



Introducing The Honeyberry

By Jim & Bernis Ingvaldson
The Honeyberry Farm, Bagley, MN
www.honeyberryusa.com

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Honeysuckle – with edible blue berries!



- Member of the honeysuckle family - *Lonicera caerulea* L.
- Looks like a mutated blueberry with waxy coat called “bloom”

Outline

1. Intro
2. Growing: Planting, Pruning, Pests
3. Bird Control
4. Harvesting
5. Variety Selection
6. The Market
7. Questions?

Characteristics

- USDA zones 1-8
- Grows in most soils
- Doesn't sucker
- Early varieties ripen just prior to strawberries
- Later varieties ripen 2-4 weeks later
- Size depends on variety (2-8' tall/wide)
- Non-invasive
- ~50 year lifespan

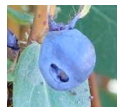


What is it?

Geographical Distribution



- Native to northern boreal forests in Asia, Europe, and North America.
- Breeding has improved size and taste of berries
- Mainly found in low lying, wet areas or high in mountains.



Wild Canadian berry



Taste is...?

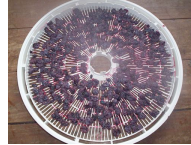
Processing



Freeze



Can



Dehydrate



Ferment

Beyond Wonderful!

– quote from first time taste tester, 2012



• Tastes good – fresh or processed



- Mystery berry™ flavor – combination of blueberry/raspberry/grape?
- Good for you – higher in antioxidants than blueberries



Antioxidant Levels of Berries

- Haskap berry (21,647*)
- Chokeberry (16,062)
- Elderberry (14,697)
- Wild Blueberries (9,621)
- Cranberry (9,090)
- Blackberries (5,905)
- Raspberries (5,065)
- High Bush Blueberries (4,669)
- Strawberries (4,302)



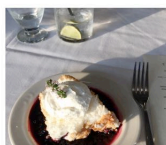
* ORAC is the standard test, adopted by the US Dept of Agriculture, to measure the potency of antioxidants in food. Daily requirement is 5,000 units.

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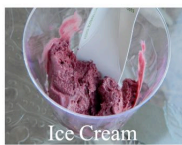
<http://www.haskapberries.com/nutritional.htm>



Pie



Sauces



Ice Cream



Bars



Waffles



Salads



Smoothies



Fondue

Fruit Comparison Table (per 100g)

Fruit	Potassium / Mg	Calcium / Mg	Phosphorus / Mg	Iron / Mg	Vitamin A / ug	Vitamin C / Mg	Vitamin E / mg	Energy Kcal
Haskap	190	38	25	0.6	130	44	1.1	53
Pomegranate	236	10	36	0.6	0	10	0.6	n/a
Blueberry	70	8	9	0.2	55	9	1.7	49
Orange	130	17	12	0.1	60	35	0.4	39
Grape	130	6	13	0.2	15	4	0.3	56
Apple	110	3	8	0.1	11	3	0.2	50

◀ Previous Next ▶

Revised Standard Tables of food composition in Japan (Resources Council of Science and Technology Edition)

From: <https://www.healthwithfood.org/health-benefits/blue-honeysuckle-berries-nutrition.php>

Try some tea!



- * 5-10x more nutrients in leaves than in berries
- * Harvest leaves from sprouting to after harvest (mildew usually appears after harvest)



Effect of *Lonicera caerulea* var. *emphylocalyx* Extracts on Murine *Streptococcus pyogenes* Infection by Modulating Immune System

UMN Fruit Specialist Annie Klodd at High Tunnel Trial, Mentor, MN



Suitable for home garden, U-Pick or mechanical harvesting on larger scale



Weed Control



Wood mulch



Weed badger
(need wider row spacing)



Plastic mulch
(2 year)

Landscape fabric
(heavy-duty woven material / longterm)

Planting Guide



Sheltered spot – high winds discourage bees from pollinating, stunt growth, and drop ripe fruit

Full sun: OK zones 1-5

Partial shade: zones 6-8

Soil: pH: 5.5 – 7.5
Sandy loam to clay

Spacing: 3-5' between plants,
8-12+' between rows

Timing: Fall - until freeze-up

Spring - as early as ground thaws for dormant plants, or later



Waterwheel planter,
add micro-rhizomes to tank

What happens when you....



Don't ☹️
water/weed
your
honeyberry

OR



Do ☺️ water/weed/feed with
compost tea/kitchen scraps

Fertilization

- Healthy soil with organic matter
- Don't over fertilize with commercial products**
- Some studies indicate better not to fertilize first year*
- Let plants go dormant naturally in fall



Plants like kitchen scraps and compost tea (soak manure in bucket of water overnight)

*2019 Effects of Soil pH and Fertilizers on Haskap (*Lonicera caerulea* L.) Vegetative Growth
 **<https://onspecialtycrops.wordpress.com/2019/03/22/fertility-guidelines-for-haskap-grown-in-ontario/>

Fungus



"**Phoma stem canker** (in pics) was detected at the crown level. Consider if there are any ways that mechanical wounds could be occurring at this area of the stem; thus creating an entry point for disease." (U Minn Plant Diagnostic Clinic 2019)

Phytophthora root rot – detected at U of Kentucky Trial 2017

Pruning



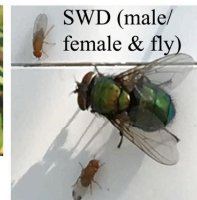
5 year old Tundra pruned

- Remove 25% of the oldest branches at the base annually after 4-5 years.
- Late fall/winter/early spring
- Pruning lowers the sugar and acidity, increases anthocyanins. (Polish study by Szot & Lipa, *Phytomorphology* 4: 51–54, 2013)
- We like **Infaco** pruners (battery powered)

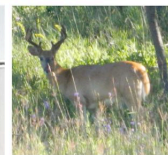
Pests



Tent caterpillar



SWD (male/female & fly)



Deer & Rabbit

- Tent caterpillar, aphids, mites, moths
- Spotted Wing Drosophila (SWD)
- Rodents and rabbits may chew off young stems.
- Deer graze young plants in the early spring, but leave older wood alone.



Mildew



Berry Blue™



Aurora

- Mildew usually starts in the heat of summer, after harvest.
- Susceptibility varies tremendously between varieties.
- Russian varieties tend to be earlier blooming and more susceptible than the Japanese.
- Some leaf browning is from sun and wind burn.
- Plants bounce back next year

Predators



• Cedar waxwings congregate en masse, along with some local robbers

- Birds prefer smaller berries, will bite off ends of big berries
- Foxes, racoons, dogs like the berries. Bet bears do too!



Net when berries are green

Minimum 17' wide draped net from Plantra (Note: 1/2" holes are best, as 3/4" holes trap birds unless suspended away from bushes)



Overhead Net (Oesco SmartNet / Plantra Avigard)



Loop It!

- 6' steel posts
- PVC pipe with caps
- Drill hole through caps and loop through galvanized guide wire
- Drape Plantra 17' wide net
- Secure net to ground with landscaping staples

Sindelar Orchard at Cedar Rapids, IA. Loop design Jeff Sindelar, photo credit: Deb Sindelar

Green Laser from Bird Control Group

The laser is an expanded green beam 1-2" wide that is seen as a physical object by the birds, and with it's constant movement, the birds don't know

how to categorize the beam; making the area look uninhabitable, pushing them elsewhere.

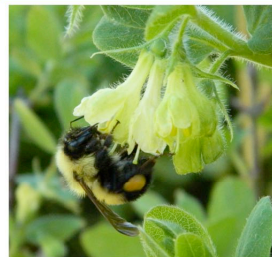


Loop It 2!

- 15', 1/2" pvc slid over electric fence posts (similar to rebar)
- Three strands of 14 gauge electric fencing wire, one on top, one on each side of the hips of the hoops, attached with zip ties.
- Wires anchored by steel fence posts at each end.
- 17' netting draped and attached with zip ties.
- pvc pipe laid on the bottom of the netting edges to keep it from blowing around, and a few staples to secure them.
- Cut the zip ties when remove netting for winter and leave hoops up.

Erickson Orchard at Bemidji, MN. photo credit: Becky Erickson

Pollination



- Bumblebees, honeybees, and even hummingbirds.
- Usually need two different honeyberry varieties



Blossoms are produced on new shoots off year-old wood, withstand 20F/-7C



Start turning color...



Blossoms are produced on new shoots off year-old wood, withstand 20F/-7C



Within a day berries turn purple, another day dark blue. But wait!



Green berries grow for three weeks and then...

Honeyberries need another 2-3 weeks to sweeten and fully mature.



Later harvest: larger fruit, higher sugar, lower acidity, increased anthocyanins and polyphenols

Is it ripe enough?

- Refractometer measures soluble solids (sugars) (avg 11-16 brix)

Your taste buds will tell!



Shakers



Reciprocating saw with homemade attachment



Olive harvester ~\$1,000

Yields vary depending on pollination, cultivar, and age of plant
e.x. Honey Bee planted in 2012



3 ½ lbs in 2016
year 5



9 lbs in 2017
year 6 (max yield)



Harvest techniques

- Hand picking 3 lbs/hour or...
- Wack branches with hands or stick
- Drop sheet, paddling pool, or cardboard/signboard catcher 15 lbs/hr



Bushes outgrow Waxwing frame



Collection/Cleaning System



Chute-N-Go

Redneck Deluxe Version 2.0

Signboard is washable

Blow away the debris

Initially used leaf blower to remove a lot of debris



Then vintage blueberry cleaning system inspired friend to design....

Some commercial operations freeze berries, suction debris later



indigosupertech.com



Redneck Ver. 1.0
Chute-N-Go

Jagoda JPS Agromachines "JAREK5" & OSKAR

OSKAR:



JAREK5 "ARONIC" For use with aronia and haskap/honeyberries

\$27,190 EUR (\$30,360 USD)

N. American distributor:
andrew@jagoda.equipment (rosyfarm.com)
Alberta, Canada

Jarek 5 Harvests 8" above ground



Plastic tines, runs off 30 hp PTO

"It has a lot less fruit drop than the Joanna, works with 10' row spacings, easier to use, works better on a low bush, and costs \$7,500 USD less."

Evaluation based on having travelled to over a dozen orchards to see 3 different levels of Joanna harvesters, and to Washington to see the Oxbo and Littau.

Demo on aronia: https://youtu.be/laA_GWUQ-CI

University of Saskatchewan demonstrates
Polish Weremczuk harvester
"Joanna"



Aronia Berry
Services of NE Iowa
Dean@absnei.com
Donna@absnei.com

Early – Russian/Kuril (U of S)

*Aurora * Honey Bee * Indigo Gem*



- 4-6' tall
- Leaves medium resilient
- Plump berries
- Excellent flavor

Varietal Distinctives



Russian
bloom early
leaves susceptible
to sun scald
heavy leaf cover
tubular berries
tarter berries add
depth to jams



**Russian/
Kuril/Japanese**
bloom a few days
later to 4 weeks
later
heavy leaf cover
plump oblong
berries
preferred fresh
eating



Japanese
bloom a few weeks
later
leaves are most
resilient to sun
berries more visible
oval berries
preferred fresh eating

Late Bloomers (U of S)

Japanese/Russian

- **Blizzard**
- **Beauty**
- **Beast**



Blizzard



Beast

Beast



BEAUTY

Early – Russian *Berry Blue™ (Czech #17)*



Berry Blue

- 6-8' tall & wide, upright growth, 12 lb of tubular tart berries, some berries drop

Late Bloomers (Dr. Thompson)



Pure Japanese genetics

- Called "haskap" in Japan
- Rounder berries
- Upright growth 4-6'
- Berries ripen 2-4 weeks later than early bloomers
- Less foliage, berries visible
- **Solo™, Maxie™, Kawai, Keiko, Tana**



Marketing



Commercial

- Personal contacts
- Food shows

Pick-Your-Own Berries

at Bagley, MN!
Sunday - Friday, 8 a.m. - 6 p.m.



The Honeyberry Farm
218-694-3071
Honeyberries, Saskatoons,
Cherries, Raspberries, Currants,
Gooseberries, Elderberries, Grapes
www.honeyberryusa.com



U-Pick

- Facebook/Craigslist
- Roadside Signs
- Local paper
- Cable TV/Public TV
- Community Ed classes
- Postcards



Final Thots

- The berry “sells itself”
- Kids love them!
- Taste good and Good for you!



Fresh Berries



U-Pick berries - \$5 lb (1½ pints)

Pre-picked - \$5/pint

Grocery store - \$5.49-\$6.00/pint



Special thanks to our Sponsor

And God said, Let **grass** come up on the earth, and **plants** producing **seed**, and fruit-trees giving **fruit**, in which is their **seed**, after their **sort**: and **it was so**.

And **grass** came up on the earth, and every **plant** producing **seed** of its **sort**, and every tree producing **fruit**, in which is its **seed**, of its **sort**: and God saw that **it was good**. (Gen. 1:11, 12)

Frozen Berries



Tongue River Winery, MT Dakota
Sun Gardens, ND
Bemidji Brewery, MN
Forager Brewery, MN
Kombucha, WI
Tinctures, MN
Restaurants, MN



Visit The Honeyberry Farm at Bagley, MN, or online at www.honeyberryusa.com