International Haskap

Bob Bors
‘Haskap’ is Japanese
Also known as:

- *Lonicera caerulea*
- Blue Honeysuckle
- Honeyberry TM
- Sweet Berry Honeysuckle
- Twin Berry Honeysuckle
International Haskap

• Growing regions
  – Natural habitat
  – Commercial production
• Research & breeding
• Japan
• Strategy
Natural Habitat:

- Wetland Niches
  - Northern Boreal Forest
  - Northern Mountains

- Not aggressive in the wild
  - Unlikely to be an evasive species
  - (there are aggressive *Lonicera*, this is not one of them)
Lonicera caerulea germplasm

Little known Adaptability?

U of Sk. Herbarium
PLANTS OF SASKATCHEWAN
DIVISION OF BOTANY, SCIENCE SERVICE
DEPARTMENT OF AGRICULTURE, OTTAWA, CANADA

Xylosteon coeruleum (L.) Dum.-Cours.

Habitat. Wet ground near woods.

PLANTS OF SASKATCHEWAN
DIVISION OF BOTANY, SCIENCE SERVICE
DEPARTMENT OF AGRICULTURE, OTTAWA, CANADA

Xylosteon coeruleum (L.) Dum.-Cours.

Habitat. Open muskeg.

THE W.P. FRASER HERBARIUM
UNIVERSITY OF SASKATCHEWAN
FLORA OF SASKATCHEWAN

Lonicera caerulea L.


7 July 1993
COLL BY: Maurice Lineman
#9313-039
DET. BY: Maurice Lineman

FLORA OF SASKATCHEWAN, CANADA

LONICERA VILLOSA (Michx.) R.A.S.

Ridge Road, 1 km E of North Armit River Crossing, "Marsh Site #2"; ca. 5.5 km S and 11 km W of Armit, Saskatchewan.

NE 1/4 Sec. 7; T 44; R 31; W of lst.

In moist riverine white birch-white spruce-black spruce woods along stream. Locally fairly frequent.

June 27, 1983
COLL. V.L. Harmo, D.F. Hooper & L. Baker
FRASER HERBARIUM, UNIVERSITY OF SASKATCHEWAN, SASKATOON

UNIVERSITY OF SASKATCHEWAN
PLANTS OF SASKATCHEWAN

Xylosteon coeruleum Dum.-Cours.

Prince Albert
A.M. June 10, 1916

HERBARIUM
DIVISION OF BOTANY, OTTAWA, CANADA

No. DUM-COURE

NAME Xylosteon coeruleum (L.)

Habitat Bog.

Locality Pah iton, Sask.

Lonicera caerulea germplasm

- Small bitter fruit
- Wetlands of boreal forest
- Variable flavour
- Little known

- Productive
- Early harvest
- Long thin fruit
- Medium size
- Uniform ripening
- Variable flavour

- Ok Production
- Late harvest
- Large fruit size
- Uneven ripening
- Good flavour

- Less productive, late bloom & harvest
- Short bushes
- Round berries
- Good flavour
International Haskap

• Growing regions
  – Natural habitat
  – Commercial production

• Research & breeding

• Japan

• Strategy
Commercial Production

- Russia
  - 50+ varieties from 5 research stations
  - Gardeners
  - Gathered from wild
  - Roadside sales
  - No large commercial farms
Commercial Production

- Japan
  - Hokkaido Island
    - Sapporo region
  - Many small farms
    - Up to a few acres each
    - Family farms
    - Retirement projects
  - Value added products
Commercial Interest?

- Canada
- US
- Iceland
- Cheq republic
- Germany
- Australia
International Haskap

- Growing regions
- Research & breeding
  - Asia & Europe
  - U.S. & Canada
- Japan
- Strategy
Breeding and Research
Yield of Blue Honeysuckles (St. Petersburg)

- **Yield**: 6 to 7 kg/bush possible (M. Thompson, 2001)
- **1 kg/plant** Japan
- **>1 kg/plant 3rd year, 4 kg 6th year (U of S)**
Japanese ‘varieties’

• Only 1 named variety
• Farmers have their own clones of wild plants
• Uneven ripening = slow picking by hand = higher picking costs
• ‘ok’ productivity 2kg/plant?
• Only late varieties
International Haskap

- Growing regions
- Research & breeding
  - Asia & Europe
  - U.S. & Canada
- Japan
- Strategy
Blue Honeysuckle breeding

Plant Hardiness Zones of Canada 2000
Oregon State / USDA
Maxine Thompson Program

• Goals
  – Upright plants
  – Large berries !!!
  – Good flavour
  – Good appearance
  – Productive
• Uses Japanese and Karil Island material
• Russian varieties not adapted
Fast Track!
U of Sk Breeding Goals

- Productive
  - Fast growing
- Good fresh flavour
- Value added products
  - Jams & dessert toppings
  - Smoothies
  - Juice and Wine
  - Pies and cakes
  - Ice Cream
U of Sk Breeding Goals

- Mechanical harvesting
  - Even ripening
  - Easy to shake off fruit but doesn’t drop early
  - Plants size and shape fits harvesters

- Mechanical Handling
  - Firm flesh with skin that doesn’t tear
  - Large, round fruit
20+ wild accessions collected

32 Cultivars

45 clones & seeds from 75 lines

7 clones

U of Sask Collection
# of Parent Lines
U of Sask Collection Seedlings

• In field:  
  – 2500 Russian
  – 1500 Japanese
  – 500 hybrids

• Cooperators:  
  – 3000, mostly Russian

• In greenhouse:  
  – 400 Russian
  – 1500 Japanese
  – 12,000 hybrids
Lonicera caerulea germplasm
35 Russian varieties observed
Best 5 identified for future breeding
Fruit size and shape affects Performance on the sorting line

- Stuck in the machine and on the belts
  - Small (A) and Pointed (B) Russian varieties
- Less Problems
  - Medium-sized Russian varieties (C)
- Optimum
  - U of Sask selections (D), larger & more rounded
Figure 5. Berry of a Russian x Kuril Island hybrid. Similar in length but twice as wide, many of these hybrids had berries heavier than any Russian cultivar in our collection.
Also:

- Jam
- Juice
- Dried
- Muffins
International Haskap

- Growing regions
- Research & breeding
- Japan
  - History
  - Haskap Services
  - Mutual Cooperation
- Strategy
Grown in Hokkaido near Sapporo

Limited production but high demand

125 million potential customers

Has been grown/gathered in Hokkaido by aboriginals for hundreds of years
Haskap Products from Japan

- Beverages
- Jam
- Pastry & Noodles
- Candy
HASKAP CHOCOLATE JELLY

Times have changed
Since our foundation in 1898
but Mitsuboshi’s dream remains same.
Marketing strategy:
High Health value!

It is juice extracted
from HASKAPPU, a
golden remedy for the
eternal youth and
longevity.
Population trends in Japan

Graph showing population demographics for 1950, 2004, and 2050 (Projection). The graphs compare male and female populations across age groups (0-14, 15-64, 65 and over). The details for 2050 (Projection) show:

- Males: 53.6 million
- Females: 35.7 million

Source: Statistics Bureau, MIC; Ministry of Health, Labour and Welfare.

http://www.stat.go.jp/english/data/handbook/c02cont.htm
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Source: Statistics Bureau, MIC; United Nations; Ministry of Health, Labour and Welfare.

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International Haskap

• Growing regions
• Research & breeding
• Japan
  – History
  – Haskap Services
  – Mutual Cooperation
• Strategy
SUMMARY OF HASKAP SERVICE LTD.

An origin of a company name is HASKAP.
Loicera cauliflora "Hase" cultivar, Japan. 
A new company "Haskap" of growing wild to Fumahomai.

主な取り扱い商品

(有) はすかっぴサービス
Haskap Services

- Company ~27 years old
- A delivery company throughout Japan
- Sells some Haskap products
  - Subcontracts for product manufacture
  - Sells Haskap products on Hokkaido
  - Products quickly sold after manufacture
International Haskap

- Growing regions
- Research & breeding
- Japan
  - History
  - Haskap Services
  - Mutual Cooperation
- Strategy
Haskap Services

- 2005: inquired about buying fruit from Canada
  - Connection through Canadian consulate
  - Ryo Minoue, translator in SK
- ~50 hours
- 48 samples
- $400
- 2.2 tons of red tape!
Feedback

- Impressed with large fruit size
- Fruit was sweeter
- Antioxidants similar
- Agreement on which was best
Haskap Services

4 day visit to Saskatoon
1 day visit in Edmonton
Alberta

- Meetings with some Alberta fruit growers
- Tour of Leduc Plant
  - Black Current and Saskatoon juice
International Haskap

- Growing regions
- Research & breeding
- Japan
- Strategy
  - Short term
  - Long term
Other Interests:

- Haskap Fruit Powder
- Ice Cream (but perhaps they will buy the fruit and make it there?)
- Currently they quickly sell all of the products they manufacture.
- Less incentive for new products at this time.
Export to Japan

• Short term: Frozen fruit
• Mid term: secondary processing
  – Juice, dried, powdered, etc.
  – Especially for lower quality fruit
• Longer term
  – Completed products
  – Must be cheaper than can be done in Japan
Priorities

#1

#2
If large, a stretched berry could be acceptable.
Haskap Services Products

- IQF (individually quick frozen)
  - Price could be almost double price paid for lower quality berries
  - Direct sales to consumers
  - High quality, especially no foreign material
  - Berries sorted berries by size

- A healthy product that fits in with marketing trends
IQF Challenges

• Need IQF plant
• Firmer Haskap berries are identified but how do they handle through sorting equipment?
• Haskap Standards needed
  – Preferably through a ‘Haskap Canada’ group
Haskap Wine

- Actually a wine cooler
- Haskap Juice is added to wine
- What are the importation regulations if alcohol is manufactured here?
Haskap Wine

- A “Luxury” product.
- Prefer sweet wines, not dry.
- Import regulations in Japan?
HASKAP TEA
U of S research strategy
Provincial Funding for 2 years

• Continue breeding
  – Disease resistance
• Fast track methods
• Establish variety trials with growers
  – Determine optimal growing areas
• Encourage product development
U of S research strategy
3 new varieties for 2007

For Home gardeners ‘9-96’
– Largest fruit size
– Too soft for commercial equipment

Commercial production ‘9-84 & 9-91’
U of S, new varieties

- 9-94
- For Home gardeners or PYO
- Largest fruit size
- Too soft for commercial equipment
- Great flavour
U of S, new varieties

- ‘9-84’
- Commercial potential
- Second largest fruit size
- Rounded shape
- Firmer
- Sweet Tangy
6 selections worth testing
Possible pollinators?
Cooperative breeding and research with U of S

- Experiment
  - Variety trials
  - Seedlings
  - Production experiments
- Cost recovery
- Possibility for matching funds
Growers’ Strategy: Numbers

- $10/kg  Japanese Price, delivered
  - For Japanese farmers:
  - $14/kg best grade fresh $7/kg processing grade
- 30 to 50¢ / kg  delivery to Japan, frozen
- 800 bushes / acre

- Yield
  - 1 to 2 kg / bush ‘easy’
  - 3 to 5 kg / bush ‘possible’

- Conservative estimate: 750 acres needed
Growers’ Strategy: Fast Track!
Growers’ Strategy:
several propagators
custom propagation
Growers’ Strategy:
- share equipment
- processing facilities
- group shipping
Growers’ Strategy
Form a national group for Haskap marketing?

- Quality standards
- Website Haskap.ca
- Develop local and North American markets
- Value-added product development
- Trade missions
- Fund research
Production Network & U of S

- Instigates network formation
- Maintains genebank of varieties
- Centre for breeding
- Research
- Grower training
- Grower manual
Production Network & Research

• Check off system
• Funds marketing and scientific research
  – Often with matching gov’t funds
• Research at various institutions
• Tax benefits for growers
Numbers

- $10/kg  Japanese Price, delivered
- 30 to 50¢ / kg  delivery to Japan, frozen
- 800 bushes / acre
- Yield
  - 1 to 2 kg / bush ‘easy’
  - 3 to 5 kg / bush ‘possible’
- Conservative estimate: 750 acres needed
www.usask.ca
Search ‘fruit’ on ‘advanced search’ opening page

‘Haskap Canada’ group
www.haskap.ca

Saskachewan Fruit Growers
www.saskfruit.ca
Potential Propagators

Blue Sky Nursery, North of Saskatoon
Johns Nursery, Prince Albert
Parkland Agroforestry
Melfort area

Prairie Plant Systems Inc.
Saskatoon

Reid’s Nursery, Rosetown

Select
Saskatoon

D’nA Gardens
Alberta
THE END