



# Small Fruit, Big Benefits



Lauren Fagan  
Unity Gardens Inc.  
Purdue Master Gardeners  
Program





Strawberries  
Raspberries  
Blueberries  
Grapes

# Types of fruit



## Tree fruit

Pome fruit have seeds  
(apples, pears)

Stone fruit have pits  
(cherries, plums)



## Small fruit

Berries including strawberry,  
blueberry and raspberry

Grapes, currants,  
gooseberries

# General growing for small fruit:



Prefer full sun, although most tolerate some light shade

Fruit blossoms are threatened by frost and cold

Choose varieties that grow well in northern Indiana

Avoid “frost pockets” in low lying areas when planting





Good air flow will prevent fungal leaf diseases

Well-drained soils that hold some moisture are best

Like pH of 6.0 to 6.5, but 5.5 to 7.0 is OK except for blueberries

Avoid sites where nightshade have grown in past 3-5 years

Most can be grown at home without much pesticide use



# Choosing plants:

- Berries are a good choice if you're looking for pest resistance
- Blackberries are usually less hardy than raspberries here
- Grapes should be proper cultivars for northern Indiana

BUT:

What do you really want to grow, care for, eat and share?



# Cross-pollinations

- Berries and grapes are self-fertile
- Blueberries need a second variety nearby
- Plant both at same time within 2,000 feet
- Attracting bees helps
- Consider temperatures for blossoms, bees





Strawberries  
Pierre August Renoir, 1905

- Most popular small fruit grown in the home garden in Indiana

- Easy to grow without extra equipment, special attention

- 25 plants can yield 25-50 quarts from mid May to late June





- Strawberries usually bear fruit in May /June
- Some varieties bear more than once in the season
- Junebearers are most widely adapted and recommended for Indiana
- Good choices include Earliglow, Annapolis, Redchief and Surecrop

# Planting strawberries



15-24 inches apart, rows at 36-48 depending on your plan  
Or, think five plants per square foot

Too many runner plants will suppress berries like weeds do

Strawberries prefer well-drained sandy/loamy soil

Plant crown at soil level, neither too shallow nor too deep



- Try raised beds or containers if soil or space is a problem



- Renovate bed and fertilize after harvest or in early spring

- Consider new plants every 3-4 years in strawberry beds



# Caring for strawberries



Water 1 to 1.5 inches per week, important to eliminate stress  
Pinch flowers to encourage runner growth, vigorous plants

First harvest is a year from planting

Harvest every other day, removing berry with half-inch stem

Don't wash until ready to use

Thin runners to correct density

Mulch for winter, or in case of frost



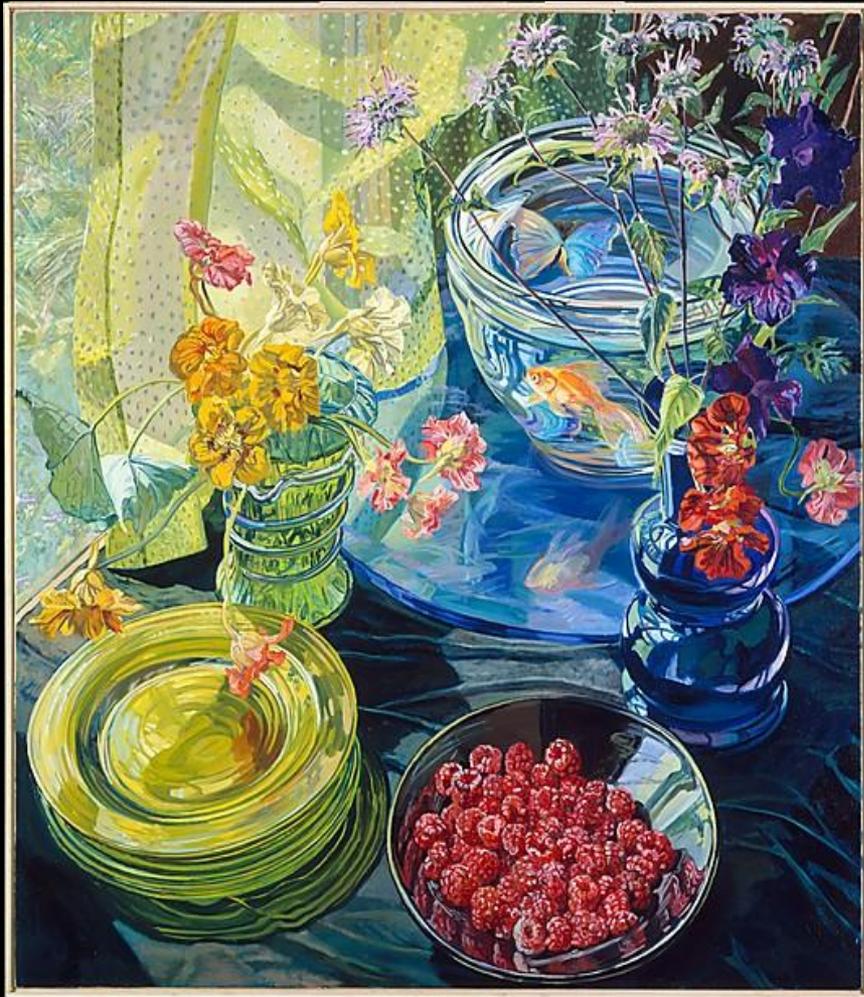
# Strawberry pests and problems



Pests include slugs, birds, small animals  
Diseases include leaf spot, verticillium wilt  
Avoid planting where nightshade plants  
(tomato, pepper, eggplant) have been in  
past 3-5 years

Try all-purpose fruit spray if necessary



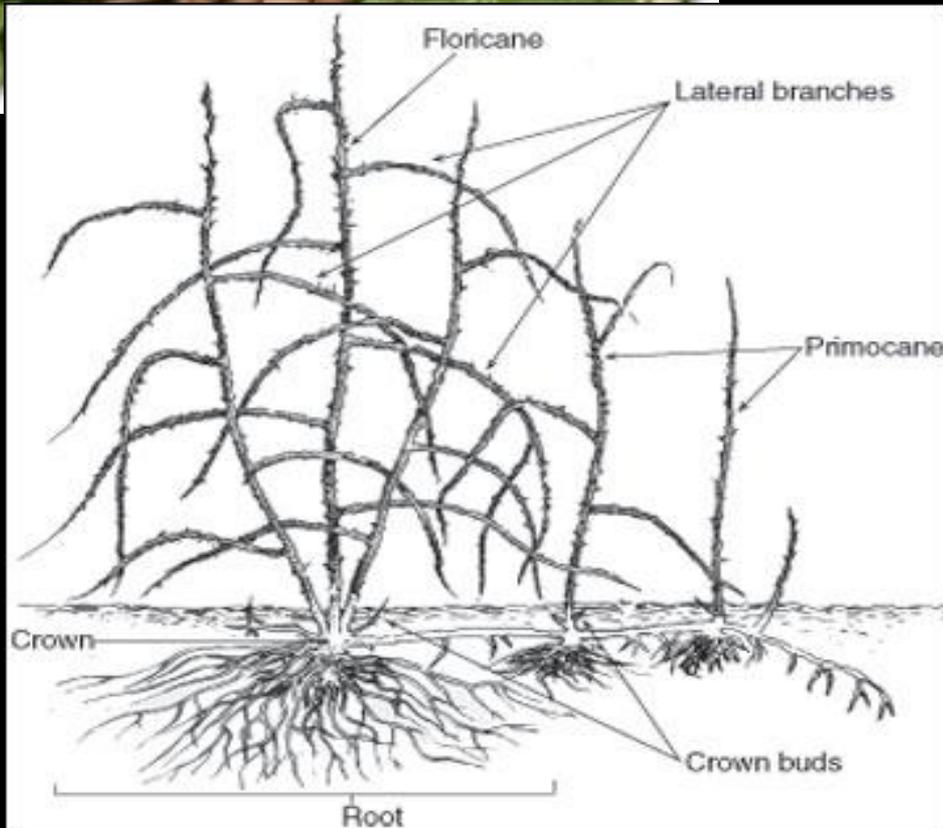


Raspberries  
and  
Goldfish

Janet Fish  
1981

- Red raspberries are most popular
- Black, purple and yellow available
- Easier to grow in northern Indiana than blackberries because of climate
- Yield: 1 to 1.5 quarts per plant





- Berries grow on floricanes, which usually bear fruit in second year

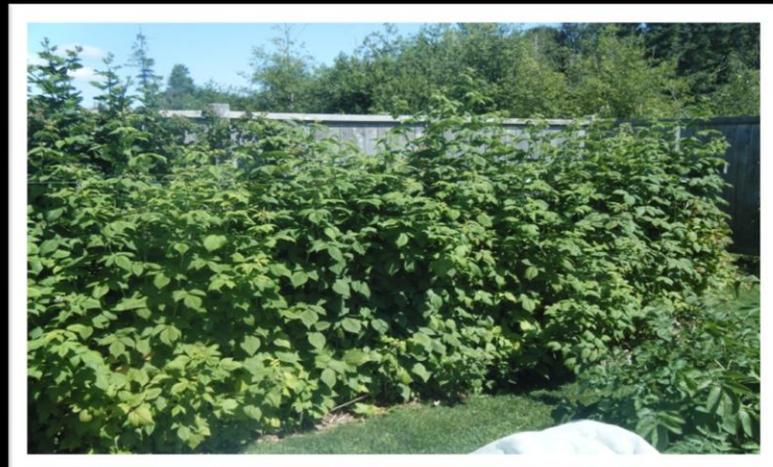
- Primocanes do not produce fruit in first year. Varieties that do are popular at home because of a second harvest in fall

- Autumn Bliss, Heritage are good primocane fruiting raspberries



- Bristol and Jewel also recommended for northern Indiana growers

- Plants will produce 5-8 years before replacement



# Planting raspberries



Work soil one year before planting raspberries

Air flow and soil drainage are key; avoid “cold pockets”

Keep crowns just below soil to avoid new canes breaking off

Plants may need trellising, upright support in first year

Plant in hedgerows, hills, or rows – red at 2.5 to 3 feet apart

Keep red 300 feet from purple or black to avoid virus spread



# Caring for Raspberries



Self-fertile, don't need cross-pollination

Red raspberry plants grow from suckers in root system

Black and purple grow new plants from tip layering

Water 1 inch per week

Fertilize in early spring

Remove diseased, damaged canes in spring, add mulch

Remove floricanes annually after harvest

Primocane bearing: summer crop grows on lower buds from previous fall, fall crop grows from new buds over summer

# Raspberry pests and problems

Diseases include verticillium wilt and anthracnose, so avoid infected soils and practice good sanitation

Raspberries get mosaic virus, so remove infected plants ASAP

Chemical herbicides are not recommended for home fruit gardens



Pests include adult Japanese beetles, deer and birds so:

Harvest frequently  
before they do!



Remember that Indiana's  
frost or late winter freeze  
is most common reason  
for raspberry crop failure

# Blueberries



Blueberry Bushes  
Eliot Porter, 1963

Highbush variety is most common in Indiana; others include rabbit-eye

Need a second plant varietal for cross-pollination

Blueberries are long-lived and last for 5-10 seasons

Yield is 6-10 quarts for established blueberry plants

# Blueberries MUST be in acidic soils pH 4.5 to 5.2



**“In soils where the parent material is calcareous  
(contains lime),  
long-term pH correction is futile.”**

**-- Cheerful Purdue Extension quote**

# Planting blueberries



Nitrogen is most important nutrient for blueberries, but soil pH dramatically affects absorption of others.

Elemental sulfur and ammonium nitrate can reduce soil pH, applied at different times and based on test results





Roots are often shallow and need aeration

Avoid low, wet locations and heavy clay soils

Plant two cross-pollinating varieties at same time in spring, should be within 2,000 feet of each other

Consider containers or raised beds for blueberries



## Caring for blueberries



Fertilize and prune each year, removing oldest stems

Consider special blueberry fertilizers

Because of shallow roots, be sure to water and mulch



# Blueberry pests and problems

Mummy berry disease

Blueberry maggots

Fruitworms

Birds and small animals





# Bunch of Grapes

John Henry Way  
1873

Grapes are most widely grown fruit in the world

Thousands of varieties, but about 20 account for most grape production

Northern Indiana requires careful varietal selection

Concord is most widely grown grape in Indiana





Climate, soil and length of growing season are key to grape success

Primarily there are 171-180 days frost-free here, but grapes need at least 150 and ideally 180 or more

Full sun, air flow, good drainage

Consider elevated, gentle slope to avoid frost pockets and damage

Self-fertile perennial vines that are woody and long-lived

Yield:  $\frac{1}{2}$  bushel per plant

# Table, juice or wine?

Best for Indiana growers

## American cultivars

Concord B	J-W-T
Delaware R	J-W-T
Niagara W	J-W-T
Steuben B	J-W-T
St. Pepin W	J-W
Catawba R	J-W



French-American Hybrids  
Wine

Cayuga White W W
Chambourcin (JS 26-205) B W
Chancellor (Seibel 7053) B W
DeChaunac (Seibel 9549) B W
Leon Millot (Kuhlman 194-2) B W
Marechal Foch (Kuhlman 188-2) B W
Seyval Blanc (S.V. 5-276) W W
Vidal Blanc (Vidal 256) W W
Vignoles (Ravat 51) W W

# Planting grapes



Fruit grows only on new shoots, arises from dormant buds from previous year's growth

Primary bud in cluster breaks dormancy, new shoot produces flower clusters

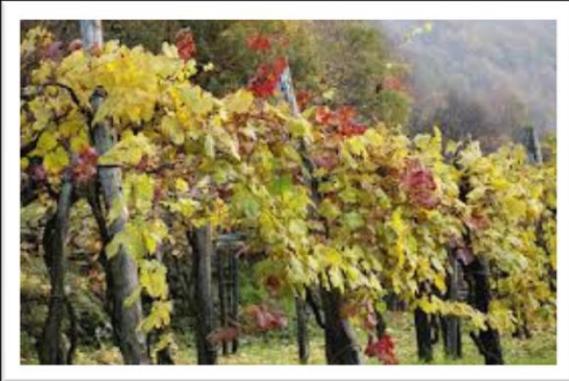
Tendrils grow at nodes where flower clusters do not

As it grows, is called a cane and becomes next year's fruiting wood

Number of clusters is genetically determined, but number of grapes is greatly influenced by environment and proper care.



# Planting grapes

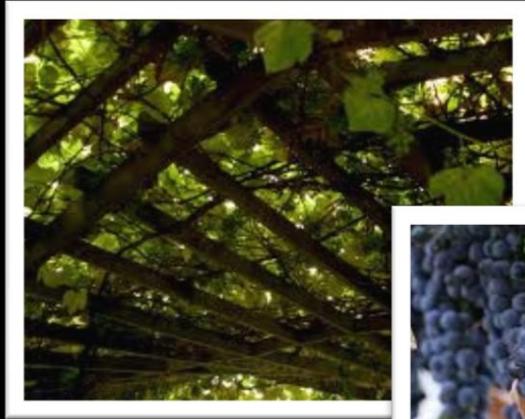


Improve soil one year ahead of planting  
Prefer pH of 5.5 to 6.5  
Roots may grow to 6 feet or more  
Need healthy, developed root systems



Maximum sun, grapes like the heat  
Consider slope and wind considerations  
Plant in north-south rows, 9-10 feet apart  
  
Plant in early spring, after last hard freeze  
Soak purchased vine roots 24 hours first

# Caring for Grapes



Training and trellising: ultimate goal is for vines to fill in without competing with each other

Prune so new plant has single cane

Leave 2-5 buds, then keep best 2-4 shoots that arise from those buds

Keep new shoots off the ground to greatly reduce diseases, pests

Never girdle vines with string, wire

Prune annually in late winter

# Grape pests and problems



Grapes are VERY sensitive to 2,4-D and can be damaged at rate 100x lower than normal label application rates

Consider pesticide drift near grapes

Diseases include black rot, powdery and downy mildew

Pests include grape flea beetles

Adult Japanese beetles can severely damage grapes by feeding on foliage

# Small fruit benefits

Small fruit is easy and fun to grow

Small fruit is ideal for children's gardening

Plants make great edible ornamentals in urban setting, pretty borders and ground covers

Small fruit plants attract bees and butterflies

Small fruit offers local sources of Vitamin C, antioxidants and other healthy food benefits

A bowl of berries, morning-dew fresh from the garden, offers a satisfying sense of well-being

