

# Fruit Production for the Calgary Area

Many different varieties of fruit can be cultivated on the prairies.

Are divided into four categories:

1. tree fruit
2. bush and cane fruit
3. fruiting vines
4. herbaceous fruit (strawberries)

## Growing conditions

- minimum of six hours, all day is best
- require well drained soil of moderate fertility, overly fertile will diminish flowering (tree and shrub fruit)
  - grapes prefer gritty, free draining soil
  - if planting in heavy clay amend with soil with plenty of compost and mulch annually
- with the exception of blueberries, all prairie hardy fruit will grow in neutral to slightly alkaline soil
- when sighting trees and shrubs plant on the north side of a structure or hedge and on a slight slope
  - ensures trees do not warm up and flower too early,
  - ensures trees don't sit in winter wet
  - cold air sinks therefore planting on a slope allows cold air to pass by
- fruit trees like to have something growing at their feet
  - shallow rooted perennials, herbs or strawberries are good companions
- keep soil mulched and give an annual top dressing of compost
- fruit trees don't really like to be fertilized so stick with topdressing
- watering is important in early spring when flowering and while fruit is developing

## Pollination

- challenges to successful fruit growing include: extreme winter temperatures killing fruit buds, late season frost, cool spring temperatures and wet springs, lack of pollinating insects
- the most common reason for poor fruit production is due to poor or lack of pollination
- Reasons for this might be:
  - many fruits require another variety for cross pollination
  - timing is critical, require varieties that will flower at the same time for successful pollination
  - lack of pollinating insects such as bees
- plant early spring bulbs and perennials that will attract bees
- choose late maturing varieties to avoid late frosts
- mulch and site trees and shrubs so they don't wake up too early
- avoid chemical herbicides or insecticides as these will harm all pollinating insects
- can use a small paintbrush to transfer pollen from one plant to another if necessary

## Pruning

- I would highly recommend a good pruning book (Lee Reich has a good one) and to take a

- pruning course to learn to do this properly
- goal in tree fruits is to create a scaffolding of branches
  - keep the inside of the tree open for good air circulation
  - to promote the development of fruiting spurs
- goal in small fruiting shrubs is to have a balance of vigorous fruiting branches of varying ages and to thin out and remove older non-productive canes
- when pruning vines such as grapes and kiwis the goal is to keep their vigorous growth in check while establishing a solid framework of vines for fruit production
  - with grapes a solid framework low to the ground helps ensure survival of the vines over the winter

## 1) Tree Fruit

### Apples and Crabapples

- arguably the most popular tree fruit
- are early, mid and late season varieties
- are varieties that are good for eating, pies, cooking, juicing and storing
- some cultivars are susceptible to fire blight so plant resistant varieties
- requires cross pollination with another variety of apple or crabapple
  - ornamental crabapples will pollinate eating apples
- are insect pollinated so plant early spring, nectar rich flowers close by to attract pollinators
- dwarf varieties are available but tend to be short lived
- choose semi-dwarf or regular
  - all trees are grafted onto hardy root stock
- can graft multiple varieties on one tree if space is limited
  - ensures pollination
- sweetness increases with frost so don't hesitate to plant later maturing varieties
- Apple varieties
  - are many cultivars available including older and new introductions
  - might require some searching to find more unusual cultivars
  - Commonly available:
    - Battleford-bright red eating apple, ripens mid August, zone 2
    - Goodland-large bright red fruit, good for eating fresh, cooking, stores up to 20 weeks, ripens September, zone 2b
    - Honeycrisp-bright red, crisp fruit, ripens Aug/Sept, zone 3b
    - Heyer #12-very hardy, yellow fruited, good for apple sauce, very short storing so process asap
    - Norland-semi dwarf tree with medium red fruit, ripens August, zone 2, fireblight resistant
    - Parkland-compact tree, fruit rich red, ripens September, zone 2
  - Worth looking for:
    - Alberta Buff, Gold, Green and Red-discovered by Dr. Ieuan Evans, all are large, very hardy and very tasty, zones 2-3
    - Carlos Queen-large mostly green with red fruit, ripens September, zone 2
    - Fall Red-excellent storing and baking, large dull red, ripens mid September, zone 2

- Harcourt-abundant producer, sweet flavoured, medium sized greenish/yellow fruit, ripens Mid Sept., zone 2
- Mill Stream-very large green/red fruit with crisp flesh, excellent for fresh eating, cooking and storing, zone 3
- Norkent-large, sweet, crisp bright red fruit, stores well, ripens August, zone 2
- Red Sparkle-medium red fruit with a unique nutty/fruit flavour, ripens mid September, zone 3
- September Ruby-large red, green tinged flesh, stores well, ripens mid September, zone 2
- Crabapple varieties
  - fruit is small and very tart, useful as pollinators and cooking, very hardy  
Dolgo is usually the only edible variety available
    - crimson red fruit, heavy producer, excellent for jelly and canning
- Applecrab varieties
  - are a cross between a crabapple and apple
  - medium sized fruit has sweet tart flavour so are good for jelly, pies, canning and eating fresh
    - Kerr- deep red with crisp white flesh, ripens late September, zone 2
    - Rescue- creamy yellow fleshed fruit, ripens mid September, tree is a good annual producer
    - Shafers Trail-sweet crimson red fruit, ripens August, zone 2
      - may be difficult to find

### Diseases

- Some apples and crabapples are susceptible to fireblight
- Apple scab can be a problem as well
- Apricots (yes we can, sometimes)
  - beautiful small trees with lovely white flowers
  - are borderline hardy so need to be planted in a protected spot
  - early flowering so flowers often get hit by late frosts
  - needs another variety for cross pollination
  - only a few hardy varieties available, except where noted hardy to zone 4:
    - Manchurian- very hardy ornamental tree, good pollinator
    - Morden 604-vigourous tree with small yellow/red fruit, zone 3
    - Westcot- freestone fruit good for canning and jam
    - Scout-bronze/gold fruit blushed with red, excellent for jams, canning and fresh eating, free stone
    - Prairie Gold and Sunrise- small yellow/orange fruit, good for jam and canning
- Pears- hardy but not quite up to our taste expectations
  - several varieties available but fruit is only useful for preserving
  - requires a different cultivar nearby for cross pollination
  - flowers very early so blossoms often hit by late frosts
  - plant on the east side of building where heat accumulates and protection from winter winds is given
  - pears are best picked on the green side as if allowed to ripen completely on the tree are

- already over ripe and mushy
- varieties commonly available:
  - the Apostle series: Peter, Thomas, John, Andrew
    - very hardy trees with large coarse textured, bland fruit, good for processing
  - Ure- small, pear shaped greenish, sweet tasting fruit, excellent fresh eating but small window for this, good for desserts and preserving
  - Golden Spice- small, round, yellow/red fruit with a tart/astringent taste and good texture
    - good for fresh eating or preserving
  - Early Gold-probably the best of the available pears
    - yellow pear shaped fruit ripens in early September, good fresh eating
    - varieties worth searching out: Flemish Beauty and Summer Crisp

## Diseases

Fireblight can be a problem as can the pear slug

- Plums- very hardy and underused
  - require cross pollination with a variety that blooms at the same time
  - plums are poor pollinators so will get bigger yields if wild plums (*Prunus nigra* and *Prunus americana*) are grown near by which are much better at pollinating
  - most plum varieties available are hybrids of *Prunus salicina* (Japanese) and *Prunus americana* wild plums
  - Western Sandcherries and Nanking cherries are close relatives of plums and will pollinate varieties that flower at similar times
    - they too require a neighbour for cross pollination
  - available plum varieties:
    - Patterson Pride-small dwarf tree with a weeping habit, deep red small fruit, flesh is firm and sweet with a slight bloom, ripens mid September
      - cross pollinate with wild plum (*P. nigra*)
    - Prairie-dark red, semi free stone fruit, requires pollinating by wild plum
    - Pembina-large plums with somewhat sour dark red skin but sweet, flavourful flesh
      - vigorous grower, grows in an upright vase shape
      - needs Brookred or Opata for pollination
    - Brookgold-gold skinned, sweet fruit good for canning or eating fresh, ripens in August
      - cross pollinate with Nanking or Sand cherry
    - Brookred- large red skinned, orange fleshed fruit, ripens in August, good for canning
      - cross pollinate with Pembina or Opata

- Opata-greenish purple skin and green flesh, good for eating fresh and jelly, ripens August
    - cross pollinate with Pembina and Brookred
  - Bounty- very hardy and productive, sour fruit excellent for preserves
  - Tecumseh- heavy crops of sweet red skinned plums with yellow flesh
    - ripens very early
  - Princess Kay- cultivar of Canadian wild plum, very fragrant double flowered small tree
- Chums
    - are a cross between western sand cherries (*Prunus besseyi*) and Japanese plums (*Prunus salicina*)
    - as with plums, are poor pollinators so are best pollinated by wild plums (*Prunus nigra*)
    - chums bloom very early so pin a few branches of the wild plum to the ground to get earlier flowering
      - more upright branches will flower later helping to pollinate later blooming plums
    - small fruit has excellent flavour making it useful for canning, jams, jelly, pie and for some fresh eating
    - plums like sandy or clay soil without a high organic matter content (do not like high nitrogen levels)
    - best pruned as shrubs for best production
    - are quick to fruit from a young age
    - available varieties:
      - Convoy-scarlet red skin with yellow flesh, zone 2, ripens early September, good for fresh eating and canning, upright narrow growth to 3.5 meters
      - Dura- hardy, low spreading bush with dark green/purple mottled skin and dark maroon flesh, good for canning and desserts, bears from late August to October, zone 2
      - Manor-low sprawling very productive bush, dark purple skin with dark purple flesh, good for canning and desserts, zone 2
      - Compass- dark red fruit, excellent for jam, jelly, canning and sauce, ripens early August, zone 3
- Tree cherries
    - all prairie hardy tree cherries are sour cherries
    - actually have a higher sugar content but due to their astringency taste sour
    - excellent for processing into pie fillings, jam and jelly
    - pincherries are native to the prairies
    - varieties available:
      - Evans- small, suckering tree with lovely clusters of white blooms, self pollinating, very hardy, large red fruit excellent for processing or eating fresh, allow to become dark red for fresh eating
        - dislikes being watered in before winter
      - Northstar- small tree with red sour fruit, best for processing, standard for pie fillings and jam, self

pollinating

- Mary Liss pincherry-produces small red fruit in clusters, white corymbs of flowers in early spring suckers profusely, excellent for preserves, jams and pie fillings

## Diseases

**Black knot fungus affects cherries, Schubert chokecherries and plums especially wild plums.**

### 2) Fruiting Shrubs

- shrub fruits are very easy to grow and are often hardier
- fit into small landscapes well and have very ornamental qualities
- many make excellent hedging material
- tend to be heavier and more reliable producers
- Shrub Cherries
  - tart cherry fruit is high in antioxidants
  - University of Saskatchewan sour cherries, crosses between Mongolian cherry and European sour cherry
  - called the Romance Series, shrubs are very hardy, tolerate clay soil, and start producing 3-4 years after planting, blooms mid May and are rarely affected by late frosts
  - fruit retains its red colour when processed and juice will not stain
  - should be grown with another variety to ensure good pollination
    - Carmine Jewel-fast growing shrub, very small pit, sweet enough to eat fresh, ripens early
    - Crimson Passion-quarter sized, crisp, dark red sweet fruit, non-suckering dwarf shrub, good for processing and fresh eating
      - before buying ensure plant has a good root system
    - Romeo-excellent flavoured, large red fruit produced in abundance
    - Juliet-similar to Romeo but ripens earlier, deemed the best tasting of the U of S cherries
    - Valentine-bright red skin with pink interior, large vigorous shrub with some suckering, dries to a bright red, excellent for preserving
    - Cupid-very dark red, strong flavoured large fruit suitable for processing
  - Chokecherries
    - large, native prairie shrubs bearing dark black, red or yellow small astringent fruit
    - used mostly for processing into excellent jams, jellies and wines but a few are sweet enough to eat out of hand
    - varieties available:
      - Boughen Sweet-large mild fruit with little astringency, good for wine and jelly

- Garrington-large multi-stemmed pendulous shrub, heavy producer of tart black fruit
  - Red-tall shrub with large red tasty fruit, makes a lovely rose- coloured wine
  - Robert-large shrub, heavy and consistent producer of large tart black cherries
- Nanking Cherries
  - lovely large ornamental shrubs with short lived pink blooms
  - requires cross pollinating with other shrubs or plums
  - related more closely to plums than cherries
  - small, bright red, sweet and juicy fruit produced annually in abundance, large pits
  - shrubs are very hardy and tolerate almost any soil
  - fruit excellent for fresh eating or for juicing, is low in pectin so combine with pectin rich fruits for good set of jams and jellies
- Haskap Berries (*Lonicera caerulea*)
  - are fairly new to the prairies, originated in cold areas of Asia and Siberia
  - are the prairie's answer to blueberries, shrubs are extremely hardy (-50C) and early blooming, grow well in heavier clay and alkaline soils and are fairly petite in size (1-2 m) fitting into landscapes easily
  - have twin flowers that can tolerate 7 degrees of frost
  - requires two varieties for pollination
  - buy only named cultivars as not all are good tasting
  - long dark blue, sweet tasting berries ripen in mid to late June
  - will need to protect fruit from the birds as they will quickly strip shrub of fruit
  - varieties available from U of S breeding program include: Borealis, 9-15, 9-91, 9-92 (more are being released each year)
  - Other cultivars available are: Tundra, Berry Blue, Blue Belle, Cinderella, Svetlana and Polaris
- Blueberries
  - are varieties native to Alberta but all types require very acidic soil (pH 4.5-5.5) which is hard to provide
  - are hardy if right conditions can be met
  - best grown in containers or a part of the garden where the soil can be altered
  - water only with rain water as our water has a pH of 7 or more
  - better fruit set if grown with another variety
  - varieties available:
    - Chippewa-large dark blue sweet berries, ripens earlier than other cultivars
    - Northsky- small sky blue, sweet fruit, heavy producer for 2-3 weeks in late summer
    - Northcountry-very short plants with large dark blue true blueberry flavoured fruit, self pollinating, good for processing
    - St. Cloud-upright growth habit, fruit excellent for pies
    - Polaris-firm, sweet flavoured and smelling fruit that stores well

- Saskatoon berries
  - easily grown hardy native shrub that does well in heavy alkaline soils, drought tolerant and will grow in full sun or part shade as an understory shrub (fruit production will be decreased)
  - cold wet years will decrease fruit production, soil needs to be very well drained, hates winter wet
  - U of S has a hybridizing program so new releases are occurring regularly
  - medium to extremely large shrubs (2-4m x 1.5-2m)
  - better fruit set if another variety is planted nearby
  - varieties available:
    - Honeywood-moderate sized with large fruit produced late in the season, good for processing and eating fresh
    - Northline-medium sized productive shrub, good for processing or eating fresh
    - Pembina-large shrub with large fruit, good fresh eating
    - Smokey-the best yielding with mild sweet fruit on a large shrub
    - Thiessen-very large fruit good for eating fresh or pies, poss. the best tasting, large rangy shrub
    - JB30-new release (name might change) from U of S, shrub has a 'wild' flavour, but grows on a compact, low suckering bush

## Diseases

**Juniper rust is a fungus that uses junipers or hawthorns to transfer the fungus to saskatoons. Leaves rusty orange spots on the leaves and orange hairy growths on berries**

- Gooseberries
  - very hardy but wickedly spiny medium sized shrubs that root easily from trailing branches quickly forming thickets if not kept pruned
  - a ratio of 1, 2 and 3 year old wood should be maintained for best fruit production, fruit production decreases in older wood
  - are susceptible to powdery mildew so good air circulation is essential
  - like to be planted in full sun but will tolerate partial shade, soil should have a high organic matter content
  - will require supplemental watering in dry periods
  - are self pollinating
  - early flowering blooms will tolerate frost to -5C and fruit will tolerate 3 degrees of frost
  - harvest in late July or early August, earlier fruit is tarter but higher in pectin
  - varieties available:
    - Pixwell- old cultivar, very hardy and reliable producer, pink fruit is sour, good for preserves
    - Hinnomaki Red-cultivar from Finland, very hardy, good cooking variety, sweet flavoured if left to ripen long enough
    - Hinnomaki Yellow-large, sweet yellow fruit suitable for eating fresh, heavy cropping
    - both Hinnomaki's are mildew resistant
- Currants
  - related to gooseberries but without the wicked thorns



- come in black, red or white varieties
- have very specific pruning requirements to get the best fruit production
- black varieties fruit on one year old wood with a staggered ripening time
  - to prune: 5-6 healthy one year old branches, allow 6 new branches to grow and remove all older and diseased wood
- red varieties fruit on 2-3 year old wood and come ripe all at once
  - to prune: in first year remove all but 3 vigorous branches, second year allow three more branches to stay, in 3<sup>rd</sup> year allow three more branches, every year after remove 4 year old wood
  - berries are high in Vitamin C
  - grow as for gooseberries, prefer afternoon shade
  - varieties available: black- Ben series Alder, Nevis, Hope, Conan, Sarek and Tirran
    - all are Scottish varieties with improved disease resistance
    - red-Red Lake-very hardy, small productive shrub bearing clusters of large bright red fruit
    - White Pearls-hardy small shrub bearing clusters of large white fruit
- Sea Buckthorn- a new use for an old standard
  - berries used in Europe for centuries, berries are high in Vitamins A,C and E
  - rich sources of protein, amino acids and soluble sugars
  - need one male for every 5 females to ensure fruit
  - easily grown and tolerant of a wide range of conditions
  - newer varieties have few thorns and easily harvested berries
    - Harvest Moon and Orange September are new releases that are excellent for jams and jellies
- Raspberries
  - easily grown, suckering cane fruit, will grow anywhere in almost any condition
  - need to be kept pruned to keep reduce suckering and promote fruiting canes
  - prune out spent two year old wood and suckers leaving three to five new canes and three to five two year canes (primocanes need to be removed each spring)
  - bear more fruit if canes are tied to supports so don't whip about in the wind
  - primocane varieties fruit on current year wood and two year old wood, most other varieties fruit on two year old wood
  - fruit spoils quickly so needs to be used ASAP
  - varieties available:
    - Boyne- prairie standard with large tasty red berries, very hardy, thorny and heavy suckering
    - Red Bounty-new release from U of S, superior yield and hardiness to Boyne, large berries
    - Red Mammoth-new release from U of S, large firm fruit, hardier and sweeter than Boyne
    - Steadfast- new release from U of S, **non suckering** with excellent fruit quality
    - Honeyqueen-golden colored fruit very sweet fruit, primocane

- Wyoming- large, black flavourful fruit on **non-suckering** canes
- Double Delight-primocane, large berries with good flavour

### 3) Herbaceous Fruit

- Strawberries
  - are divided into four groups: June bearing(produces one crop mid season), day neutral (produces fruit throughout the season), everbearing (has one crop in summer and one in fall) and alpine which bear tiny very sweet strawberries all season
  - first year is very important to ensure good production in the future
    - June bearers should have all flowers and suckers removed
    - everbearing and day neutral should have suckers and flowers removed until mid summer
  - two ways to plant-crowns should be level with the top of the soil
    - hill method is best for everbearing and day neutral types, set each plant on a small hill, 30 cms apart and spread roots out evenly before covering with soil
    - matted row- plants are set 25cms apart in rows spaced 1-1.25m apart, runners are placed in between rows and allowed to root
  - plants should be removed after 4-5 years and replaced with new ones or runners
  - require consistent watering for best fruit, mulch with straw to keep fruit off of the ground and from rotting
    - very susceptible to botrytis and grey mold
  - before freeze up remove all foliage close to the crown, add new compost, cover completely once ground has frozen
  - varieties available:
    - June bearers- produces the largest fruit over a short harvest season
      - Veestar, Bounty, Kent
    - everbearing- Fort Laramie- produces two crops of large sweet red berries
    - day neutral-Fern, Tribute, Tristar (has fewer runners so more berries)

### 4) Vines

- Grapes
  - are rampant growing vines that require a protected spot up against a warm wall
  - like very well drained, average alkaline soil and heat (lots of it)
  - water in well for the first three years
  - need to be pruned in a specific manner to get fruit production instead of just leaves
  - very long lived so require appropriate placement and sturdy support
  - can take 3-4 years before fruit production begins
  - grapes do not continue to ripen after picking so taste one before picking the cluster, should feel firm but not hard
  - are limited varieties available:
    - Kay Gray- hardy sweet green grape, good fresh eating, wine, cooking or jelly
    - Prairie Star- newer variety, loose cluster or light green fruit, suitable for wine or table, ripens in September

- Valiant- the hardiest for this area, large clusters of small dark purple grapes, table grape, ripens in late August
- Beta- clusters of tiny grapes

### **Kiwi**

- similar growth habit to grapes, very vigourous and rampant growth once established
- heavy feeders, especially nitrogen, and drinkers due to shallow root system
  - feed early spring and summer but not after July so can wind down for winter
  - keep well mulched
- most varieties need a male and female to achieve fruit
- fruit resembles a large green grape and is very sweet, fruit production on the prairies is variable
- *Actinidia kolomikta* (most commonly available) requires shade from afternoon sun and protection from the wind.

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