Growing Fruit in Alaska

Ilona Farr February 2020



56 Foot Doom Greenhouse Palmer

Peaches, Apricots, Cherries and Apples are all grown inside along with corn, tomatoes, beans and asparagus



6 types of ripe Pie Cherries from my yard in Anchorage

Montmorency pie cherry, Meteor pie cherry, Baird pie cherry, Evans or Bali pie cherry, Mesabi Pie Cherry, Pozog pie cherry and Pin Cherry; also have large Sams sweet cherry, Kordia sweet cherry, Lapins sweet cherry, Kristen sweet cherry, Nanking cherry, as well as romance series bush cherries.

List of Fruits by 5.2 Mile Greenhouse

Apple Trees: Norland, Parkland, Goodland Aronia, Chokeberry Bearberry, Arctostaphylos uva-ursi Blackberry, Illini Hardy Blueberry, Northsky Cherry- Nanking, Carmen Jewel (Bush) Cherry- Evans (Tree) Crabapple- Dolgo Currant- Ben sarek Black Goji Berry Grape, Concord and Niagara Honeyberry, Haskap Salaberry Kiwi, Arctic Kolomitka, Male and Female Labrador Tea Lingonberry Raspberry- Boyne (Red), Fall Gold (Gold) Rhubarb, Red Crimson Saskatoon, Serviceberry Sea Buckthorn Strawberry, Honeyone

What Crops to Grow

- Sandy soil good for carrots and potatoes, Clay soil good for Haskaps but not good for carrots!
- Acid soil, peaty good for cranberries and blueberries, but wood chips/ash good for raspberries
- Cherries like soil drier than Apples both like slopes! Know what to Grow (Types of trees, etc.)
- Try small amounts different plants to find out what does and does not work! Soil test, ask neighbors. look at pollinators in area. Pay attention to soil, sun, wind and wind direction, snow cover, weeds and ground cover, and amount of rain area gets!

Fruit Comparison

Fruit Comparison Table (per 100g)

Fruit	Potassium mg	Calcium mg	Phosphorus mg			Vitamin A Vitamin C ug 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	П	3	0.2	50	

Five revised standard tables of Food composition in Japan (Resources Council of Science and Technology Edition).

Haskap wins!

In a study reported in the Journal of Agriculture and Food Chemistry, March 2005, researchers found blue honeysuckle berries to possess the highest content of phenolic acids compared to other berries tested. Tested against blueberries, mulberries, juneberries, black currants, and blackberries, the fruits berries from the blue honeysuckle consistently produced the highest level of antioxidants.

Haskap Health Benefits

- In 2009, a group of Slovak researchers published a study that analyzed the anthocyanin content of six uncommon berries, including black mulberries (Morus nigra), Cornelian cherries (Cornus mas), dewberries (Rubus caesius), Blackthorns (Prunus spinosa), rowanberries (Sorbus aucuparia), and Lonicera caerulea var. kamtschatica, a blue honeyberry variety that is native to Northeastern Asia.
 - In this study, honeyberries had by far the highest levels of anthocyanins. Fruits and berries rich in anthocyanin flavonoids have several potential health benefits, including Anti-Inflammatory Properties, Good for the Eyes, Inhibitory Effects Against Colon Cancer Cells and Cardiovascular Benefits.

Haskap Harvest

- Try to stagger harvest ie plant different kinds of haskaps, apples and berries and cherries so will get harvest over months rather than a few weeks!
- Learn when to harvest as some berries can last on bush for weeks others need picking immediately! Some haskaps will bear 2 crops but must wait until red in center or will be bitter. Russian varieties tend to ripen early June/July be smaller but sweeten when left on bush some varieties will fall off bush when ripe, others need to pull off bush. Also grow at different speeds and different branching patterns! Pay attention to max size height and width when planting! Use ground cloth with haskaps and with some varieties put cloth under bush and shake bush to harvest!

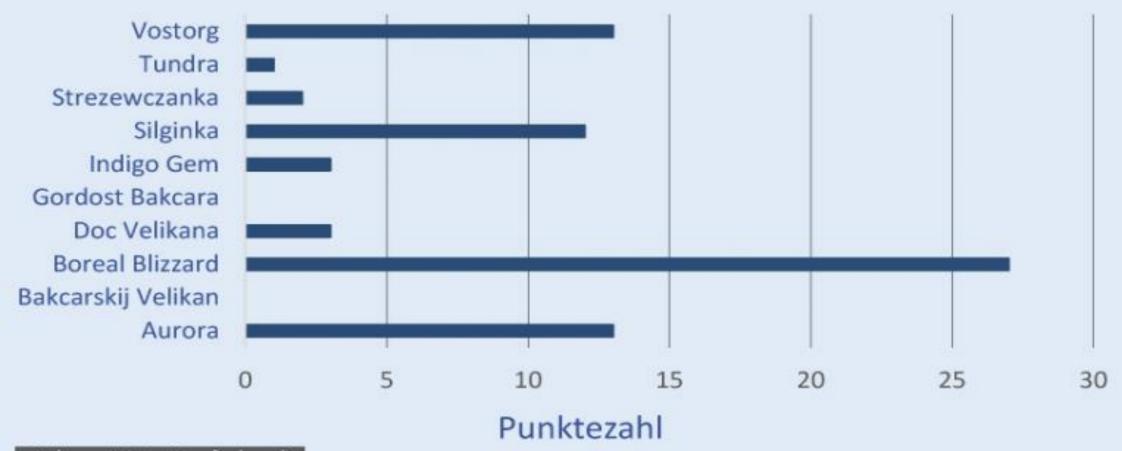


GROUPS	ВU	POLISH	ΜТ	UOS	RUSSIAN	USE
Early Wk 0 'Russian dominated'	• Honey Delight • Blue Moose				• Strzewczanka • Bakczarskaja	Fresh/Frozen Processing
Mid +2 - 3 wks 'Russian dominated'	• Blue Banana • Blue Dessert	•Wojtek • Zojka		• Aurora • Honey Bee	• Docz' Velikana • Jugana • Vostorg	Fresh/Frozen Processing Alcohol
Late +4 - 6 wks 'Japanese dominated'	• Giant's Heart • Blue Cloud		• Kapu	• Boreal Blizzard • Beast		Fresh/Frozen Alcohol
Very Late +6 - 9 wks 'Japanese dominated'	 Strawberry Sen. Blue Treasure 		• Tana	• Boreal Beauty		Fresh/Frozen Alcohol

Austrian Taste Testing 2018

Sortenverkostung

Haskap-Feldtag 26.5.2018, Heidelbeergarten Gosch





TART	TART/ SWEET	SWEET/ TART	SWEET/ FLAVOUR	SWEET PLUS
• Blue Belle	• Happy Giant • Berry Blue • Jolanta • Bakczarskaja J	 Strawberry Sen. Tundra Blue Cloud Wojtek 	• Boreal Beauty • Boreal Blizzard • Tana • Aurora	• Giant's Heart • Blue Banana • Sugar Mtn. Blue • Zojka
		 Rebecca Vostorg Honeybee Gordost' Bakczara 	 Blue Treasure Indigo Gem Blue Dessert Jugana 	• Boreal Beast
		• Kanu • Blue Moose	• Docz' Velikana • Honey Delight	COVE

HB POLLINATION TIMETABLE

	Early	Mi		Late	Very	Very Late		
MONTHS	APRI	L	APR	IL.	MA	Y	M	AY
Honey Delight	i i		1					
Happy Giant								
Doc'z Velikana								
Bakczarskaja Jubilejnaja								
Indigo Gem								
Tundra								
Blue Dessert			1					
Blue Bananna								
Wojtek								
Zojka			1					
Aurora			1					
Honeybee								
Jugana								
Vostorg								
Tana								
Кари								
Blue Cloud			1					
Giant's Heart			1					
Boreal Blizzard								
Boreal Beast								
Strawberry Sensation								(Contractor
Blue Treasure								LOVE
Boreal Beauty								

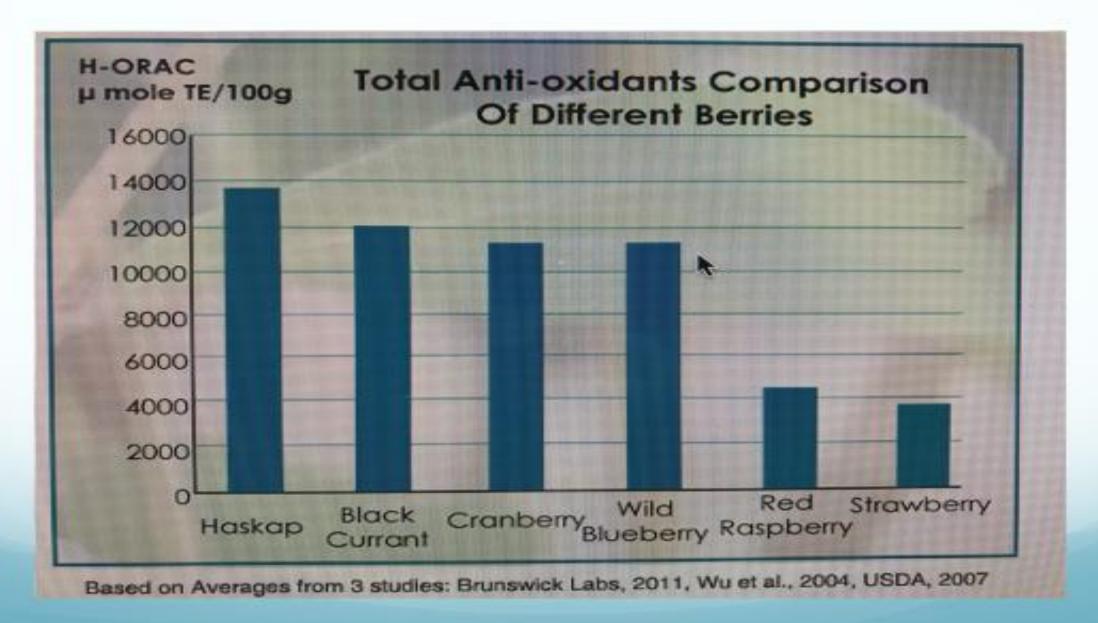
HB HARVESTING TIMETABLE

					• <u> </u>
		Early	Mid	Late	Very Late
MONTHS	MAY	JU	NE	JULY	AUGUST
Honey Delight					
Happy Giant				3	
Doc'z Velikana					
Bakczarskaja Jubilejnaja				1	
Indigo Gem					
Tundra					
Blue Dessert				1	
Blue Bananna					
Wojtek					
Zojka					
Aurora					E (
Honeybee					
Jugana					
Vostorg					
Tana					
Кари					
Blue Cloud					
Giant's Heart				8	
Boreal Blizzard					
Boreal Beast					
Strawberry Sensation					
Blue Treasure				1	(151)
Boreal Beauty					

OUR FRIENDLY NETWORK



ORAC



Nutrients of Haskaps

- One cup of Haskaps provides:
- Calories: 90
- Fiber: 18% of the DV
- Vitamin C: 90% of the DV
- Manganese: 20% of the DV
- Very high in antioxidants known as fruit of longevity and fruit of vision in Japan. Have high levels of Anthocyanins, Poly Phenols and Bioflavanoids. They are believed to be beneficial in treating chronic conditions such as cancer, heart disease, stroke, Alzheimer's disease, Rheumatoid arthritis, and cataracts.

Strawberry ground cover

- I tore all grass out of my yard when pregnant with first child by hand
- 2 put down ground cloth around trees then pea gravel, on walkways went with larger crushed rock so would not slip on hill
- Planted several varieties of strawberries and then let them grow under trees
- Worked well in several areas of yard though feel guilty sometimes when stepping on Strawberry bushes. But beats mowing all the time!!!
- Strawberries that grow best are wild and have to be used same day you pick them as bruise easily and though hardy are small. Usually cook with rhubarb.

Nutrients of Strawberries

- One cup of whole strawberries provides :
- Calories: 46
- Fiber: 3 grams
- Vitamin C: 97% of the DV
- Manganese: 24% of the DV

 Strawberries are good for heart health. In fact, a study of over 93,000 women found that those who ate more than 3 portions of strawberries and blueberries per week had over a 30% lower risk of heart attack. Other studies have shown that strawberries may reduce a number of risk factors for heart disease including blood cholesterol, triglycerides, and oxidative stress. Strawberries can also reduce inflammation by lowering inflammatory chemicals in the blood, such as IL-1β, IL-6, and C-reactive protein (CRP).Reduce esophageal cancer risk and help control diabetes. Pubmed

Norwegian Berry Picker



Alaskan Low-bush Cranberries

- I like to harvest when red and firm using berry picker. If pick when dry and there is a wind can use wind to easily remove leaves by dumping from one bucket to another. Clean and dry. Can store in refrigerator for months if none are fermenting or can freeze and take out later for sauce. If pick after freezes and soft must process immediately.
- To make sauce use apple juice, cinnamon, and lots of sugar to taste
 - cook until jells on spoon serve and can store fore a long time in
 refrigerator.
- Have sugar called D Mannose that interferes with bacterial replication so good for urine infections.

Nutrients Cranberries

- 1 cup of raw cranberries provides :
- Calories: 46
- Fiber: 3.6 grams
- Vitamin C: 16% of the DV
- Manganese: 12% of the DV
- Like other berries, cranberries contain antioxidant polyphenols. However, most of these antioxidants are in the skin of the cranberry. Therefore, cranberry juice doesn't contain as many polyphenols. They are used to treat urine and other infections, and also help with lowering blood pressure and cholesterol. Pubmed

Metal Berry Picker



Nutrients of Blueberries

One cup of blueberries provides the following nutrients:

- Calories: 84
- Fiber: 3.6 grams
- Vitamin C: 16% of the DV
- Vitamin K: 24% of the DV
- Manganese: 22% of the DV
- Blueberries also contain antioxidant polyphenols called anthocyanins which decrease risk heart disease. They also help with blood sugar control and help prevent cognitive decline.

Wild blueberries

- Built a wood raised bed, filled it with peat and planted wild blueberry bushes in it.
- Using coffee grounds in it for fertilizer as they are acidic, put ground cloth on it, and cover with bird netting
- Several types of commercial blueberries but like acid soil so do not produce as well if planted in normal yard unless have peaty acidic soil like is common in interior.

Nutrients of Raspberries

- One cup of raspberries provides :
- Calories: 64
- Fiber: 8 grams
- Vitamin C: 36% of the DV
- Vitamin K: 8% of the DV
- Manganese: 36% of the DV
- Raspberries also contain antioxidant polyphenols called ellagitannins, which can help reduce oxidative stress, inflammation, and blood pressure in some studies.



Sweet Cherries

- Sam- on Giesela Trying Rainier in Dome
- Clark-died
 Lapins-died
- Kordia-poor Early Burlat died
- Emperor Frances- poor Hudson -died
- Kristin- poor
 Glacier-died
- Kansas Sweet-died
 Vandalay-died
- Craig's Crimson- died
- All from Rainier nursery all from Anchorage location

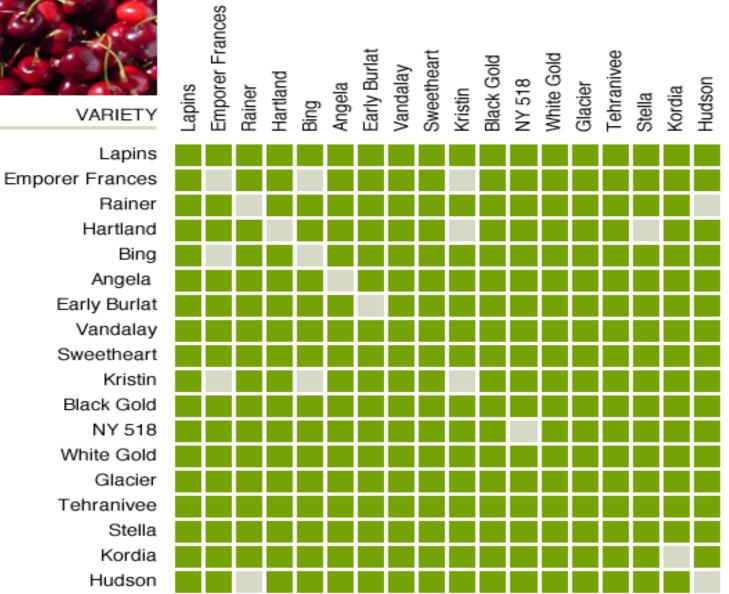


Pollination

- Most sweet cherry varieties are self-unfruitful (selfincompatible, SI) and require cross pollination with another variety as the pollen source.
- Some varieties, e.g. Bing, Lambert, Royal Ann/Napoleon, are also cross-unfruitful and cannot be depended upon to provide pollen for each other. Index, Lapins, Skeena, Sweetheart, White Gold, Sonata, Stella, Symphony, Sunburst, and Black Gold are self-fruitful (SF) and can serve as "universal" pollen sources for many selfunfruitful varieties with the same bloom time. However, Stella has been found to not work as a pollinator for Bing in some areas.

TRELIARMS

POLLEN SOURCE





	Early Burlat	Lapins	Angela	Stella	Bada	Hedelfingen	Compact Lambert	Montmorency	English Morello	North Star
Early Burlat										
Lapins										
Angela										
Stella										
Bada										
Hedelfingen										
Compact Lambert										
Montmorency										
English Morello										
North Star										

Montmorency My Favorite



Pie Cherries

- Montmorency pie-- My favorite! Ripens early!! Self fertile, sweeter, moose do not bother much. darker cherry so pies rich red color, nice for juice but generally single fruit not big clusters-- unfortunately favorite of birds! Medium size must pick stems to keep up fruit yield. Bird netting! Allow to ripen! Pollinates sweet cherries but blooms earlier!
- Evans/Bali on own root stock; nice big cherry; ripens later-- sweet when allowed to ripen-- varies in size from tree to tree took 8 years to grow and produce!
- Pozog- Early small dark color; beautiful tree; singles stem does not come off! Unfortunately died after 2 winters.

More Pie Cherries

- Baird small pie cherry on own rootstock good for juice and eating but ripens late. Seedling from Clark's.
- Northstar not rec all 10 trees have died -good tasting dark pie cherry from Dimond greenhouse
- Meteor one of my favorite's big cherries clusters of fruit flowers same time as Montmorency but ripens 2-3 weeks later-- lighter color than Montmorency must pick stems to increase fruit yield
- Mesabi late ripening pie cherry moderate size lighter color usually picking night of first frost

Surefire new variety on Giesela seems hardy good tasting according to 2yo nephew who ate only cherries!

Cherries

- Pick before it freezes or not edible! Once thaw use immediately do not refreeze! Leave stems on cherries when pick them as cherries last longer (removing stems from trees also allows new fruit buds to form where removed stems) cherries need a little stimuli to produce per Lawrence Clark
- Two other tips: Cherry trees do not like wet feet and plant with rusty nails at bottom of hole as many soils in Alaska are iron deficient (except Butte area)
- Cherries best processed same day but if refrigerate bring to room temperature and let sit awhile as will sweeten up more, then remove stems and wash only right before process them and drain immediately as will swell and split otherwise!

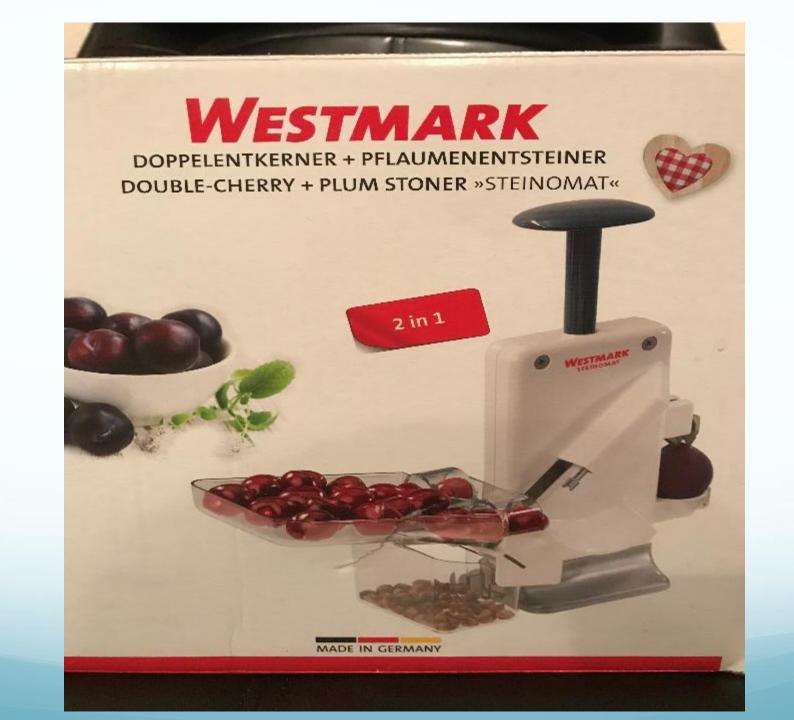
Ideas for Cherries

- Amur giant chokecherry rootstock
- Like "drier" roots on slight slope better so plant apples where ground wetter
- Pick stems off tree when picking ripe cherries where possible as allows new buds to form there- Lawrence Clark said he would not allow me to pick at his place again if did not pick off stems!
- Bird netting for trees and would prune to keep growth shorter if possible and use ground cloth just make sure hole large around tree.
- Special tripod ladders for picking fruit

Pitting Cherries

- If unripe can use stem to pull out pit, if ripe can use squish method, paperclip method. Individual cherry pitters, mechanical pitters single or double, or multiple 4-6 mechanical pitters or stoners. No matter which I use always double check for pits!
- Pits have arsenic in them so grinding or consuming is not good! My Grandmother always left a pit or two in all her jams, jellies and home canned fruit as claimed they set up and kept better that way
- Electric pitters thousands of dollars!
- Use steamer juicer and then use colander for puree





Jelly and Jam Maker



Freezing Cherries

- Freeze whole then use for juice later or
- Pit immediately then put with juice in plastic containers leaving head space, top with approximately one-2 tablespoons white cane sugar making sure leave enough head space so does not overflow container in freezer. This seems to reduce fermenting and improve taste. Last years!
- Zip lock bags less storage time but can use vacuum seal for more time! Label and date containers and bags!!!
- If want for muffins put sugar on berries let sit for a while to pull off juice then freeze on individual cookie trays overnight then put by cup full in individual zip lock bags.

Cherries Jelly, Jams, Pie Filling, Fruit Leather

- Like low sugar jams for best flavor.
- I use Ball Jelly maker now as can be processing and pitting cherries while it is cooking approx 20-28 minutes for jams or jellies must cool in between! Follow directions re lid on or off as can boil over is not good for use making pie fillings!
- Can dehydrate cherries or make fruit leather co-op ext has good handout.
- Pie filling two types of Clear Gel/Jel instant and cooked.

Clear Gel or Jel

- Modified food grade cornstarch
- Two main types cooking and instant
- Instant designed to gel for immediate use
- Cooked type for canning pie filling-- as using just cornstarch can separate with time
- Clear Gel or Hoosier Hill Clear Jel; instant or cook type; order on amazon, or natural pantry has Cornaby's brand thick Gel

Clear Gel or Jel



Openers, lifters, spatulas, glass marbles



Jar lifters



Apples

- Have to be on hardy rootstock normally crabapple either Baccata or Ranetka so must graft type of apple you want on these rootstocks
- Favorite apples include crab apples for juice and jelly: Dolgo, Whitney, Novosiberski Sweet, Trailman, Chinese Yellow Golden, Rescue and Chestnut all are usually sweeter after first frost but not all ripen that late.
- Favorite pie apples include: Westland, Goodland, Prairie Magic, Hazen and any other apples that are not 100 % ripe just before freezing
- Saucing apples are any slightly overripe apples but Yellow Transparent best usually end up using Parkland, and Norland also as ripen very fast. If apples start to ferment or freeze too hard can make apple cider vinegar!

Eating Apples

- Carroll, Parkland, Zestar, Prairie Magic, Norland, Altaiski Sweet, Oriole, Trailman Crab, Whitney Crab, Chinese Yellow Golden Crab are my favorites
- Alaska Pioneer Fruit Growers Association has a grafting workshop in the spring, orchard tours in summer, apple tasting in fall, and classes in the winter- so come and talk to us and have a good time tasting and seeing different varieties of apples and other fruit, and see the orchards in south Central Alaska. We also have a website and dues are only \$17/year apfga.org (look under research to see list of many apples and ranking) or find us on facebook
- UAA and UAF have rec these apples Oriole, Summerred, Patterson, Goodland, Kerr, Norkent, Yellow Transparent, Williams Pride, Zestar, State Fair, Norland, Parkland, Rescue Crab, Westland, Carroll and Heyer 12 or 20, Chinese Golden Early, Beacon, Mantet, Vista Bella, Geneva Early, Lodi, Red Duchess, Hazen, Norkent, others Clair 2,4,9

Apple Tree Planting

We are a zone 2-4 here and have a 90-120 day growing period so make sure you have an early ripening apple. Yellow Transparent, Rescue Crab, and Summer Red apple tree varieties are considered highly self-fertile other apples all need a second apple for pollination.

Apple trees should be planted in the spring of the year in full sun not in a wooded area. Your new tree should be well watered until it is established. The ideal pH for an apple tree is 5.5-6.5. Obtain a soil sample and test your soil prior to planting and amend your soil accordingly. Apple trees like well-drained, rich soil that will retain moisture.

Make sure the sides of your hole are not hard but softened so the roots can extend laterally. So spread out roots when planting put a few iron nails in bottom of hole. Make sure your tree is mulched well and the soil is well weeded if using ground cloth make a wide hole around tree base!

When you plant your tree, make sure that you do not bury the graft area but leave it at least two inches above the ground. Be aware of the spacing of your tree, realizing how large it is expected to get and give it plenty of room to perform. Use fences and tree guards to protect from mice, rabbits, and moose.



- Know how to store and what not to store together!!
- Co-operative extension in AK has handouts, and also many other extension services online now.
- Do not store apples with potatoes or carrots. Ethylene gas produced by apples can cause potatoes to sprout and carrots to become bitter. Potatoes cause apples to take on a musty flavor.
- Cabbage and turnips can give their odors to celery, pears, and apples. Cabbage, kale, rutabagas, turnips, and winter radishes give off strong odors that could spread through a house,

Apples and Pears

- Store loosely wrapped in plastic bags with lots of holes, inboxes, cellars, or insulated boxes in outbuildings at a temperature as close to 32°F as possible.
 Wrap pears individually in paper. Apples ripen about 4 times as fast at 50°F than at 32°F and become overripe rapidly at 70°F.
- Pick apples when mature but still hard. Do not mix apples that have glassy spots in flesh (water core, overripe or injured) with good apples.
- Length of storage depends on variety. Best for home storage are late maturing varieties: Do not store apples or pears with cabbage, carrots, turnips, or potatoes as Pears and apples will pick up off flavors. Store 32-35F for 2-12 months (new cosmic apple stores 12 months!)

Apple slicers(or hand pinchers if too low)



Apricots and Pears

- I have 3 apricot trees that bear fruit but do not always ripen. Really like early pink blossoms.
- I have Moongold, Westcot, Manchurian Apricot seedlings, and Sungold that are grown outside and one apricot that is less hardy but more fruitful in my greenhouse
- I have Ure and Golden Spice Pears that bear small pears outside that are huge trees! Also a young shipova that is a pear and mountain ash cross.

Canning

- Two types pressure and water bath. Make sure you follow directions as if you use wrong type can lead to death from food poisoning! Get pressures gauge and seals checked on pressure canners! Leave head space!
- New electric Ball water canner and jam/jelly maker both work well.
- Steamer/juicers work well for juice extraction. Multiple types pros/cons/tips
- Sometimes need to add pectin or food color or clear gel or sugar or seasoning for better outcome

Freezing: Berries

- Remove debris from berries and stems from strawberries and currants. Slice strawberries. Sprinkle berries with sugar (1/4 cup to 12-16 oz fruit) and either freeze individually on cookie sheets overnight and pack into containers next day or just pack into containers and freeze right away. Last at least a year depending on berry.
- I like to freeze strawberries with chopped rhubarb with sugar together that way can just pop out of freezer and cook. Make sure label bags and containers with contents and date packed!

Grapes and Berries

- Grapes readily absorb odors from other vegetables and fruits. Store alone away from other produce. Need to be stored at 32-33F can be stored 4-6 weeks if dry when harvested like moist environment.
- For berries that tend to mold: Fill a measuring cup with 1/4 cup vinegar and 1 1/2 cup of water for 10-16 oz of berries. You may need more vinegar/water depending on how many berries you are planning to soak. Soak 5 minutes, rinse with water, dry and store in paper towel lined container for up to 2 weeks

Steamer juicers

- Great for making clear juices for drinking or making jelly with quickly- many on market now- originals mostly came from Finland. Now under \$100 on Amazon.
- Mehu-Liisa one of best do not get ones with curved hollow bent pipe inside of juice collector they clog or get vacuum block and hard to clean!
- Can boil dry so use Glass Marbles in bottom where put water and change in rattling will tell you when dry!

Steamer Juicers





Semply put thuts, vegetables, or means in the top and water in the bottom and boil on your stove to create natural juice. Juice collects in kettle and is drained with easy to use hose. The collander holds up to 8 quarts of fruits, vegetables, or means.

Steamer/Blancher

Add the colunder directly to the stock, pot and you have a steamer/blancher. This combination will allow you to steam blanch your green beans for freezing/canning or even steam a batch of tamales for dinner.

Stock Pot / Roaster

Junce Rettle (4ct)

Use in the same way you would any high quality stock pot or roaster. Its clad bottom provides even heating making it ideal for oven use and any cooktop, including smooth top and induction. The generous 8 quart capacity makes it great for soups, chill, meats, vegetables and more.



Arjen sonkari

Mehu-Liisa 111

Saftkokore | Steam Juscer | Extractour de jus Damptentsafter | Coxoeapka | Mohissaurutojo Sopi kokille testivysjelle Passar alka spistyger induktion Sunable for all types of cookers induction Convient & toos les teux induction Eignet sich für alle Herdrypen induktion Dapager ges exer segae mert Vegegese Sabib Kökidele pliidituipidele Induktioon



Electric Water Bath Canner



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- Alaska Cooperative Extension Service
- Mom, Grandmothers, Sisters, Friends