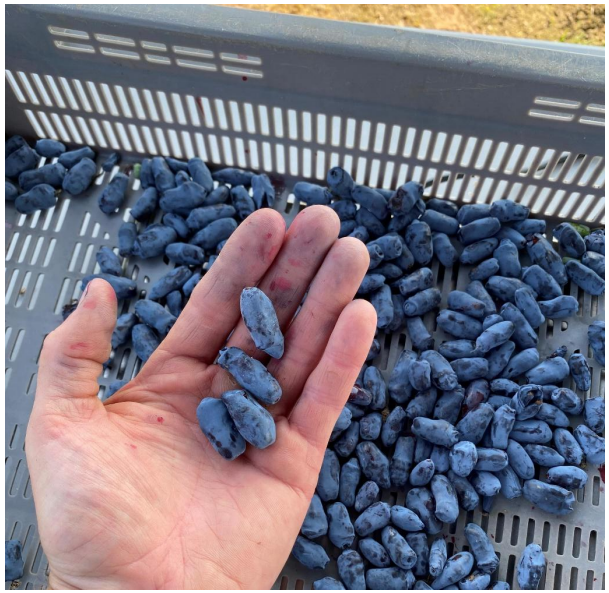




Haskap Production Basics:

Unlocking the Potential

Evan Elford, OMAFA New Crop Development Specialist
2024 NEVFC, Manchester, New Hampshire, USA

Overview

- Species Background
- General Use / Marketing
- Agronomics
    1. Establishment
    2. Ongoing Seasonal Management

Haskap (*Lonicera caerulea* L)

Family: Honeysuckle Family

Native Range: Boreal forest zone

Uses: Culinary/Ornamental

Life cycle: Perennial

Reproduction & Propagation:

- Monecious
- Pollinizer plant required
- Insect pollinated
- Early flowering
- Vegetative propagation

Plant Hardiness Zone: 1 (survives but does it thrive?)

Ontario Production: Largest acreage of non-traditional berry crops in Ontario; suitable for northern and southern Ontario

Why Haskap?

- Diversification in colder plant hardiness zones
- Season extension (June-bearing strawberries)
- Unique flavour & colour (flesh/juice); health benefits
- Fresh, Frozen, Processed

Photo credit: Dr. Bob Bors, University of Saskatchewan

Value-adding Opportunities

- Diversify products for customer base
- Increase farm income
- Health Benefits
  - H-ORAC values (higher than black currant, cranberry, and wild blueberry)
  - Anthocyanin values (higher than Saskatoons, wild blueberry, cranberry)

Metro Richelieu Inc 2024

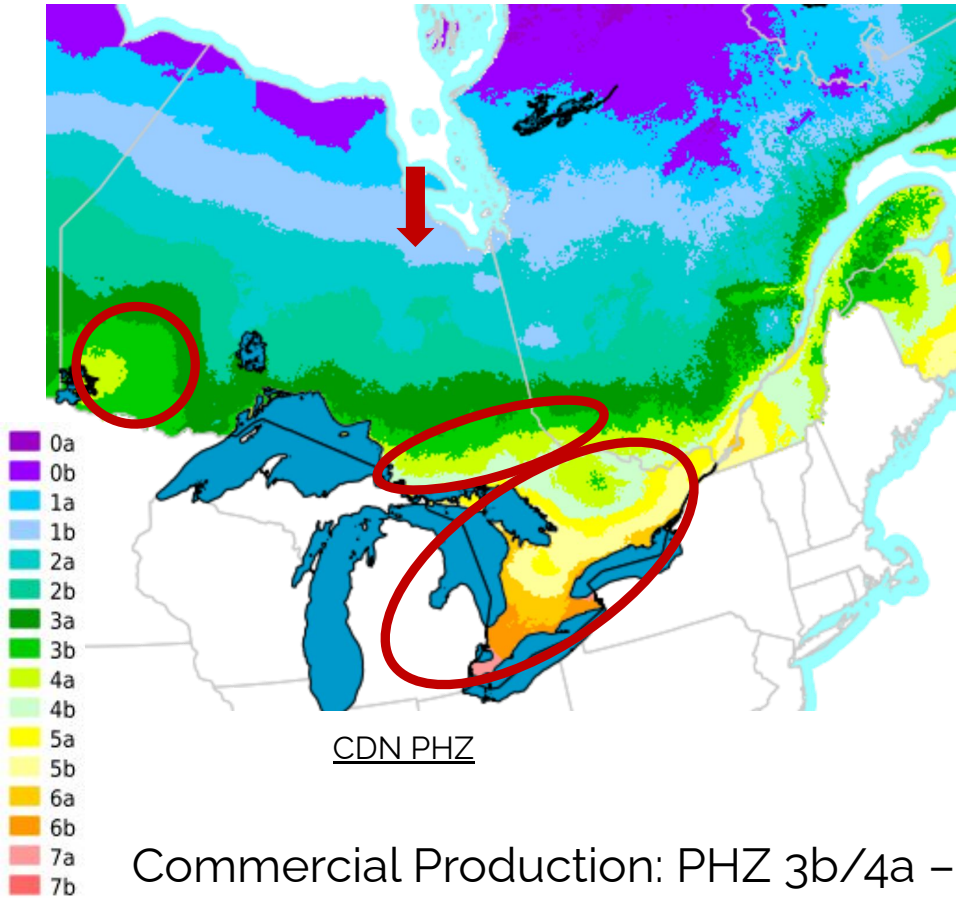
2024 Plaid Shirt Farms Ltd

But…

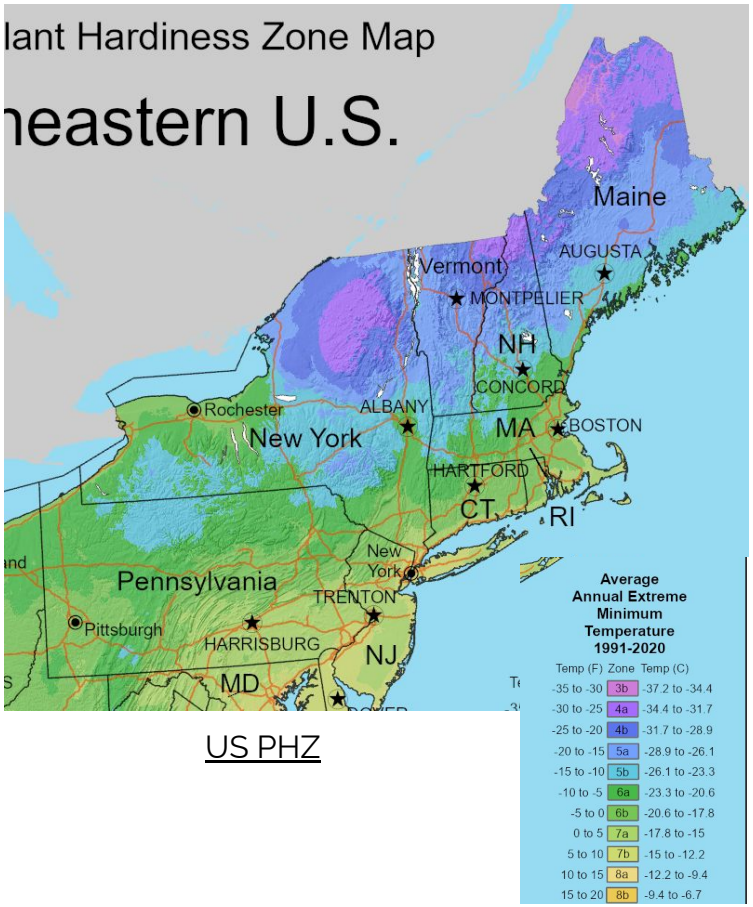
- Limited agronomic information
- Limited name recognition by consumers
- No established market


Let's talk
'Agronomics'
1. Establishment

Location, Location, Location



CDN PHZ



US PHZ

Commercial Production: PHZ 3b/4a – 7a

Location & Site Preparation

- Plant hardiness zone 1, most commercial production zone 3 and up.
- All soil types; avoid saturated soils
- pH: 5-8 (6-7 best)
- Prepare site at least 1 year in advance (including a soil test)
- Control perennial weeds and grasses!
- Mulch (Plastic, Fabric, Wood Chips, Hemp)
- Install irrigation system


www.haskapa.com
(Nova Scotia)

Planting Stock & Field Setup

- Transplants from tissue culture / licenced propagators where possible

- Prices (variety/quantity/availability dependent):
  - TC ~$3.50-7/plant CDN
  - 1 yr old potted plant ~$8.50-13/plant CDN

- ~2-3 years to established plants for regular harvest (using 1 year old plug plants)

- Spacing – Depends on harvest format and equipment
  - 4-6.5' (1.25 - 2 m) between plants
  - 10-15' (3-4.5 m) between rows
  - ~600-1100 plants/acre

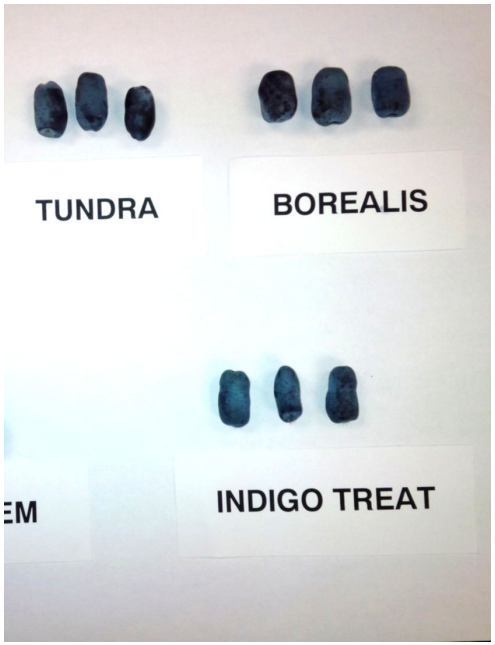
Variety Selection

- Important for the market

Genetics: Russia; Japan; Kuril Islands, USA, Canada

Characteristics:

- Bloom (early, mid, late, very late)
- Ripening (early, mid, late)
- Winter hardiness (hardy vs. sensitive)
- Flavour (sweet, sour, bitter, variable)
- Plant height (short vs. tall)
- Plant architecture (bushy vs. tall)
- Harvest ease
- Berry Size
- Berry firmness
- Berry Shape
- Etc.



Recent Breeding Efforts & Varieties

Dr. Bob Bors,
University of Saskatchewan

- 10 Cultivars including: ‘Borealis’, ‘Tundra’, ‘Indigo’ series (‘Gem’, ‘Treat’, ‘Yum’), ‘Honeybee’, ‘Aurora’, ‘Boreal’ series (‘Blizzard’, ‘Beauty’, ‘Beast’)

www.researchgate.net/profile/Bob-Bors

Dr. Maxine Thompson,
Oregon State University

- 10 Cultivars including: ‘Tana’, ‘Chito’, ‘Kawai’, ‘Keiko’, ‘Taka’.

www.nurserymag.com/article/sweet-success/

Haskap Variety Evaluations

From Montana State University Trials:

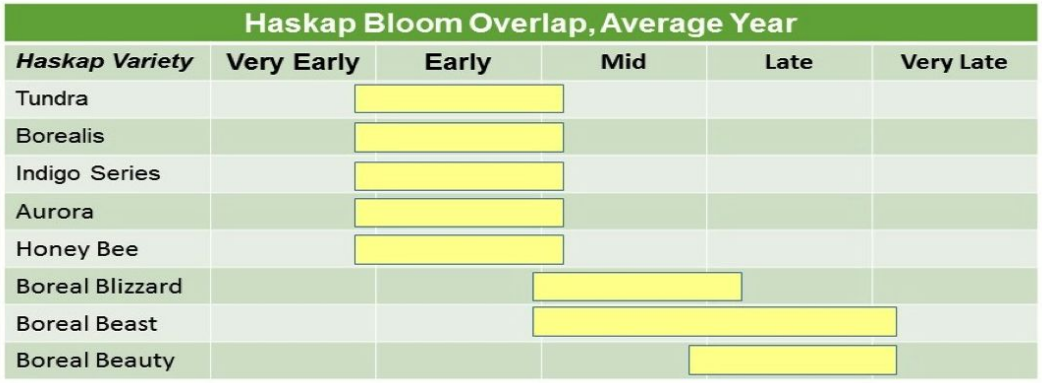
“'Aurora' and 'Borealis’ [UofSk varieties] produced large berries, were easy to harvest, and demonstrated excellent flavor. Many of the varieties sourced from Oregon State University [Maxine Thompson] showed strong yields and good flavor. However, these varieties may be best suited for small scale plantings due to their tendency to be difficult to harvest.”

Variety	Berry Weight (g)	Berry Info	Bush Info	Additional Notes
Tundra	1.5	Sweet/Tart Early Very firm	Medium ht Spreading	Mild flavour Spreading-bushy Easy to harvest
Borealis	1.6	Sweet/Tangy Early Hides fruit	Medium ht Thick	Home garden use Difficult to harvest
Indigo Treat	1.4	Sweet Early	Medium ht Bushy	Good flavour (sweet-tangy) and berry quality Easy to harvest
Indigo Gem	1.3	Tangy/sweet Early	Medium ht. Bushy	
Indigo Yum	1.3	Tangy/Sweet Early	Medium ht. Bushy	
Honey Bee	1.9	Tart Early Good for wine	Very Tall Productive	
Aurora	2.2	Sweet Early Low acid	Tall Upright Open	Excellent flavour, berry size, and berry quality Very easy to harvest
Boreal Blizzard	2.8	Sweet Mid-season Low acid	Tall Upright Bushy	
Boreal Beast	1.9	Excellent Late	Tall Bushy	
Boreal Beauty	2.6	Excellent Very late	Tall Upright	

Blue columns modified from B. Bors, University of Saskatchewan
Purple column additional notes from Evan Elford, OMAFA

Cross Pollination & Variety Compatibility Planning

	Suggested Production Varieties	Possible Pollinizer Varieties								
		Russian Varieties	Tundra	Borealis	Indigo Series	Aurora	Honeybee	B. Blizzard	B. Beauty	B. Beast
	Tundra	OK	Bad	Bad	Bad	Good	Good	OK	Poor	Bad
	Indigo Series (Treat, Gem, Yum)	OK	Bad	Bad	Bad	Good	Good	OK	Poor	Bad
	Aurora	OK	Good	Good	Good	Bad	Good	Bad	OK	Bad
Boreal Series	B. Blizzard	Poor	Ok	Ok	Ok	Bad	Ok	Bad	Good	Poor
	B. Beauty	Bad	Poor	Poor	Poor	Poor	Ok	Good	Bad	Good
	B. Beast	Bad	Bad	Bad	Bad	bad	Bad	Poor	Good	Bad



Considerations for Field Setup: Pollinizer & Production Varieties

Scheme 1	Scheme 2	Scheme 3
X P X P X X P X P X X P X P X X P X P X X P X P X X P X P X	X **P** X X **P** X X **P** X X **P** X X **P** X X **P** X X **P** X X **P** X X **P** X X **P** X X **P** X X **P** X	X X X X X X X X X X **P** X X **P** X X **P** X X X X X X X X X X X X X X X X X X X X **P** X X **P** X X **P** X X X X X X X X X X
Two equally desirable varieties that can pollinate each other	Variety X is more desired than its pollinator variety	Using a pollinator that is not very desirable

X= Producing variety; P = Pollinator variety

(Source: Dr. Bob Bors, University of Saskatchewan, SK)

But…how do pollinators work the plants?

P	X	X	X	P	X	X
X	P	X	X	X	P	X
X	X	P	X	X	X	P
X	X	X	P	X	X	X
P	X	X	X	P	X	X
X	P	X	X	X	P	X
X	X	P	X	X	X	P
X	X	X	P	X	X	X
P	X	X	X	P	X	X

Bees generally work along a row, not between rows. Incorporate pollinizer plants within a row if compatible for marketing purposes (flavour, harvest timing, firmness, etc.)

2. Ongoing Seasonal Management

Pruning & Thinning

← Diagnostics from a Distance: 5 tips on how to get the answers you need

Lavender Crop Update April 8, 2020 →

Haskap Pruning Basics

Posted on April 7, 2020 by Evan Elford

Evan Elford, OMAFRA

Pruning for Harvest & Fruit Quality

Pollination

Pest Management



Pest Management: Through the Season

Month	Pest	Commonly Used Product	Notes
November / December	Weeds	Indaziflam (e.g., Alion)	• Dormant application for next spring control • Annual grass and broadleaf weeds
Season Long	Weeds	Sulfentrazone (e.g., Authority 480) Sethoxydim (e.g., Poast Ultra) Acetic acid (e.g., Serene)	Mostly pre-emerge or seedling stage
May	Birds	Netting	Green fruit
June/July	Birds	Netting	Fruit development / ripening / harvest
	SWD	Multiple products	• Applied when first detection in any fruit crop in the area • Choose short PHI products (typically trap first SWD well into harvest) • Bird netting may complicate sprays
Aug	Powdery mildew	• Luna Tranquility (fluopyram + pyrimethanil) • SuffOil-X (80% Mineral Oil)	Protecting flower buds for next year's crop

Looking for Pest Control Products?

Labelled as: “Honeysuckle, edible”; “Honeyberry”; “Haskap”

USA/New England Resources

- National Pesticide Information Center
- InField (app)
- New England Small Fruit Management Guide

Canada/Ontario Resources

- Canadian Pest Management Regulatory Agency Label Search
- Ontario Crop Protection Hub

Caution: Product common names may be different and are not necessarily registered for use on haskap in the USA

Fertility

Ontario

Fertility Guidelines for Haskap Grown in Ontario

There are currently no Ontario fertility recommendations for haskap. The following tables for nitrogen (N), phosphorus (P), potassium (K) and lime applications are guidelines only and are provided for reference based on similar common crops and published research on haskap in other jurisdictions (note: lime, phosphorus and potassium should always be applied according to a soil test).

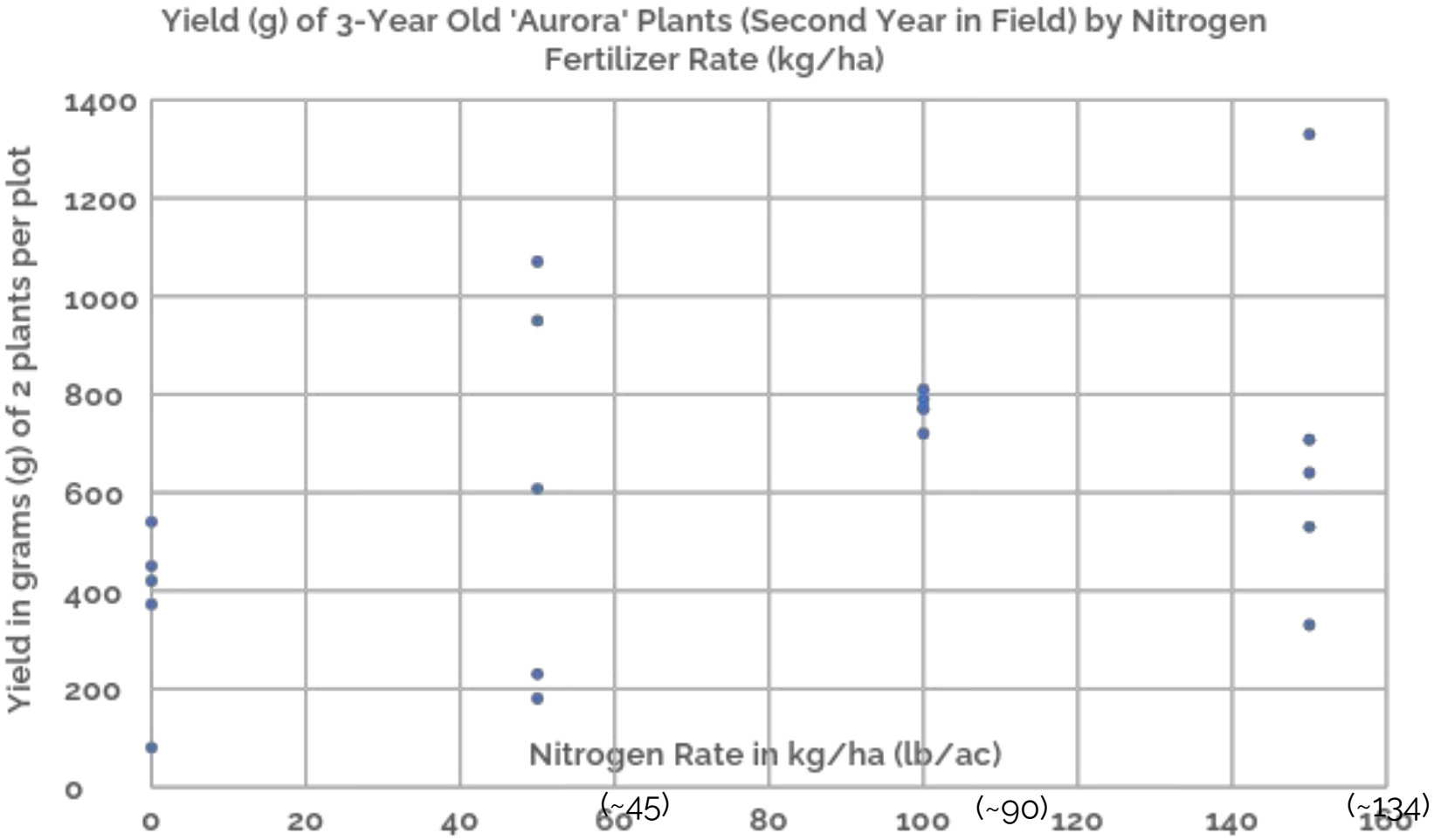
Nitrogen (N):

Apply fertilizer in split applications starting just prior to bud break continuing to mid-July or at the end of fruiting with no more than 25 kg N/ha in any one application. Refer to Table 1 for season total nitrogen application guidelines for haskaps based on plant density and age.

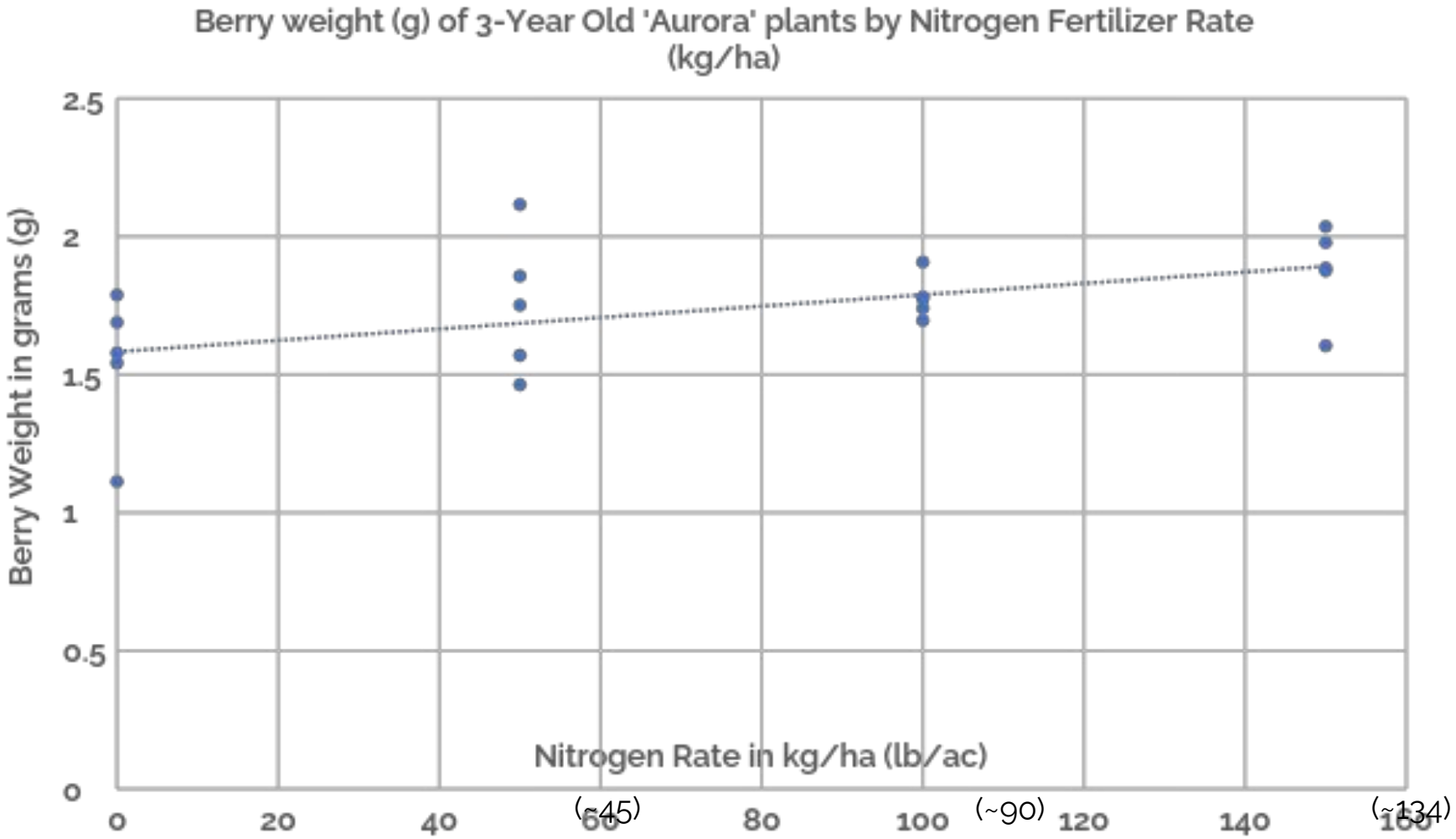
Do not exceed 85 kg of actual nitrogen per ha per season regardless of number of plants per ha. The following are an-

- No official Fertility Recommendations
- Start with ~80-100 kg/ha (~70-90 lb/ac) actual N split in 2 spring applications and tailor needs from there
- P & K always based on a soil test

Nitrogen Fertility and Yield



Nitrogen Fertility & Berry Weight (Size)



cv. ‘Aurora’ in 2024
3 year old plants

Harvesting & Expected Yields

Scale: small scale (hand picked) vs. large scale (mechanical harvesting for processing)

Expected Yields

~ 2.5-4.5 lbs/plant in established plantings (3+ years old)

Location	PHZ	Varieties	Yield Range
Saskatchewan	3b/4a	BTI's	200-1100 g/plant 0.4-2.4 lbs/plant
Ontario	6b	BTI's (Borealis, Tundra, I. Treat, I. Gem)	200-1200g/plant 0.4-2.6 lbs/plant
		Aurora (1st harvest on 3 yr old plants	~1 lb/plant High end 1.5 lb/plant
Montana Kalispell	5b	BTI's (Borealis & I. Gem	3.7-4.9 lbs/plant
		Aurora	3.9 lbs/plant
		Solo, 41-75, 85-19	3.9-6.7 lbs/plant
Montana Corvallis	5b	BTI's (Borealis & I. Gem)	1.2-8.8 lbs/plant
		Aurora	1.2-7.4 lbs/plant
		Solo, Chito, Keiko, Taka, Kawai, Tana, 85-19	2-14.9 lbs/plant

Note: Yields presented are for various aged plants 3 years or older; cannot directly compare yields between sites as presented in this table; use as guideline only


Joanna-3


clean produce only


9000 LBS

Resources

- University of Saskatchewan Fruit Program (Agronomics, Variety Info, Health Research, etc.)
- Haskap Canada (Industry/Marketing Resources)
- Specialty Cropportunities (OMAFA) (Agronomics and IPM; To be updated)
- ONSpecialty Crops Blog (OMAFA)
- Ontario Crop Protection Hub
- Dalhousie University
- Montana State University
- Oregon State University
- North Dakota State University
- Quebec (MQPAQ and others) “Camerise”
- Add in new England pesticide guide

Thank you!

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