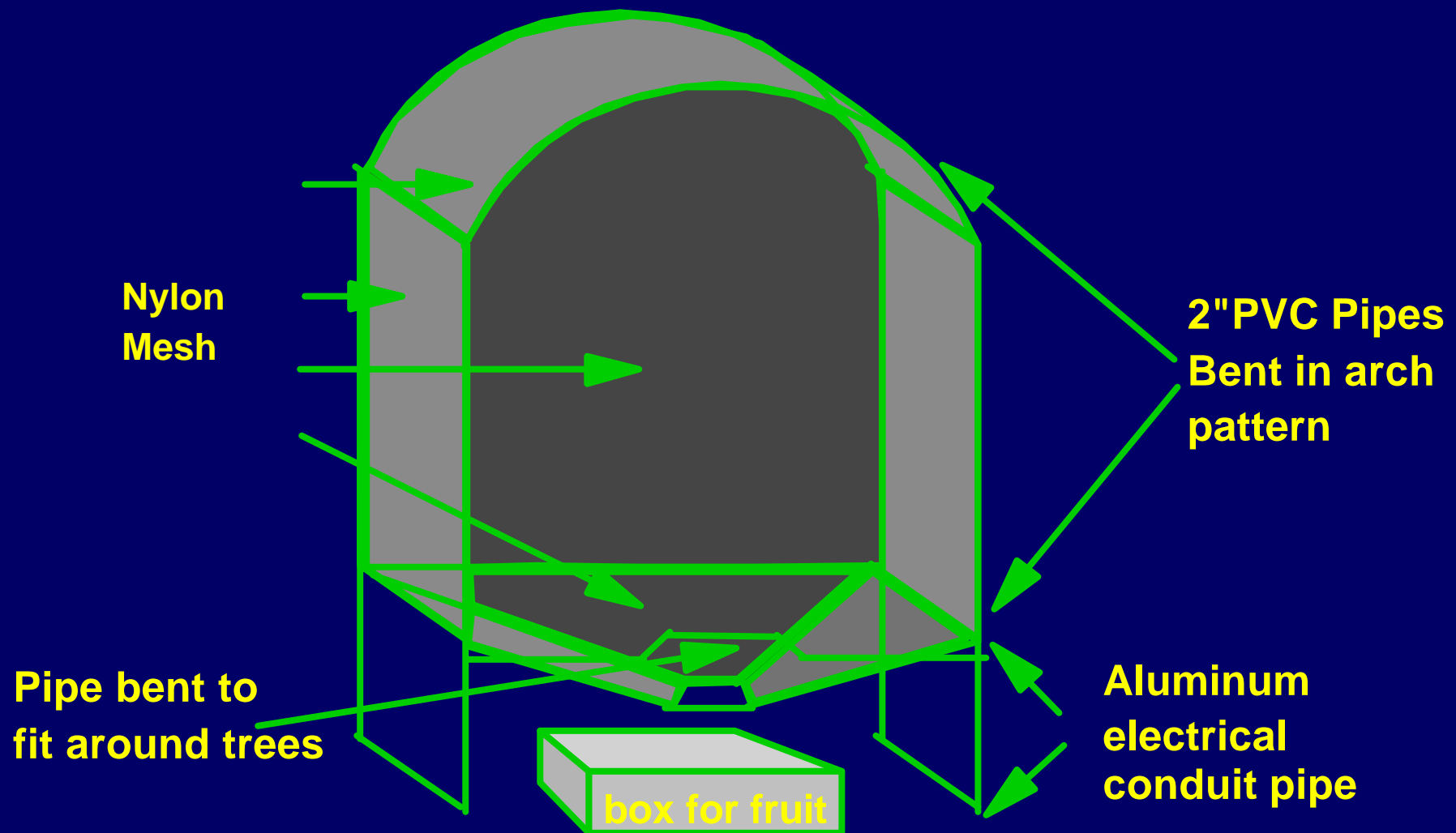


August



September

Catch frame for shake harvesting of dwarf sour cherries



Approximate dimensions: 2 m (height) x 1.5 m (width) x 0.75 m (depth)

Catch Frame:

harvests half a tree at a time

fits around trunk

1.5 mins. shake by hand

5-7% loss





Mechanical harvesting possible for: saskatoons, raspberries, chokecherries, dwarf sour cherries, currents.

Prairie cherries:

U of SK, 7-21-16.3 'Momma'

- Ripens early Aug.
- fruit weight = 5.5g
- flavour = excellent
- pit shape = round
- soluble solids = 20 to 22 Brix
- fruit colour = dark red
- juice colour = bright red



Prairie cherries:

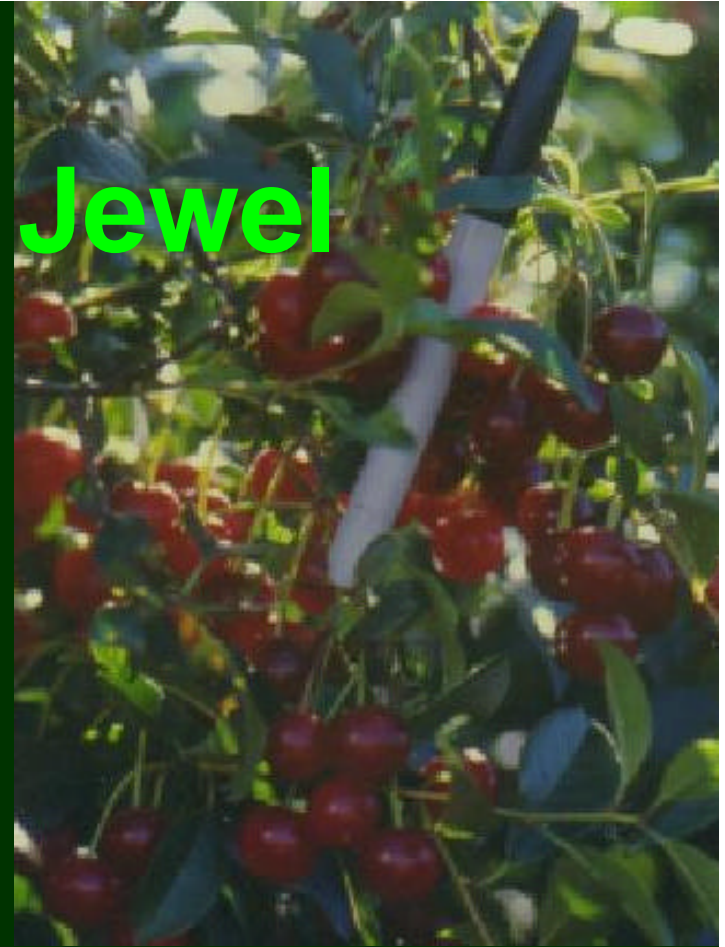
U of SK, 7-21-16.3 'Momma'

- productivity = good
- winter survival = good
- suckers = 0
- tree height = 2m
- fruit retention force / g = 45
- disease incidence = 1 branch had bacterial canker



Prairie cherries: U of SK, **Sk Carmine Jewel**

- ripens late July
- fruit weight = 3.8 to 4.0g
- flavour = good
- pit shape = round
- soluble solids = 15 to 17 Brix
- fruit colour = dark red to black
- juice colour = bright red



Prairie cherries:

U of SK,

Sk Carmine Jewel

- **productivity = excellent**
- **winter survival = good**
- **suckers = few**
- **tree height = 2m**
- **fruit retention force / g = 60**
- **disease incidence = none**



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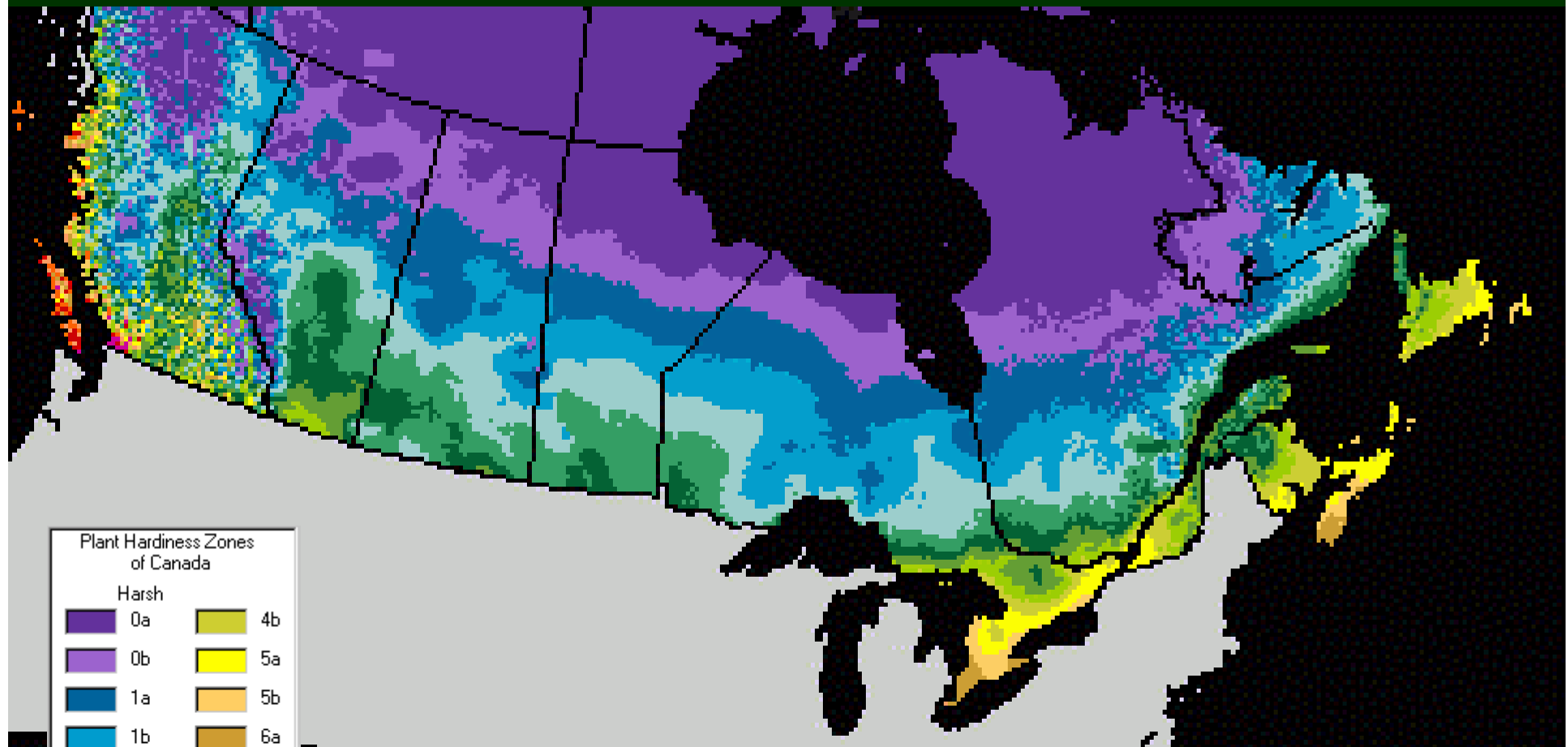
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Plant Hardiness Zones of Canada 2000



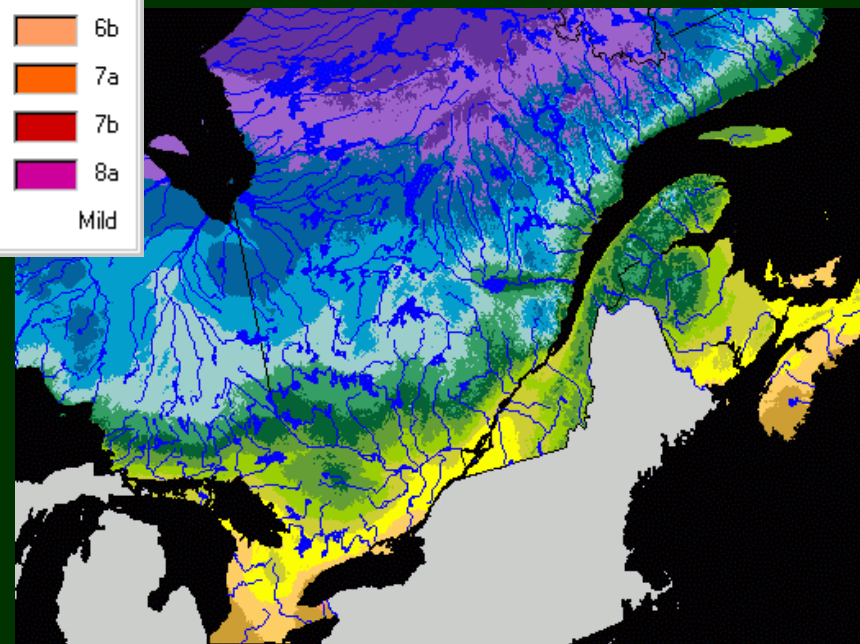
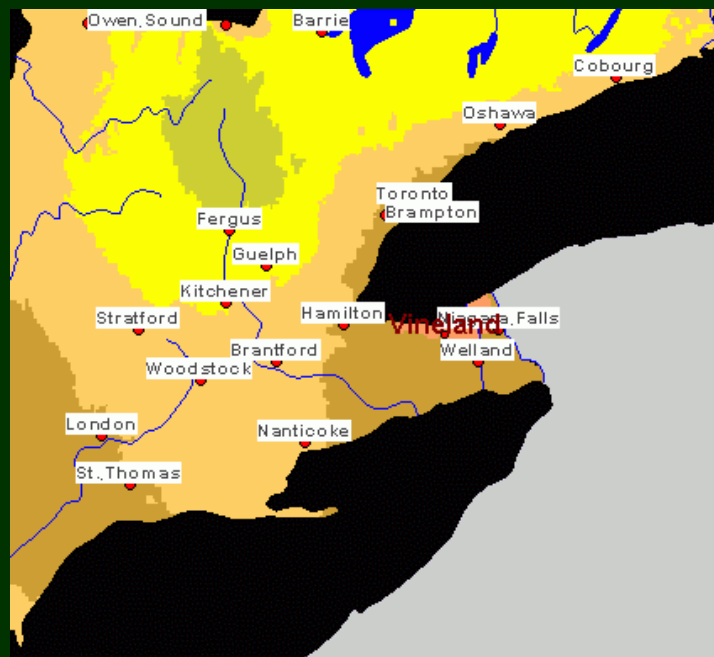
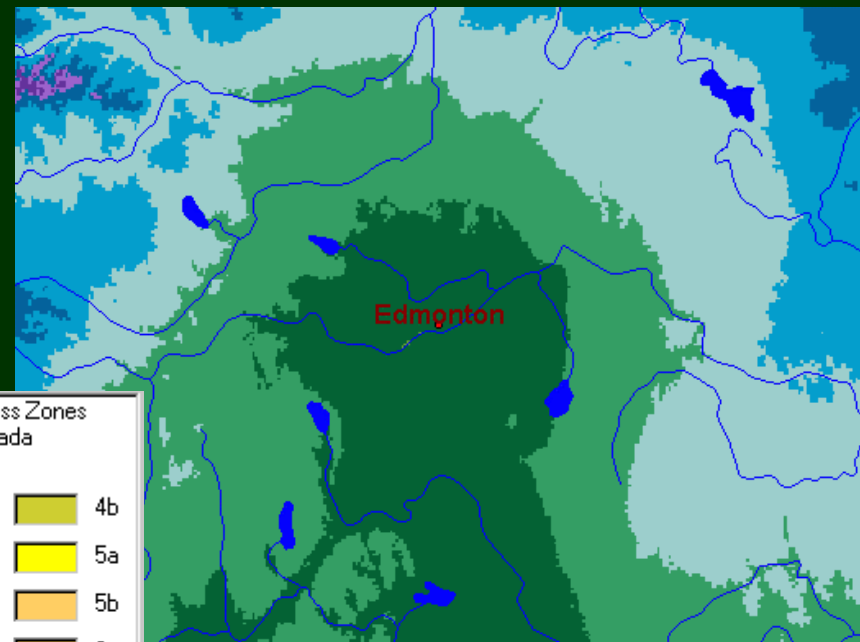
Plant Hardiness Zones of Canada			
Harsh			
0a	4b		
0b	5a		
1a	5b		
1b	6a		
2a	6b		
2b	7a		
3a	7b		
3b	8a		
4a			
Mild			



Agriculture and
Agri-Food Canada

Agriculture et
Agroalimentaire Canada

<http://sis.agr.gc.ca/cansis/nsdb/climate/hardiness/intro.html>



U.S. Cherries:

Cultivar Remarks

Standard:

Early Richmond early, productive, but fair quality

Montmorency mid-season, widely grown

Balaton late-season, very good quality, not as hardy as Montmorency

2/3rds standard size:

Meteor mid-season, hardy; small, but quality fruit

[Evans is likely a seedling of this variety]

North Star mid-season, small fruit, fair quality



European Cherries:

**Tested in Ontario & worth investigating.
Most have dark colour, superior flavour.**

Cacanski Rubin

Cigancia

Erdi Jubileum

Goresemka

Fruchbare von Michurin

Heimanns Konserva

Heimanns Rubin

Leitzkauer Pressauerkirsche

Planteskole og Frohandel

Schattenmorelle

Sour Chari

Stevensbaer

Prairie Cherries

- Evans

- Hardiness depends on grower & location
 - poor in zone 2
 - fair to poor zone 3,
 - good zone 4
- good fresh taste
- bright red: pie cherry
- brown juice unless frozen or cooked
- yellow flesh oxidizes quickly
- large tree, handpick
- large long pits: crank type pitters best, may shatter in machines

Advantages of SK Sour Cherries

- Market potential for dark colour
- Bred for over the row harvesting (naturally dwarf)
- Much higher quality than N.Amer. standard variety
- 3 week harvest window
- **How will they do in Quebec?**

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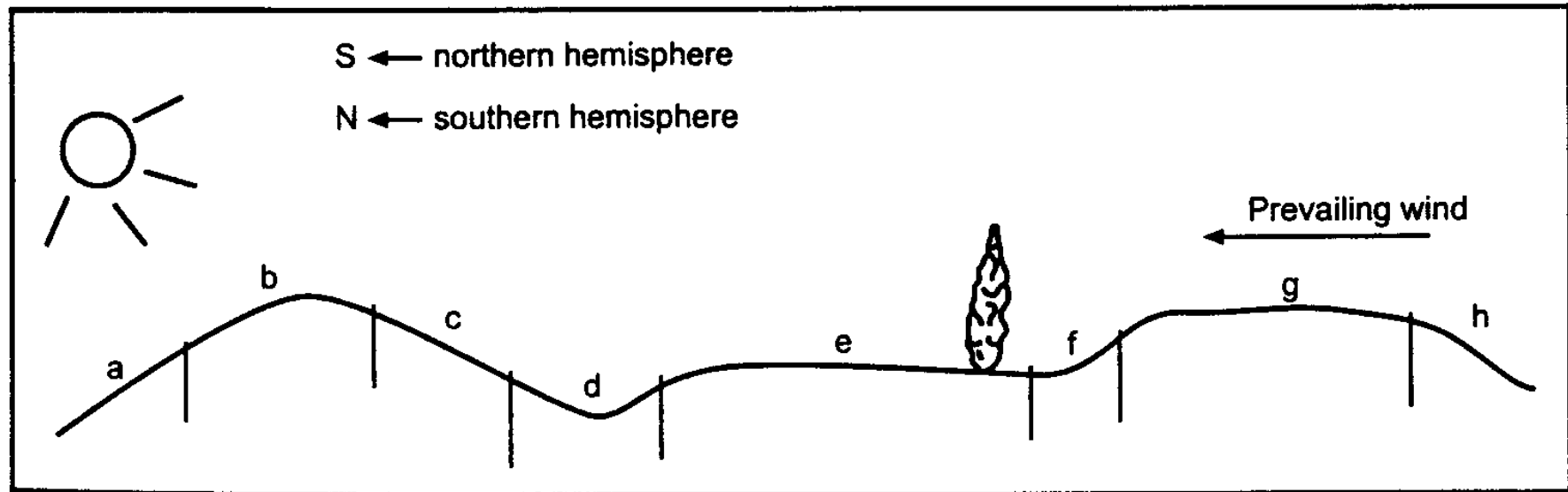
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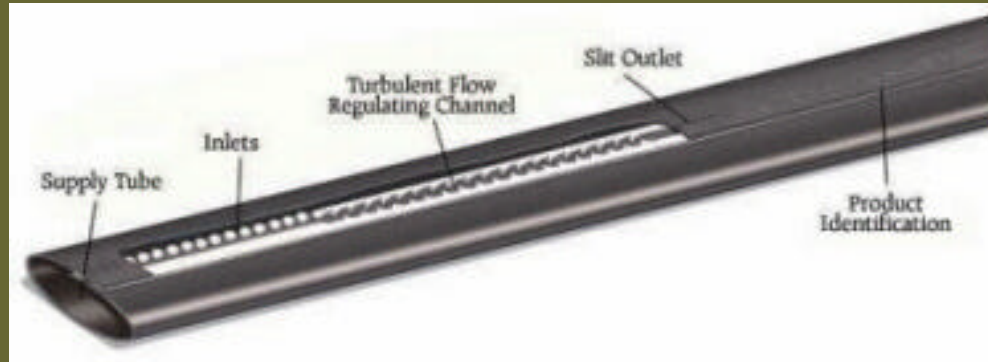
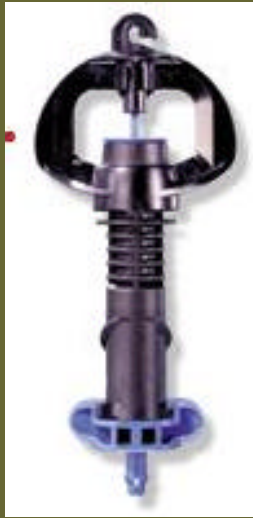


northern slopes for early bloomers
avoid frost pockets, wind, wet spots
well drained, good soil

**Cherries,
like most tree fruits,
prefer well-drained loam
or sandy loam soil.**



<http://www.statlab.iastate.edu/soils/>



**Irrigation very important 1st 3 years
good for continual production**



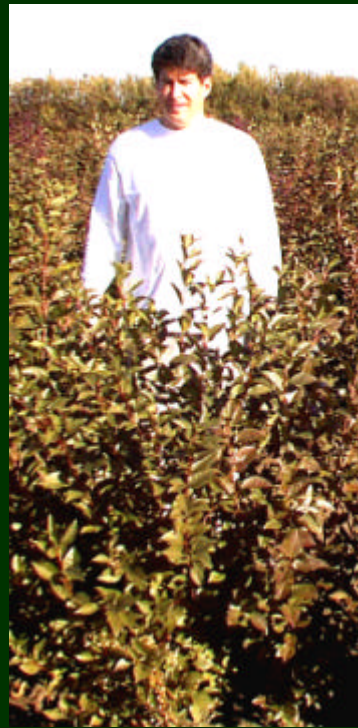
Cherry tree growth over 4 years



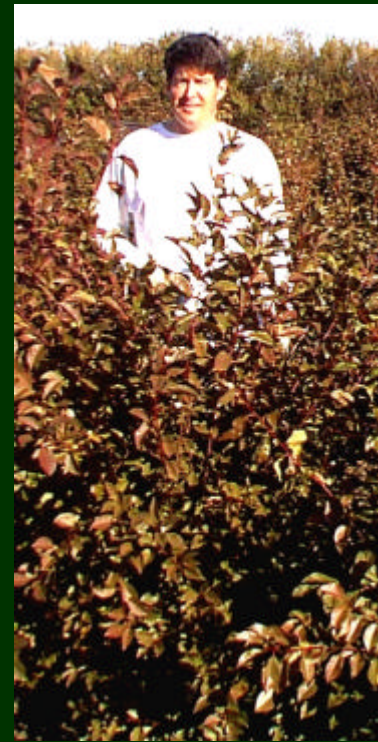
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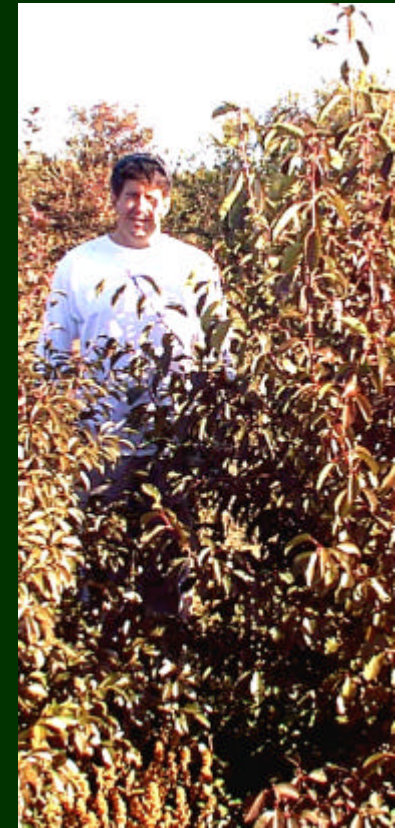
1



2



3



4

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Sweet Cherry Maturity Index



1



2



3



4

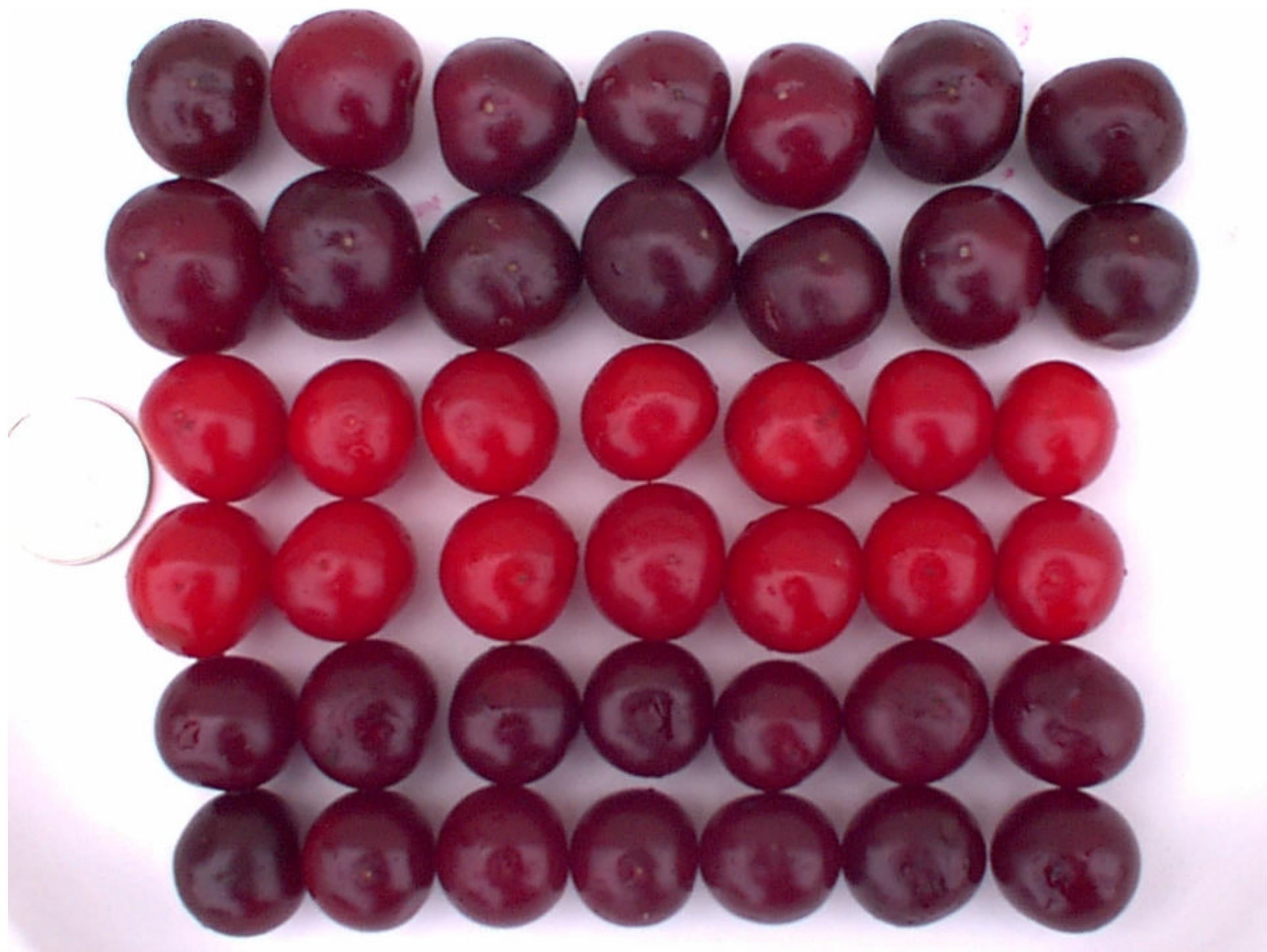


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Developed by Michigan State University
Agricultural Engineering Department.
Manufactured by Colorcurve Systems, Inc.

Farrall Hall, Michigan State University
E. Lansing, MI 48824 (517) 353-4517





Juice extracted by freeze/thaw

undiluted 50% 25% 5%

**Carmine
Jewel**

**Cranberry
(undiluted)**

Evans



Thawed Fruit



Carmine Jewel

Evans



Yield ?

- **Michigan: ~7,000 lbs / acre, 2000**
- **Pennsylvania: ~ 4,300 lbs / acre, 1997**
- **No yield trials on Evans or Sask varieties**
- **Individual U of Sk trees yield 5 to 8 kg/tree. Plantings could be 500 to 800 trees/acre.**





Bottlenecks of Sour Cherry production

- **Deer Damage**
- **Identify the best cultivars**
- **Pit Removal**
- **Propagation: can't keep up with demand**

For 2002 & 2003

- **‘Advanced Selection’ program**
 - SFGA survey
 - Tissue culture companies & Nurseries
- **Cherry Manual**
- **Expanded seedling testing**
 - Especially for growers in remote locations
 - must have deer fence and irrigation

Websites with manuals



<http://www.msue.msu.edu/fruit/cherry.htm>



<http://tfpg.cas.psu.edu/>



[http://www.ams.usda.gov/fv/ppbweb/
manuals/rtpcherf.pdf](http://www.ams.usda.gov/fv/ppbweb/manuals/rtpcherf.pdf)



[http://www.gov.on.ca/OMAFRA/english/
food/inspection/fruitveg/manuals/cherry.htm](http://www.gov.on.ca/OMAFRA/english/food/inspection/fruitveg/manuals/cherry.htm)

Farm Business Management
FBMinet-BC *British Columbia*

<http://fbminet.ca/bc/pfp/Ent.pdf/sourfl.pdf>



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