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## Miscellaneous Berry Crops

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## Planting Requirements:

- Full sun and good soil
- Incorporate compost/organic matter
- These berries grow well on a soil pH of 5.8 – 6.5
- Make raised beds to improve drainage in kiwifruit

- Plant in spring
- Buy nice, disease-free plants (usually in 1 gal. pots)
- Plant NO deeper than the original potting mix
- Do not add fertilizer to the planting hole
- Control weeds
- Irrigate well

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## Kiwi Vines

## Ornamental kiwi vines in the landscape

*Actinidia kolomikta*

*Actinidia polygama*

Male vine

Female vine

Male vine

Female vine

*Actinidia purpurea*

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Vigorous, deciduous, perennial vine  
Climbing

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## Types of kiwifruit in the PNW

- "Fuzzy" kiwifruit (*Actinidia deliciosa*)  
large fruit; skin not "edible"; not cold hardy enough for cold regions
- "Arctic" kiwifruit (*A. kolomikta*)  
small fruit with edible skin; cold hardy; vines need shade; nice ornamental (bitter fruit)
- "Hardy" or "Baby" kiwifruit (*A. arguta*)  
small fruit with edible skin; cold hardy; fruit will vine ripen; great flavor

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### "Fuzzy" Kiwifruit:

#### Hayward

Very late (doesn't vine ripen)  
Large fruit  
Skin covered with brown "fuzz"  
good, sweet flavor when ripened  
Vine needs 225 to 240 frost-free days  
Only hardy to 10° F; often see cold damage in Willamette Valley



All "fuzzy" kiwifruit vines need a male (*A. deliciosa*)

### "Hardy" Kiwifruit:

- This species (*A. arguta*) is hardy to -10 to -25° F
- very vigorous plants

#### Ananasnaya

Early (Vine ripens in late Sept)  
Small fruit  
Excellent aromatic flavor  
Skin is smooth and edible; develops a red blush in the sun



Ananasnaya



#### Issai

Early  
Smaller fruit than Ananasnaya  
Excellent aromatic flavor  
Skin is smooth and edible  
Plants are self-fertile, but fruit benefit from cross pollination



Ken's Red

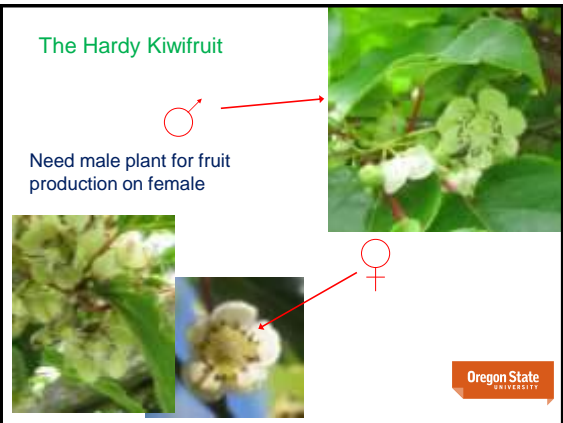
vine ripe

Vine ripe unripe

*A. purpurea*

### The Hardy Kiwifruit

Need male plant for fruit production on female



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Year 1, training trunk



Year 2: training cordons



### Pruning Vines

- Prune female vines in the winter (Dec. - Feb.)
- Prune male vines lightly in winter and prune heavy in summer, after bloom (in mid-June)



### Pruning Vines

(Starting: Year 3 or 4)

3 to 4 year old vine before pruning

### Pruning Vines

Wood selection

This pruning is recommended when there is a strong basal vegetative shoot

Diagram shows where fruit was produced last season

### Pruning Vines

(Starting: Year 3 or 4)

3 to 4 year old vine after pruning

Cordon (one in each direction)

Fruiting canes (15-20/cordon)



Mature T-bar, spring



Flower buds

Fruiting cane

**Harvest**

- Kiwifruit do further ripen after harvest
- Color is not a good indication of maturity -- measure Brix if you can

Mature yield has ranged from 60 to 130 lb/vine

**Harvest of Hardy Kiwifruit**

Can be harvested in early Sept. at a Brix of 8-10. Seeds will be black

If you don't have a refractometer, pick fruit at "hard" green stage when about 5% of fruit are soft or pick as vine ripen

Vine ripe 'Ananasnaya'

Physiologically ripe 'Ananasnaya'

**Harvest of "Fuzzy" Kiwifruit**

'Hayward' does not vine ripen. Harvest when fruit have black seeds and are "ripe" enough to ripen off the vine. Typically after the first hard frost in the Willamette Valley. Fruit will tolerate light frost

Immature fruit will have brown seeds. This fruit will not ripen normally if picked

'Hayward'

### Storage of Kiwifruit

- "store" fruit on the vine as long as possible
- In hardy kiwifruit, soft, vine ripe fruit will not store. Pick fruit for storing when physiologically mature and still hard and green
- Store fuzzy kiwifruit in a cold garage or fridge for about 1 month before trying to ripen; once softening starts ripen batches at room temperature. Store all types in vented plastic bags as close to 32 °F as possible
- Remove soft, ripe fruit for eating, or ripen at room temperature
- Fuzzy kiwifruit will keep for months, hardies for about 4 weeks



### Winter Cold Damage

'Hayward' most sensitive

Protect vines by using trunk wraps in cold areas



Winter cold damage to trunk of 'Hayward'

Young hardy kiwifruit vines can also benefit from having trunk wraps



### Frost Damage

Frost damage in hardy kiwifruit at temperatures below 32 °F



Occurs in all types of kiwi

Even though hardy kiwifruit have good cold tolerance, buds/shoots will break early in year. Frost damaged buds/ shoots produce no fruit.

The entire crop can be lost to frost

Overhead irrigation is used commercially  
Rowcovers might work in the home garden



### Root rot



All are very sensitive to root rot

Plant on sites with good drainage

Use raised beds

Mature vines can die from root rot

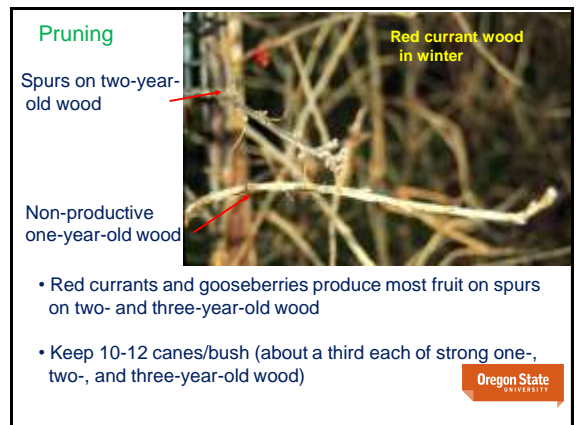
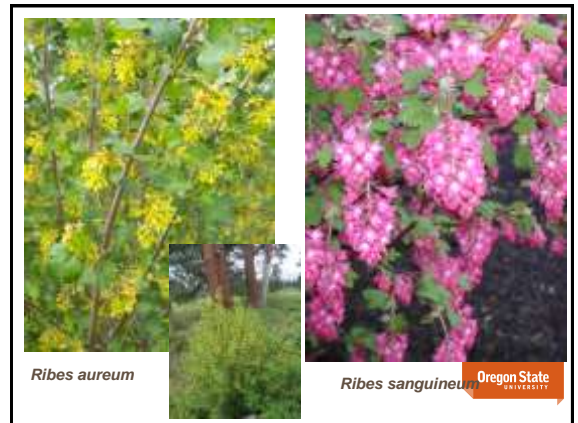
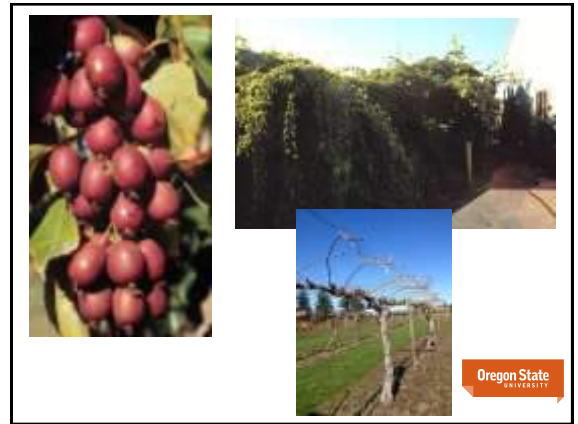
Vines with root rot will show dead areas like this when the bark is scraped away the crown/trunk



### Fruit Damage from rubbing



Fruit scarring can occur  
This is usually the result of fruit rubbing together or against leaf stems



**Aphids** Production Problems



Bottom of leaf


Top of leaf



**Currant borer**

Adult is a moth  
Larvae tunnel in canes  
Infested canes wilt  
Red currants most susceptible

Remove infected canes and destroy

**Imported Currant Worm (sawfly)**


Adult is a sawfly  
Larvae feed on leaves defoliating canes





**Powdery mildew**

Leaves and fruit infected on susceptible cultivars


Plant resistant cultivars  
Ensure good air circulation

**Haskap**  
*Lonicera caerulea*

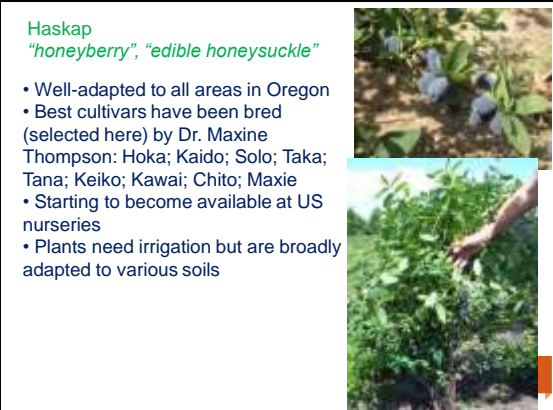



- Well-adapted to all areas in Oregon
- Native to Japan
- Flowers are frost tolerant
- Berries tart but flavorful
- Great for processing



**Haskap**  
"honeyberry", "edible honeysuckle"

- Well-adapted to all areas in Oregon
- Best cultivars have been bred (selected here) by Dr. Maxine Thompson: Hoka; Kaido; Solo; Taka; Tana; Keiko; Kawai; Chito; Maxie
- Starting to become available at US nurseries
- Plants need irrigation but are broadly adapted to various soils





**Lingonberry**  
*Vaccinium vitis-idaea*




Native to the circumpolar boreal region.  
 A creeping, evergreen species

Same family as blueberry  
 Need acid, high organic matter soil  
 Plants have rhizomes and can spread vegetatively



There are two bloom periods (spring and summer) and so two crops/year. Plants grow about 1.5' tall.



'Red Pearl'  
 'Koralle'

Need cross pollination for fruit production





Full sun, low pH, high organic matter  
 Low fertilization

**Elderberry**  
*Sambucus canadensis*







*Amelanchier alnifolia*  
 "Service Berry" or "Saskatoons"








*Aronia melanocarpa*  
the "chokeberry"



Goji Berry (Wolf berry)  
*Lycium barbarum*

