

Harvesting for Dummies 001

By Jim & Bernis Ingvaldson
The Honeyberry Farm, Bagley, MN
Photos copyright Bernis Ingvaldson unless otherwise noted



Ordered Two Bare Root Bushes



First Leap of Faith!



Outline

1. Our Story
2. Growing: Planting, Pruning, Pests
3. Harvesting Techniques
4. Varietal differences

Visit to Canada – July 2010

Exploration:

- Googled “Cold Hardy Fruit Canada”
- Discovered “Haskap” aka “Honeyberries” were being studied at the University of Saskatchewan, 1 mile away!
- Tasted first haskap berries at a friend's farm
- The rest is “history!”



The Discovery in Winter 2010 Garden Catalogue

While day dreaming
of spring, came across
a new blue colored
fruit called...

“Honeyberry”



Birth of an Idea: U-Pick Farm/Nursery

Resourcefulness:

- Husband asked, “How are you going to pay for it?”
- Replied: “I’ll sell plants!”

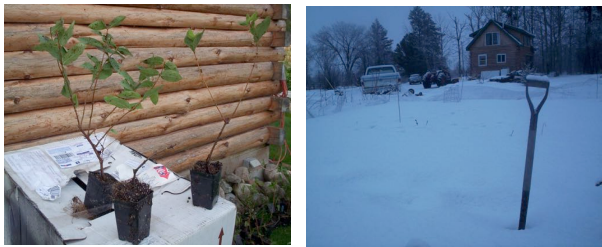


- Strawberry Farm in Minnesota



- Saskatoons in Canada

Beginnings of the Orchard



- 120 plants arrived September 2010
- Planted into garden to overwinter as didn't have site prepared
- **Get the Ball Rolling!**

Growing: Planting, Pruning, Pests

Online Nursery – November 2010

Vision:

- Husband says, "More plants"
- License
- Website launched Nov. 2010: HoneyberryUSA.com
- Spring shipment April 2011



Planting

Site Considerations:

Sun/Shade

Shelter: high winds discourage bees from pollinating, stunt growth, and drop ripe fruit

Soil pH

Spacing: between plants, between rows

Timing: Spring/Fall

Weed Control

Water: Source & Delivery (e.x. Well/Dripline)

Equipment: mulch layer, planter, tilling, mowing, bird control, etc.



Waterwheel planter, add mycorrhizae to tank

Video Visit to our Farm

Documents/Videos/BestHUSAvideos/MSU/Northwoods Adventure_Picking Berries At The Honeyberry Farm2019.mp4#Northwoods Adventure 20

What happens when you....



Don't ☹
water/weed
your
honeyberry

OR



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

Weed Control



Wood mulch
(better for warmer
USDA zones 6-8)



Weed badger
(need wider
row spacing)

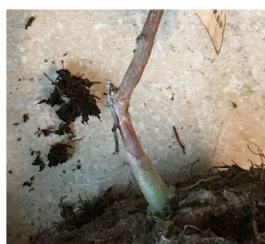


Plastic mulch
(2 year)

Landscape fabric
(heavy-duty woven
material / longterm)

Harvesting Techniques

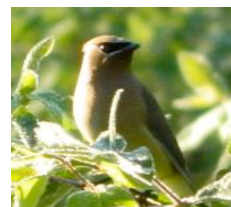
Fungus



"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)

Phytophthora root rot – detected at U of Kentucky Trial 2017

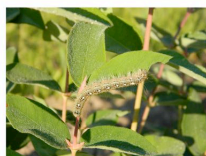
Predators



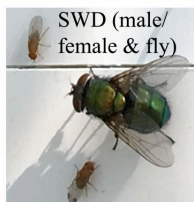
• Cedar waxwings
congregate en masse,
along with some local
robins

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

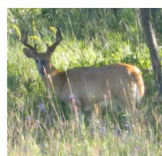
Pests



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.



Netting - Overhead

(Oesco SmartNet / Plantra Avigard)





1 week later



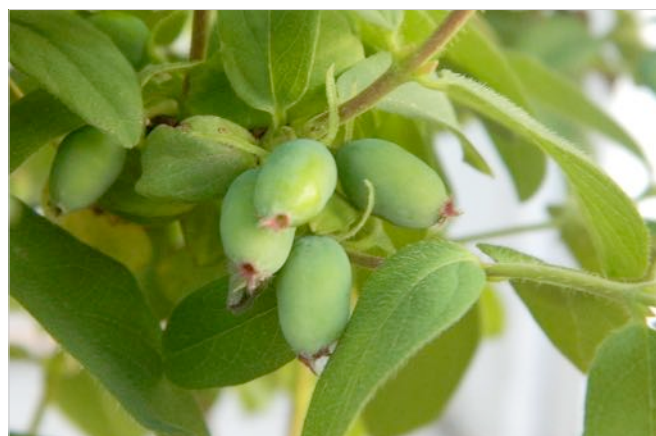
Loop It 2!

- > 15', 1/2" pvc slid over electric fencer 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



17'
draped
net
from
Plantra
(3/4" holes
trap birds
unless
suspended
away from
bushes)



Green berries grow for three weeks and then...



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



Start turning color...



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

Picking Harnesses



Homemade
Jean Bag



Ison's Nursery & Vineyards,
Georgia

\$13 Picking Harness

\$40 Harness & 18 quart
bucket

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



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

Glacier Valley,
Wisconsin
www.glacierv.com

Containers (Tills)
Trays

Signs

\$12 Hip basket



Is it ripe enough?

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

Your taste buds
will tell!



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



Shakers



Reciprocating saw with
homemade attachment



Olive harvester
~\$1,000

Collection/Cleaning System



IndigoSuperTech
Waxwing
Harvester
~\$2K USD

Blow away the debris

Initially used leaf
blower to remove a
lot of debris

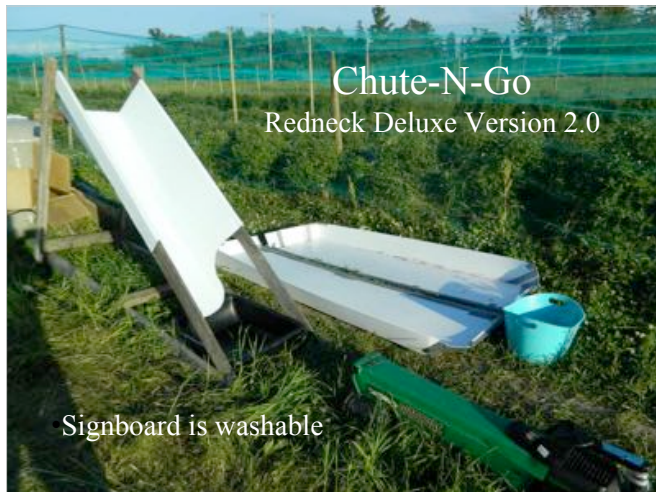


Then vintage blueberry
cleaning system inspired
friend to design....

Bushes outgrow Waxwing frame



Redneck Ver. 1.0
Chute-N-Go



Video Break

/Users/bernis/Documents/Videos/BestHUSAVideos/MSU/2018-07-04TailgateLadiesHarvestingBorealisBerryBlue.MOV
 /Users/bernis/Documents/Videos/BestHUSAVideos/MSU/2019-06-30HBHarvesting639INFACOATRAX.MOV
 /Users/bernis/Documents/Videos/BestHUSAVideos/MSU/2019-06-30HBHarvesting634INFACOfJeffPouringBerriesGem.MOV
 /Users/bernis/Documents/Videos/BestHUSAVideos/MSU/2019-06-30HBHarvesting635ChuteNGo.MOV

Some commercial operations
freeze berries, suction debris later



University of Saskatchewan demonstrates
Polish Weremczuk harvester
"Joanna"



Storage



Bags or buckets - Freeze asap
but don't need to lay out flat



Jagoda JPS Agromachines "JAREK5" & OSKAR



Jarek 5 Harvests 8" above ground



Plastic tines, runs off 30 hp PTO



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

"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

BSK Air Harvester Serbia

\$130,000 -
\$150,000
USD

<http://airharvesters.com/en/>



Harvest Window

- Most varieties need a week or two for all blossoms to open
- Weather fluctuations may interrupt bloom/pollination, affecting optimal harvest window
- Some varieties hold ripe berries well for over two weeks without excessive dropping or spoilage
- Others drop their ripe berries quickly or berries mold if overly ripe and not enough air flow



Pie



Sauces



Ice Cream



Bars



Smoothies



Waffles



Salads



Fondue

Yields vary depending on pollination, cultivar
(1-9 lbs) and age of plant



Honey Bee planted in 2012
yielded 9 lbs in 2017
year 6 at Honeyberry Farm



3 ½ lbs in 2016
year 5

Varietal Differences



Mildew

- 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

Early – Russian Berry Blue™ (Czech #17)

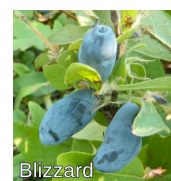
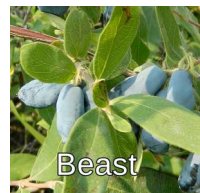


- 6' tall & wide, upright growth, tubular tart berries, some berries drop

Late Bloomers (U of S)

Japanese/Russian

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



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 (Dr. Thompson)



Pure Japanese genetics

- Called "haskap" in Japan
- Rounder berries
- Upright growth 4-5'
- Berries ripen 2-4 weeks later than early bloomers
- Less foliage, berries visible
- **Solo™, Maxie™, Kawai, Keiko, Tana**

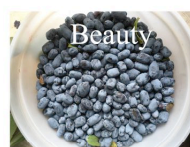


Early – Russian/Kuril (U of S) *Aurora * Honey Bee * Indigo Gem*



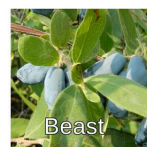
- 4-6' tall
- Leaves medium resilient
- Plump berries
- Excellent flavor

U of S Late Bloomers



Dr. Bob's Boreal Series:

Blizzard, Beauty & Beast





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



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)