



Prairie Berries

Bob Bors & Jackie Bantle



Basics are the foundation



- Sun
- Water
- Soil & Nutrients
- Space



Sun

- Choose the right spot from the start
- More sun equals more production
- Tolerating shade is not the same as prospering in shade
 - Hardy kiwis prefer some shade.
 - Alpine strawberries are more tolerant than other fruits for some shade.
 - All other fruits do best in full sun



Water

- **In cities, water is fairly standard**
 - Usually good quality
 - Some Chlorine
- **Variable in Rural Areas**
- **Could have a rain barrel**
- **Areas under eaves may not get any rain and will require constant watering**
- **Low-lying areas especially near sidewalks and patios may get too much water**
 - Roots need air to live



Soils

- Some yards may have low organic matter
 - soil excavated to create a basement
 - developer made major changes leveling land
 - original soil for the area was poor
- Best time to change soil nutrition is before planting perennial fruit plants
 - Add organic matter
 - Perhaps soil test



Space

- **Urban settings often have limited space**
- **Dwarf trees and smaller bush fruits may be best**
 - **Dwarf trees have normal size fruits!**
 - **Not true that dwarf trees have small fruit**



Other needs:

- **Time:**
 - months or years to bear fruit
 - Long enough growing season
- **Good environment**
 - freedom from too many pests, bad weather

Good environment

- Pest control
 - animals
 - insects
 - diseases
 - weeds
- Microclimates



June & July

**Early July
or all Summer**

Mid July

**Late Summer
or early Fall**

early August

Favourite Prairie Berries

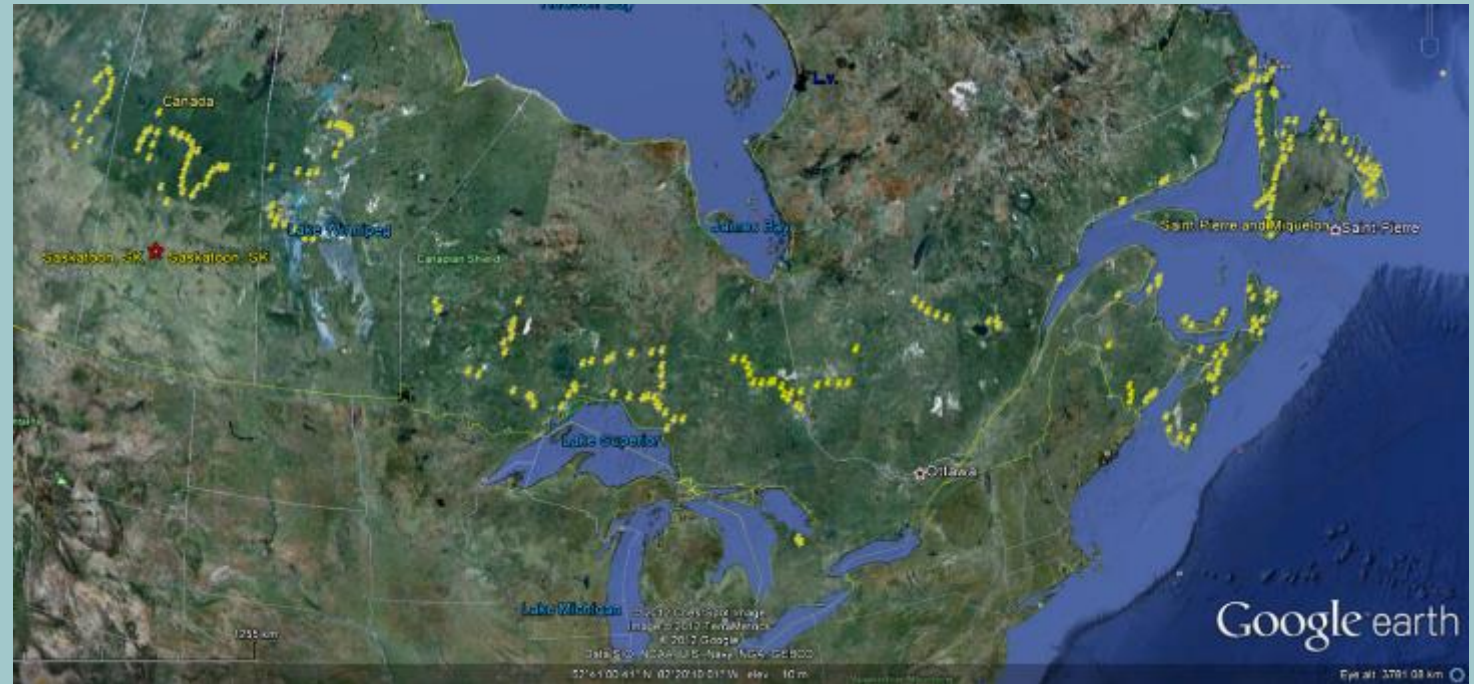
Why grow Haskap? flavour

- **Sweet and/or Sour**
- **Good varieties:**
 - Fresh berry flavour
 - Special zing
- **Bad varieties or unripe:**
 - Bitter, Like tonic water (Quinine)
 - Grassy = Green inside = not ripe



**Haskap Flowers can
survive -7°C**

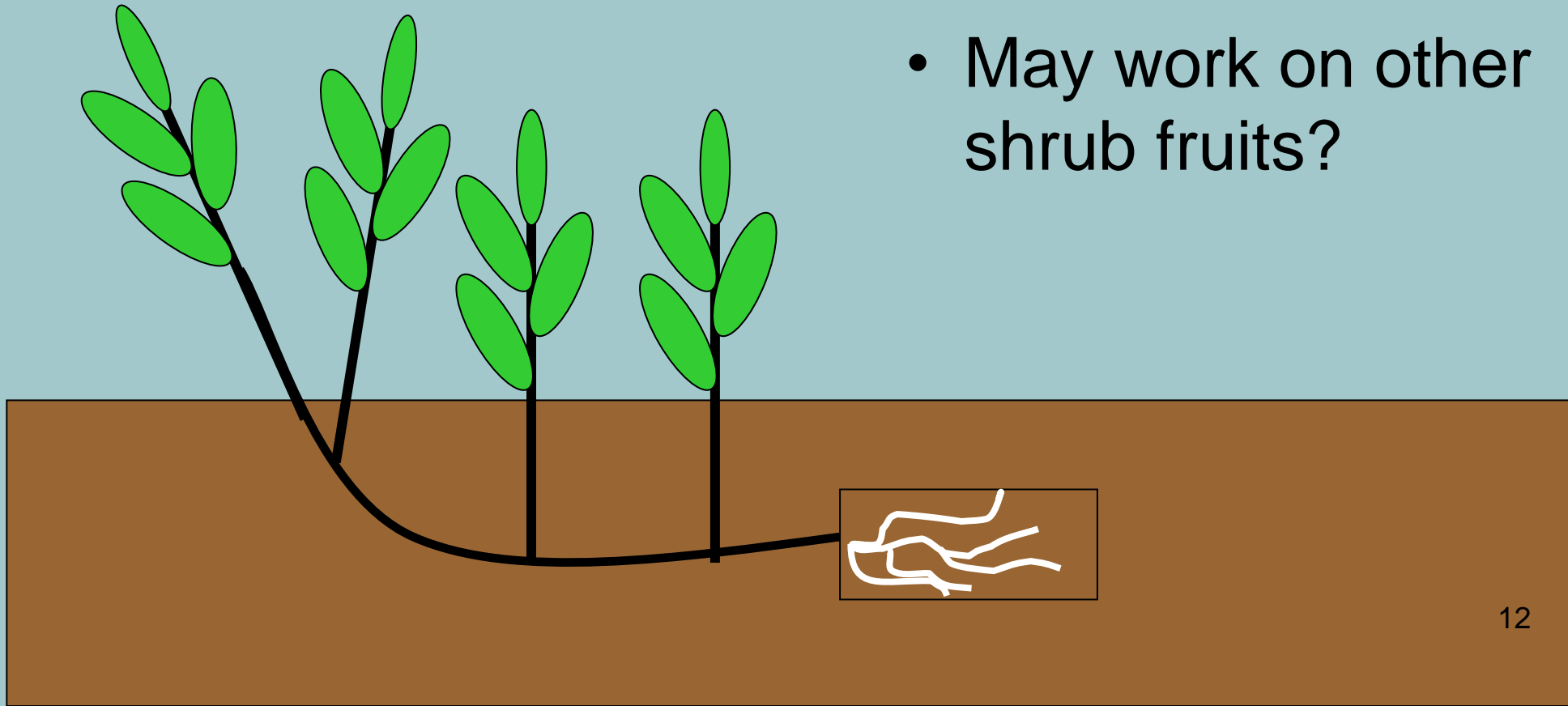
Plants are very hardy



Haskap plants don't sucker.

Sideway Planting can make a hedge

- Shoots form in a line
- Roots establish faster
- May work on other shrub fruits?









Second Helpings

Cooking with Haskap



By Loretta Bors and Lil Sawatzky





© Bob Bors 2014



© Bob Bors 2014



© Bob Bors 2014

USASK Haskap: No GMOs!



2010



2014

USASK Haskap

Compatibility Chart for haskap cross pollination, U. of Sask Varieties

	Russian* Varieties	Tundra	Borealis	Indigo Series	Aurora	Honey Bee	Boreal Blizzard	Boreal Beast	Boreal Beauty
Russian Varieties	GOOD	OK	OK	OK	OK	OK	POOR	BAD	BAD
Tundra	OK	BAD	BAD	BAD	GOOD	GOOD	OK	POOR	BAD
Borealis	OK	BAD	BAD	BAD	GOOD	GOOD	OK	POOR	BAD
Indigo Series	OK	BAD	BAD	BAD	GOOD	GOOD	OK	POOR	BAD
Aurora	OK	GOOD	GOOD	GOOD	BAD	GOOD	BAD	OK	BAD
Honeybee	OK	GOOD	GOOD	GOOD	GOOD	BAD	OK	OK	BAD
Boreal Blizzard	POOR	OK	OK	OK	BAD	OK	BAD	GOOD	POOR
Boreal Beast	BAD	POOR	POOR	POOR	POOR	OK	GOOD	BAD	GOOD
Boreal Beauty	BAD	BAD	BAD	BAD	BAD	BAD	POOR	GOOD	BAD

Good = pollen is compatible and blooms in sync, best pollination

Haskap Compatibility, Flowering and Ripening Charts for U of SK Varieties
By Bob Bors, Dec 2016

Honey Bee Haskap

- Ripens Early July / late June
- Holds onto fruit
- Fastest growing and highest yielding plant in our variety trial of 3 year old plants
- Good 'mouthfeel' for wine?
- Long narrow fruit shape
- Stems sometimes stay on



Aurora



- Ripens late June in SK, Canada
- Blooms with Honey Bee
- Berries are 1.9g
- Taste sweeter (50% lower acidity)
- Aurora bushes are taller, faster growing and more productive than Tundra and Indigos

Boreal Beast



Boreal Blizzard



Boreal Beauty

Boreal Blizzard



© 2014 U of Sask Fruit Program



**Czech#17 =
Berry Blue =
Berry Smart Blue =
Polar Night =
Wild Honey**

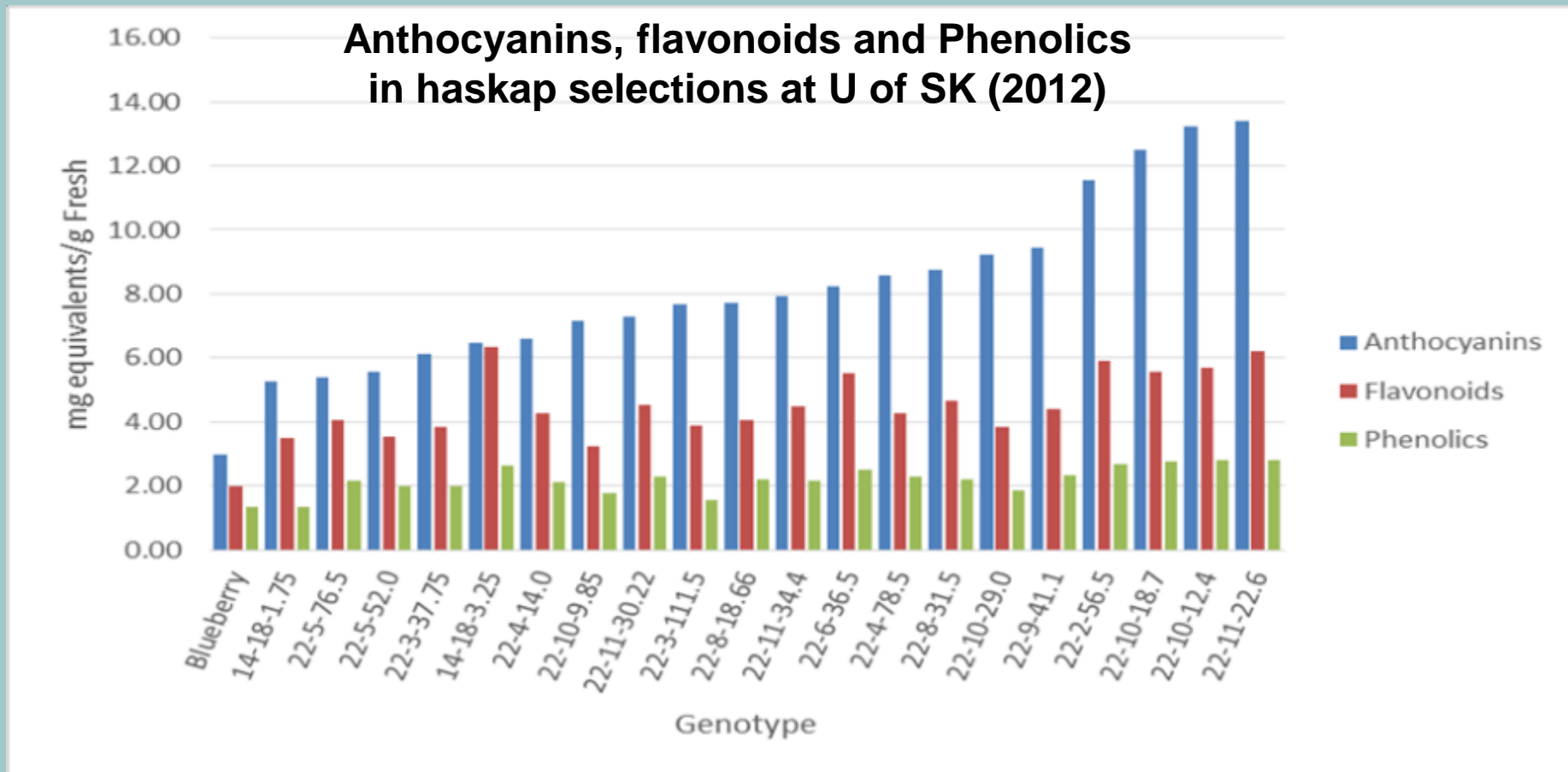


Table 1. Correlations between three groups of nutraceutical compounds based on data from 20 haskap selections.

Correlations:	R ²
Anthocyanins & Flavonoids	0.740149
Anthocyanins & Phenolics	0.764223
Flavonoids & Phenolics	0.907031

Strawberries

Commercial Strawberries = *Fragaria x ananassa*



Types of Strawberries

- **Junebearers**
 - In SK they bear in July
 - 1 heavy crop
 - Historically was the most common type grown in Saskatchewan
- **Everbearer**
 - Only 2 crops per year, early July & late Aug /early Sept
 - ‘everbearer’ term used by imaginative nursery
 - Smaller fruit than Junebearers or Dayneutral
 - Very rarely grown, very very old varieties (some 80 years old) ‘Fort Laramie’, ‘Ogalla’
- **Dayneutrals**
 - Multiple harvests, annual systems
 - Grown in high tunnels
 - Popular types found at local greenhouses: 'Seascape',

Popular Junebearers for the prairies

Season	Variety	Origin
Early	Annapolis	Ag Canada, Nova Scotia
Early-Mid	Honeoye	Cornell Univ. , New York
Mid	Cavendish	Ag Canada, Nova Scotia
Mid-late	Kent	Ag Canada, Nova Scotia
Late	Bounty	Ag Canada, Nova Scotia

Reference for variety descriptions:

http://www.lareault.com/en/strawberries_varieties_june_bearing.html

<http://www.omafra.gov.on.ca/english/crops/facts/strawvar.htm>

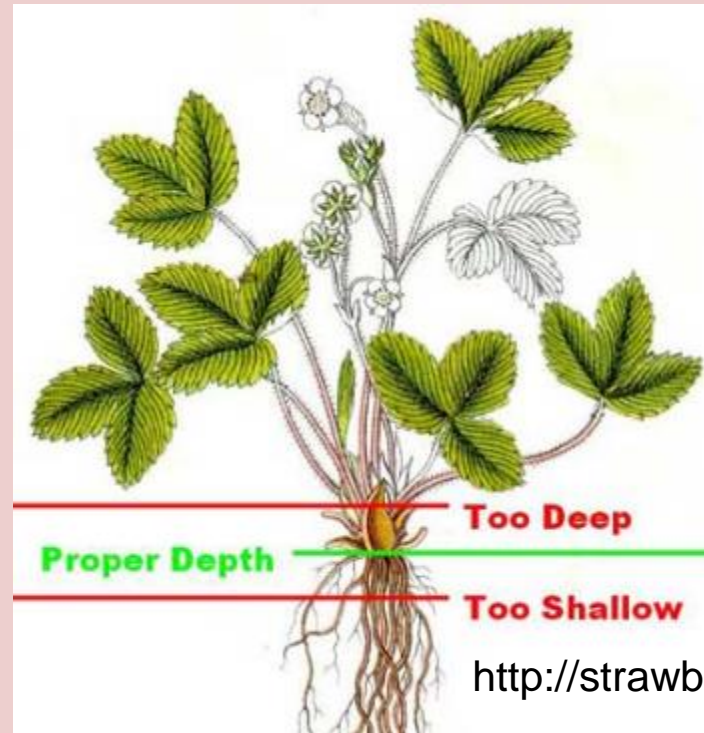
Fragaria vesca: Alpine strawberries



F. vesca, Wild Canadian type

Planting

- June-bearers
 - rows 1.3 m apart
 - plants 30 cm apart
 - Allow runners to grow and cover an area ~ 60 cm wide
- Everbearers and day-neutrals
 - double rows 15 cm apart, with 1.5 m between the rows
 - or in rows similar to June-bearers.



<http://strawberryplants.org>

Saskatoons



- Very hardy
- Suckers
- Produces fruit on last years wood
- Needs regular thinning
 - Do only 25% or less each year
- Disease prone in wet warm years

Fireblight: can catch it from apples, pears, raspberries

- Prune out
- Disinfect pruners
- Reduce nitrogen fertilizer



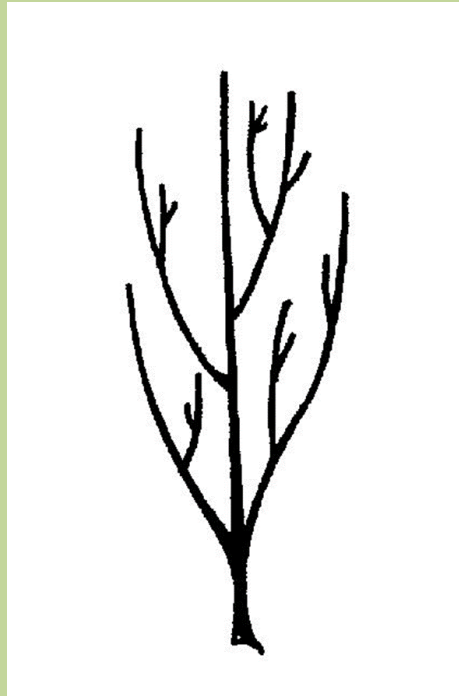
Saskatoon-Juniper Rust *Gymnosporangium* spp.



Entomosporium Leaf and Berry Spot



Reducing disease in saskatoons



Northline vs. Theissen

- **Spray with fungicides early**
- Prune Saskatoons to have open canopies / grow varieties that are more open
 - easier to get good spray coverage
- Leaves dry out faster after rain so less disease
- Less nitrogen / grass competition

Growing aggressive Fruits

- Super aggressive: Seabuckthorn, Goji, Raspberries
- Aggressive: Sour Cherries, Saskatoons, Chokecherries

- Plant them in their own garden, surrounded by lawn
- Don't put them on the edge of other gardens
- When close to full grown, let grass grow closer to their base, this competition will help slow them down

Theissen Saskatoons dwarfed with heavy grass competition



U of SK Raspberries

- Spreading types (traditional summer types)
 - Red mammoth
 - Red Bounty
- Low suckering
 - Steadfast



A photograph of a raspberry bush with several vertical canes. Three horizontal red lines are drawn across the canes to indicate different pruning levels. The top line is labeled 'Early', the middle line is labeled 'Mid Season', and the bottom line is labeled 'Late'. The canes are reddish-brown and have small green leaves at the top. The background is a grassy field under a cloudy sky.

**Prune Raspberry canes to
different lengths:**

Early

Mid Season

Late







Romance Cherries (U of SK types) look like this or darker when ripe



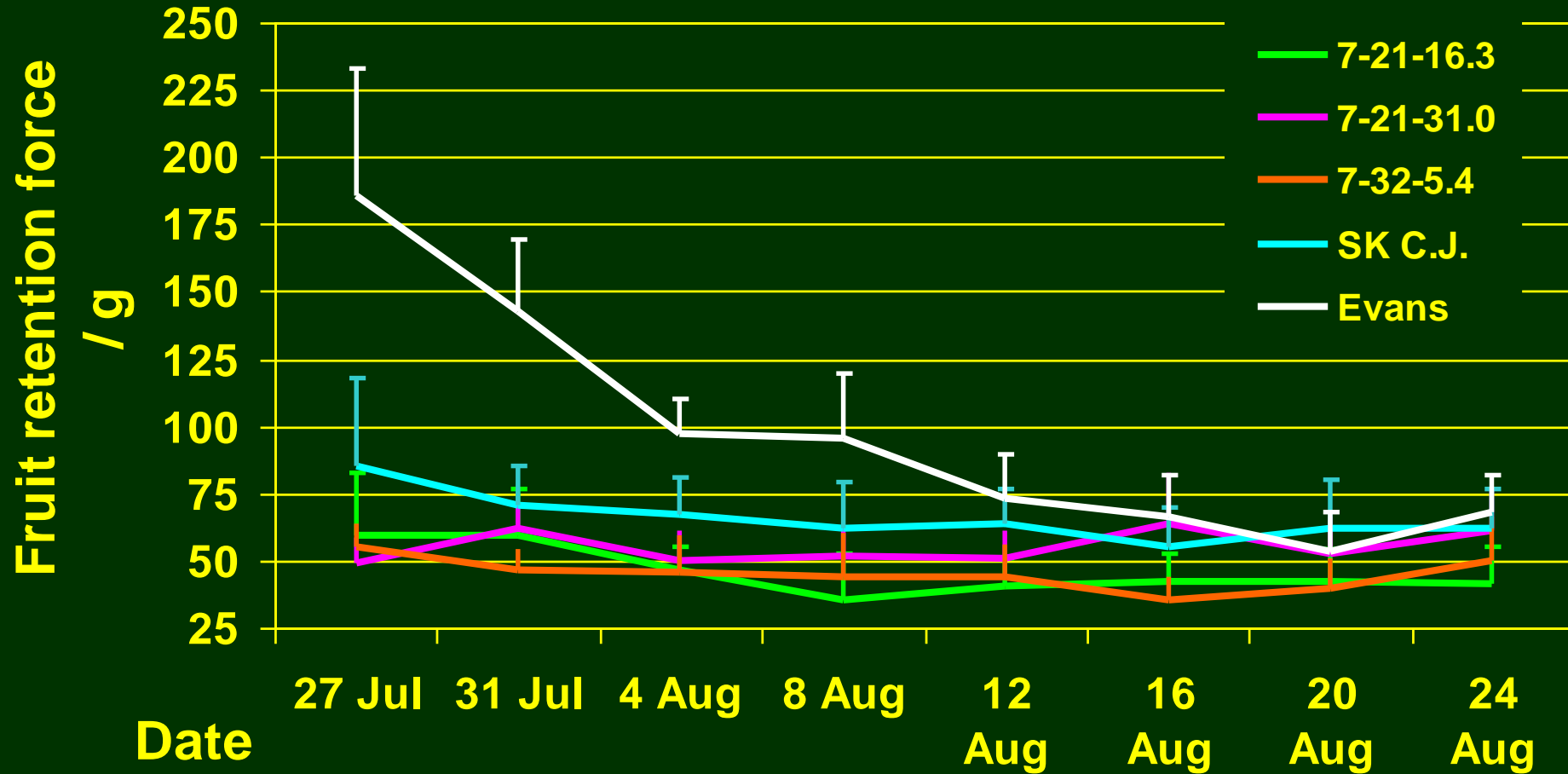
Montmorency and Valentine cherries look like this
when ripe







Ease of harvesting five cherry selections in 2000



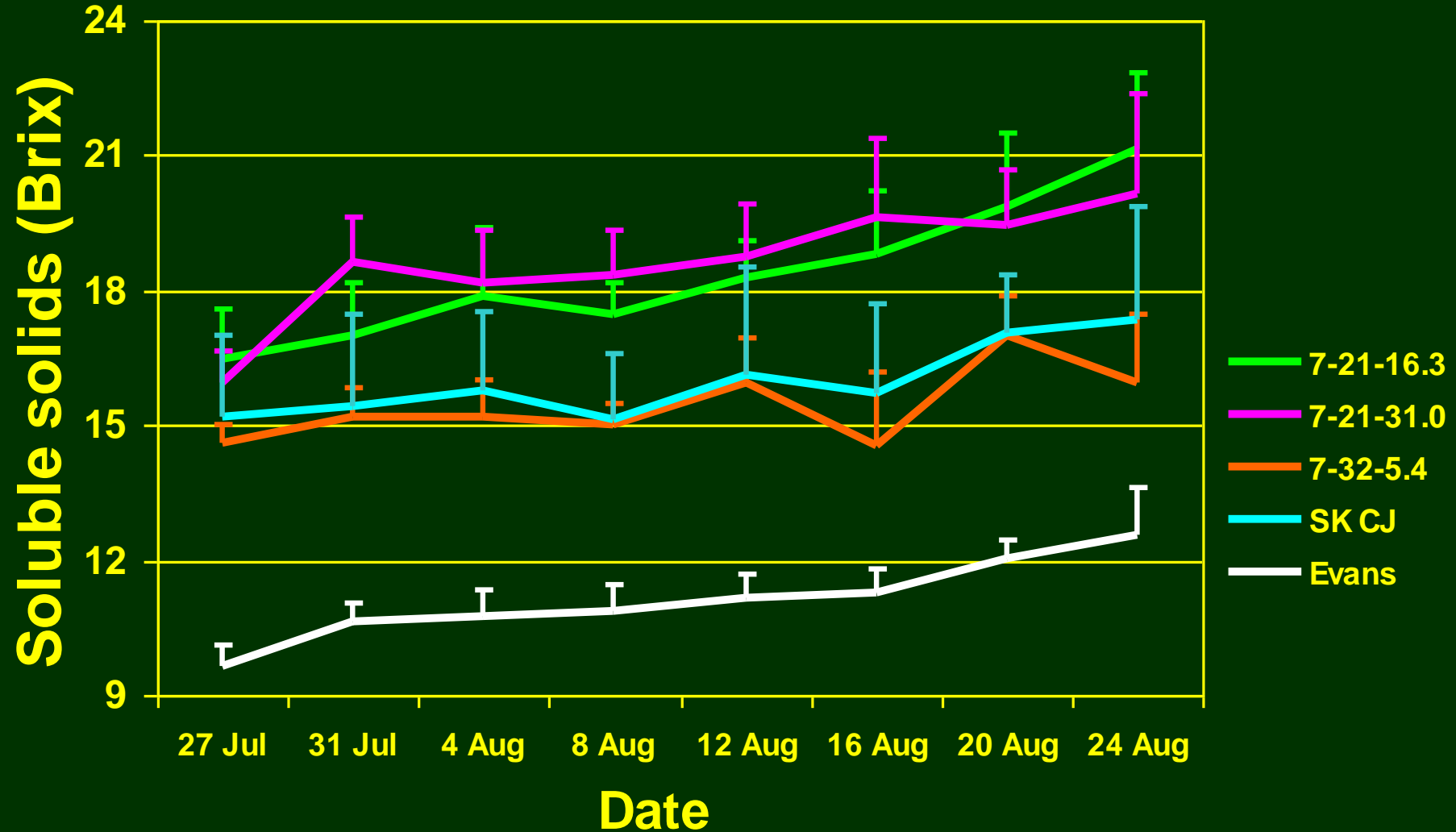
Refractometers:

Measure 'Soluble Solids' or ~% sugar content.

Widely used by wine makers, can be used to judge best time to harvest fruit



Soluble solids of five cherry selections in 2000



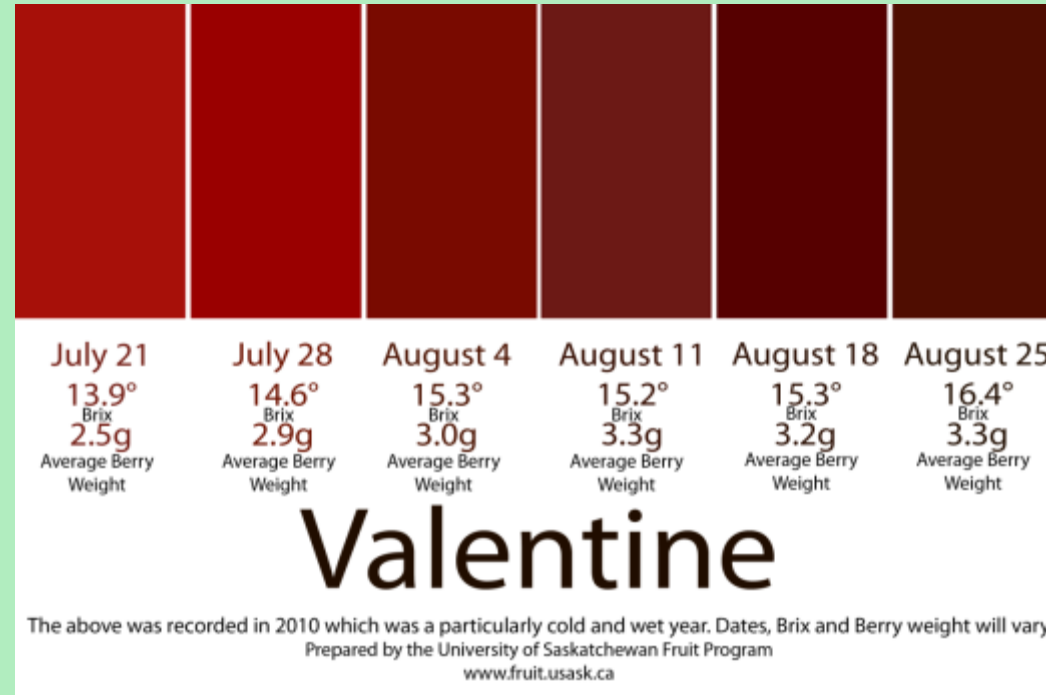
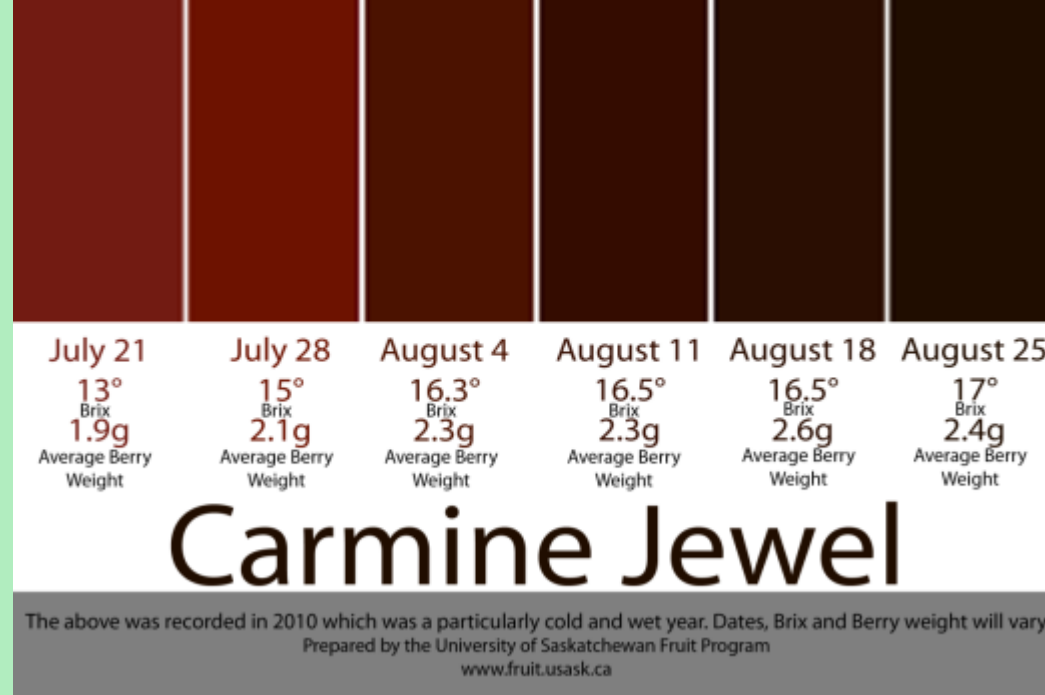


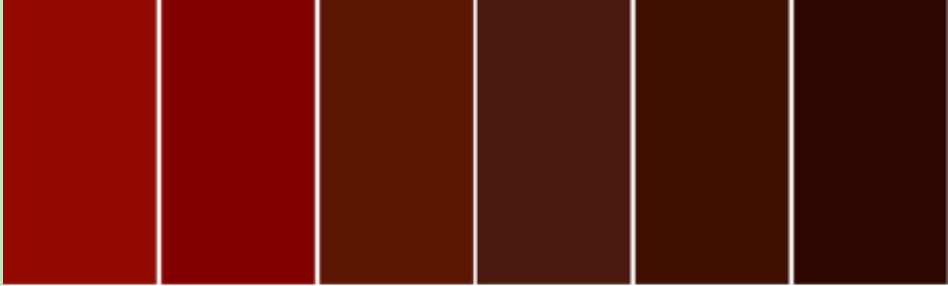
These can be downloaded from the USASK website

www.fruit.usask.ca

Works better on cell phones or computer screens not on printers

May need to look at fruit in shade (avoid glare)

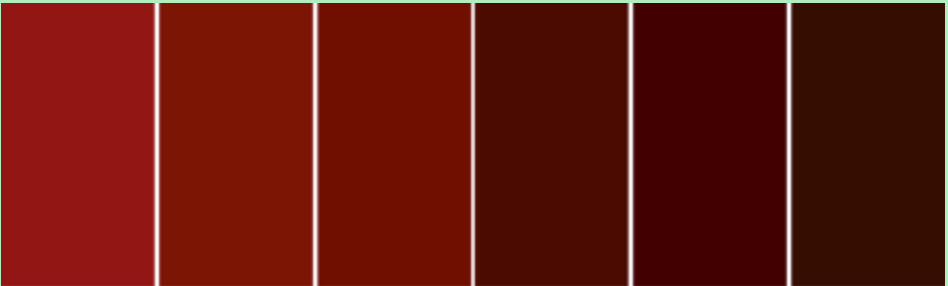




Date	Brix	Average Berry Weight
July 21	15.4°	3.2g
July 28	16.0°	3.7g
August 4	18.3°	3.7g
August 11	18.0°	4.0g
August 18	17.7°	4.1g
August 25	19.4°	4.0g

Romeo

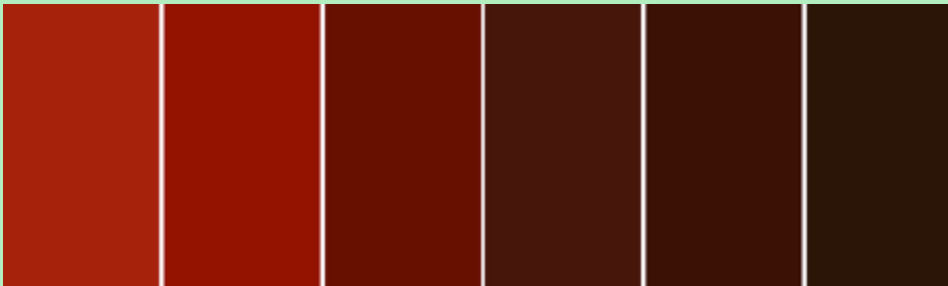
The above was recorded in 2010 which was a particularly cold and wet year. Dates, Brix and Berry weight will vary
 Prepared by the University of Saskatchewan Fruit Program
www.fruit.usask.ca



Date	Brix	Average Berry Weight
July 21	13.3°	2.8g
July 28	14.1°	3.3g
August 4	14.7°	4.9g
August 11	15.5°	3.1g
August 18	15.3°	3.2g
August 25	15.6°	3.2g

Juliet

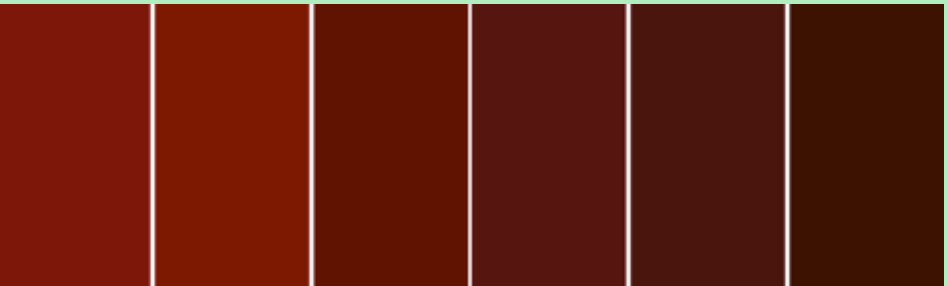
The above was recorded in 2010 which was a particularly cold and wet year. Dates, Brix and Berry weight will vary
 Prepared by the University of Saskatchewan Fruit Program
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Date	Brix	Average Berry Weight
July 21	12.1°	3.1g
July 28	14.3°	4.2g
August 4	14.7°	4.9g
August 11	15.1°	5.3g
August 18	16.6°	5.1g
August 25	18.1°	5.0g

Cupid

The above was recorded in 2010 which was a particularly cold and wet year. Dates, Brix and Berry weight will vary
 Prepared by the University of Saskatchewan Fruit Program
www.fruit.usask.ca



Date	Brix	Average Berry Weight
July 21	16.9°	3.7g
July 28	18.6°	4.1g
August 4	19.8°	4.5g
August 11	21.6°	4.0g
August 18	21.6°	4.3g
August 25	25.0°	3.3g

Crimson Passion

The above was recorded in 2010 which was a particularly cold and wet year. Dates, Brix and Berry weight will vary
 Prepared by the University of Saskatchewan Fruit Program
www.fruit.usask.ca

Manage weeds and grass



- Give young plants a competition-free zone
 - They will grow up 2 to 3x faster
 - Bushes ~ 1x1 meter zone
 - Trees ` 2 x 2 meter zone
- When plants reach full size can allow grass to grow closer to the plants
- Grass can be used to reduce size of large species



Bushes are better than trees

- If a fruit plant can be trained as a bush or a tree, train it as a bush
- More Fruit that is easier to reach fruit
- Bushes don't get sunscald



Bushes are better than trees

- If voles, rabbits, deer eat some of it they can recover
- Can recover from partial winterkill
- Easier to rejuvenate



Other Prairie Berries



Currants

- Super hardy genus
- Missouri Currants best for fresh
 - Larger fruit
 - Caterpillars don't like as much
- Black Currants
 - Concentrated flavour
 - Jam, juice, wine
- Reds are pretty



Goji Berries



- Very aggressive / Invasive
- Lots of little berries
- Continual fruiting
- A Solanaceous crop
 - Relative of tomatoes and nightshade
- Dried taste sweeter than fresh

Seabuckthorn



- Highly invasive
- Dangerous: branches end in thorns
- Hard to pick
- Cut bunches and freeze
- Make into tea (fruit and leaves good)
- Squish for juice extraction
- Male & Female plants



- A pome fruit that ripens evenly
- Good for processing
 - Not that great fresh
- Highest in antioxidants?
- Ornamental value
- Doesn't taste good fresh, needs sugar added

Aronia



Highbush Cranberry



- Not the same as cranberries
- Smelly sock odor while cooking
- Highly ornamental
- Very little uses
 - Jelly
- Wild Canadian ones taste better than European varieties

Lingonberry

- Closely related to real cranberries and taste like them but can be grown on drier soil
- Need acid soil
- Great for rock gardens
- Wild Canadian ones creep on ground
- European types are a foot tall





SARA WILLIAMS & DR. BOB BORS

Growing
FRUIT
in Northern
GARDENS

- 311 pages
- 400+ colour photos
- 13 "How To" chapters
- 21 fruit crop chapters

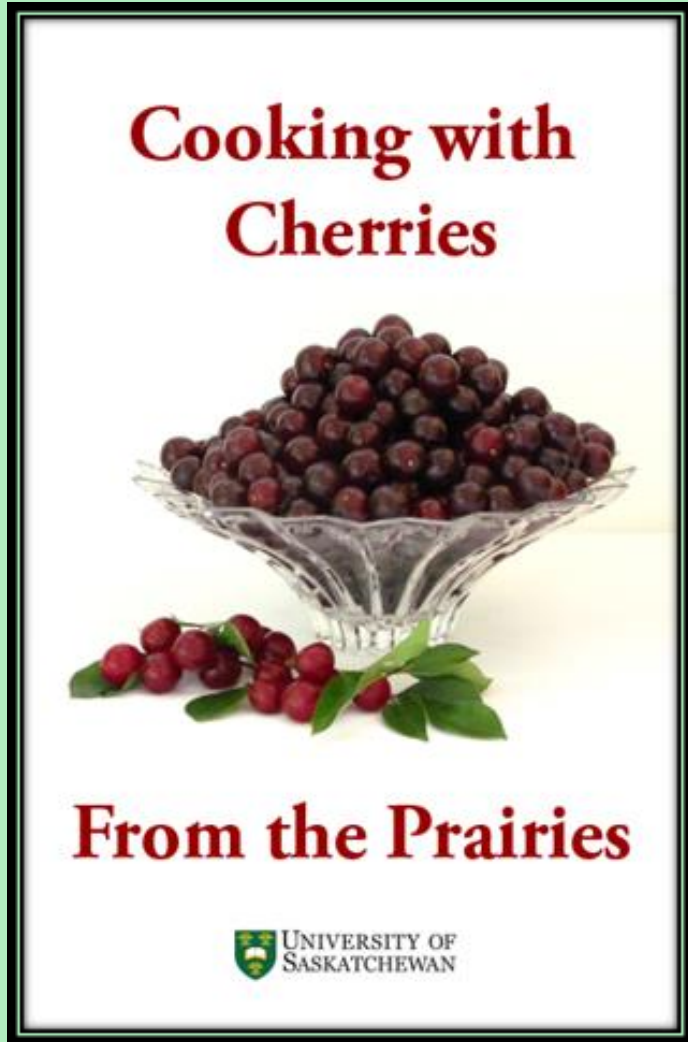
Publisher:



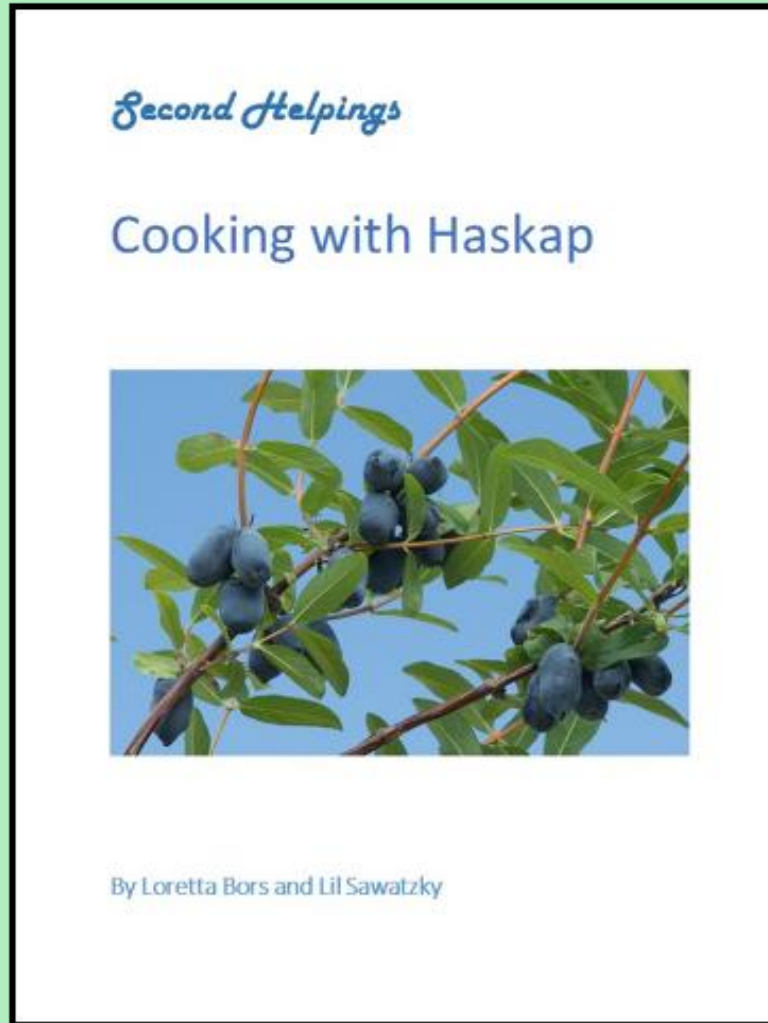
Available at:



Some garden centres
The authors sell signed copies!



U of SK Bookstore



Lorettabors@hotmail.ca

U of SK Fruit events

<http://www.fruit.usask.ca/extension.html>:

- **Fruit Course for Gardeners April 28, U of SK**
 - Part of the Master Gardener Program
- **1st Friday in June (June 1, 2018): Fruit program plant sale**
 - **14th St east of Preston Ave, Saskatoon**
 - **Most small fruit plants \$5**
- **Haskap School June 5, 2018 on Campus**
- **Haskap Field Day June 6, 2018 at 14th street**
- **Horticulture Week June 7 to 15**
 - Many classes and workshops

The fruit program was funded by:



The fruit program is funded by:



Royalties, Plant and book
Sales & workshop Fees

Volunteers Include:

U of S Master Gardeners

Students & growers