Easy as “galette”
Each type has it’s own special techniques “tricks” – not magic but necessary
- Healthy
- Organic
Local foods movement
- Variety
- Selection
- Educational
- Rewarding

Recommended Fruits for D.I.Y.
- Apples
- Plums
- Grapes
- Raspberries
- Strawberries

Other Hardy Fruits for Southern WI
- Pears
- Tart cherries
- Currants
- Gooseberries
- Elderberries
- Blueberries
(with the right soil!)

Fruits not reliably hardy in WI
- Peaches
- Apricots
- Sweet cherries

UW-Extension Publications (www.learningstore.uwex.edu)
- Fruit series: “Growing (blank) in Wisconsin”
- “Selecting Fruits for Southern Wisconsin”
- Managing “fruit” pests in the Home Garden
- Others:
  - Pests
  - Rootstocks for fruit trees
  - Pruning and training apple trees
What **ALL** Fruits Need

- Full sun
- Average soil with good drainage
- Space to grow
- Hardiness or winter protection
- Proper pollination
- Proper planting depth and spacing
- Early training and yearly pruning
- Ample water
- Pest control

Spring frosts can kill flowerbuds

Cold air runs downhill

South facing slopes warm earlier

Size Matters

- Dwarfing rootstocks

Saving Space

- Espalier
- Spur-types
- Colonnade
**Hardiness**
- Flower bud
- Whole plant
- Root and crown

**Fruit Crop Pollination**

**Pruning**

**Plethora of Pests**

**Apples**
- Select disease-resistant varieties
- Dwarf and semi-dwarf trees grow 10’x20’ tall and wide
- Plant a pollinator unless there’s a crabapple within 200 yards (and there usually is!)
- Train branches to 60 degree angles for higher yield
- “Thin” fruit to 6-8” apart after petal fall
- “Bag” apples to prevent insect damage
- Protect lower trunk from rodents in winter
Varieties (in order of ripening)

- **Disease Resistant Varieties:**
  - Redfree
  - Prima
  - Priscilla
  - Jonafree
  - Nova Easygro
  - Liberty

- **Moderately resistant:**
  - McIntosh
  - Empire
  - Haralson
  - Red Delicious

- **Other Popular varieties:**
  - Honeycrisp – Zone 3; ripens late September
  - Wolf River – Antique or ‘heirloom’

Stake dwarf trees at planting

- Set a post next to the trunk at planting
  - Use a 10’ post, pounded 2’ deep
  - Tie tree to stake with a figure 8

Prune Annually

- To establish a framework
- Maintain light penetration and height

Plant so graft union is 2-3” above ground
Training

“Thin” to 6-8” apart after petal fall

Fertilize annually in spring

- 1 oz. actual nitrogen per year of age up to 8 oz.

When are apples ripe?

- Ground tissue at stem end goes from ‘green apple’ green to light green
- Seeds are completely brown

Store in vented plastic bags

- Vented
  - Ethylene gas produced by ripening fruit
  - Ethylene promotes ripening
- Cool temperatures
  - 30 – 32 degrees

Pest control

- “Preventative approach”
  - Resistant varieties
  - Exclusion
  - Monitoring
    - Traps
    - Shake onto sheet
- Curative
  - Pesticides
    - Organic
    - Synthetic
Diseases

**Big 3 for apples**
- Apple scab
- Cedar apple rust
- Fireblight

**Apple scab**
- Fungus
- Attacks leaves
- Weakens

**Cedar Apple Rust**
- Fungus
- Attacks leaves
- Weaks

**Fireblight**
- Bacteria
- Attacks stems, branches and trunk
- Fatal

**Insects**
- Over a dozen
  - Apple maggot
  - Codling moth
  - Plum cucurlio
  - Tentiform leafminer
  - Japanese beetle
“Bagging” apples
- When fruit is dime-sized
- Zipper sandwich bags
- Zipped & stapled
- Corners cut off
- 100 in 30 minutes

Prevent rodent damage in winter
- Keep lower trunk clear of weeds and grass
- Trunk guards

QUESTIONS?

And other stone fruits

Stone fruits
(in order of hardness)
- Plums
- Tart Cherries
- Apricots
- Sweet cherries
- Peaches
- Nectarines
Stone fruits in general...

- Short-lived due to fungal and bacterial diseases and borers
- Flower buds damaged by late frosts or extreme winters
- Peach and sweet cherry trees can be killed by extreme winters
- European plums, tart cherries and apricots may be hardy some years in southern WI

Varieties

- Blue, European or prune-type
  - ‘Mt. Royal’ and ‘Stanley’

As with apples.....

- Plant with graft union above ground
- Stake next to trunk at planting and tie to the stake
- Train branches to 60 degree angles
- Prune annually
  - Tiers 24” apart
- Prevent winter rodent damage

Varieties

- American hybrid Red
  - need a ‘pollinizer’
    - Kaga and Toka
- Japanese plums not hardy in WI
  - Unless they are in an extremely protected location

Prune to develop framework

- Central leader; Modified leader; Open center

- Blue, European or prune-type, plums are hardy and need only one tree to produce fruit
- Need about 125 sq. ft. per tree; less for dwarfs
- Prune to develop a good structure
- Train branches to 60 degree angles
- “Thin” fruit to 6-8” apart
- Prevent bird damage with scare devices or netting
- Harvest when fruit tastes fully ripe
- Dried blue plums are prunes
Diseases

- Brown rot
- Black knot
- Cankers

Controlling diseases

Insects

- Borers
  - Peach tree borer
  - Lesser peach tree borer

Controlling borers

Other insects

- Apple maggot
- Plum curculio
- Aphids
- Japanese beetle

Controlling insects
QUESTIONS?

American grape (Vitis labrusca)

- Plant is hardy throughout WI but varieties ripen at different times
- Must ripen by early October to be hardy in so. WI
  - ‘Concord’ only bears well for 2-3 out of every 5 years.
- Disease and insect resistant

Both may be damaged or killed at 20 degrees below zero

French hybrids

- Cross between the American grape (V. labrusca) and the French wine varieties (V. vinifera)
- French hybrids are not considered hardy in WI
  - Some winter damage many years
  - Protected sites

Wild American grapes

- Some are male or female plants
  - Only females produce fruit
  - Without pollination, no fruit is formed

- American grapes and some French hybrids are hardy in southern WI
- Grape vines are perennial and produce fruit annually on the current season’s canes
- Prune out all old canes every spring leaving only a few shortened ones to produce the current year’s and next year’s crops
- A strong trellis is essential; 10-14’ long per plant, in a bed 3-4’ wide
- “Thin” flower clusters to 2 per cane
- Harvest when they taste fully ripe and sweet
- Use or process soon after harvest
Choosing a variety

- **Use**
  - Fresh or table
  - Juice
  - Wine
  - Jellies and jams

- **Seeds or seedless**

- **Ripening**
  - Mid- to late August through early October

- **Color**
  - Blue, black, white, yellow, green, red

Grapes prefer gravelly, sandy soil

Tolerate a range but not extremes

Training systems

- Grape vines are perennial and produce fruit annually on the current season's canes

Pruning

- Each spring, remove ALL canes
- Leave 10 – 12 downward canes on each ‘arm’
- Cut every other one to 4 – 6 buds
- Cut the others shorter as renewal spurs
  - To produce next year’s canes and spurs

American types bear fruit at the second to fifth cane nodes
French types bear fruit at the second and third cane nodes
Training systems

“Thin” clusters to 2 per cane
Remove smallest and those nearest the cane tips

Benefits of thinning
• Sweeter grapes
• Larger grapes
  • 5-30 lbs. of fruit depending on variety
• Ripen earlier
• Hardier plant

Umbrella kniffin

Figure 3. Umbrella Kniffin training system.
Fertilize annually

- Spring after snow melts or as growth resumes
- Mid-June but only if winter injury is minimal
- Any form of nitrogen is acceptable
  - Composted manure
  - ¼ c. ammonium nitrate or urea
    - Increase by 1 oz. per year up to 5 oz. (2/3 c.)

Control grass and weeds

- Mulch over the rootzone
- Certain broadleaf weedkillers can deform leaves

No major pests!

Insects
- Phylloxera
- Berry moth
- Japanese beetle

Diseases
- Powdery mildew
- Downy mildew

QUESTIONS?

RASPBERRIES

- Red, yellow, purple and sometimes black raspberries can be grown in southern WI
- Plant in hedgerows or hills and prune annually to keep from spreading
- Most red, purple and black raspberries are summer bearing and ripen in July; prune after fruiting.
- Fall-bearing raspberries bear a large crop in fall and a small crop next summer.
- Sturdy supports improve the crop and make harvesting easier
- Harvest as they ripen to avoid over-ripe fruit which will attract picnic beetles
- Plantings can produce for 12-15 years

Roots and crowns are perennial; canes live only two summers

- Red and yellow form canes on buds on the roots so they spread.
- Black and purple only form canes from crown buds.
Varieties
• Only red and yellow are hardy enough to be grown throughout the state
• Yellow is the same species as red
  — Spread by forming canes from buds on roots
  — Rows must be narrowed annually
• Red and black are separate species
• Purple is a cross between the two
• Black and purple form clumps because they only form canes at the base of flowering canes
  — Easier to maintain in rows or “hills”
• Blackberries are not raspberries and are not hardy in WI

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Summer-bearing raspberries
• Bear once in July on “floricanes”(old wood)
• After harvest,
  — prune out “floricanes”
  — Control spread
    • leaving only 3-4 per foot of row
    • Leave only 6-8 canes per hill
Summer-bearing raspberries

- Produce fruit twice
  - First fall is largest crop
  - Following summer a small crop
- For fall crop only
  - Cut back all canes after fall harvest
  - Sharp mower or chopper (not weed whacker)
- For two crops a year (not recommended)
  - Prune out canes that have flowered twice

Fall-bearing raspberries

- Produce fruit twice
  - First fall is largest crop
  - Following summer a small crop

Black and purple raspberries

- Specialized pruning requirements
  - See UWEX publication A1610 for details

- Black and purple raspberries have specialized pruning requirements
  - See UWEX publication A1610 for details
Plant in early spring
• Buy new, certified plants; old canes may harbor insects or diseases
• Slightly deeper than they were in nursery
• Mulch with 2” o.m.

“Narrow hedgerow” planting
• Plants in a row, 2-3’ apart
• Maintain rows at 12-15” wide
• Leave 6-9’ of sod between rows

Support
• 4-6” endposts, 6-8’ tall, set 2’ deep
• Up to 20’ apart
• Top wire or plastic twine encircling posts at 3.5”
• Optional second one 18” lower

“Hill” planting
• One plant per hill
• Place permanent stake in center of hill at planting
• Only allow to spread 1’ in diameter
• 4-5’ between hills

Other methods of support
• Single “T”
• Double “T”
• “V” trellis
Fertilize in spring before growth resumes

- Hedgerow system – per 100 ft. of row
  - 150 lb. well-rotted manure
  - 1 c. ammonium nitrate or 1 c. urea
  - Repeat 3 – 4 weeks later

- Hill systems
  - ½ c. complete fertilizer in a band 18” wide around each plant

Keep well-watered until fall dormancy

Pests

- Pests are usually not serious in home plantings.
  - Insects include picnic beetles, cane borers and Japanese beetles.
  - Diseases can mostly be prevented through good pruning, fertilizing, watering and weed control.

Spotted wing drosophila

QUESTIONS?

- Choose Junebearing, everbearing or day-neutral varieties.
- Forty plants can be grown in an 8’x12’ bed.
- Protect flower buds from spring frosts
- Remove flowers of Junebearing plants the first year; for other types remove for only 6-8 weeks the first year.
- Harvest at peak of ripeness leaving caps intact.
- Chill immediately and store in vented plastic bags without washing.
- Renovate Junebearing plantings yearly after harvest by narrowing the rows and fertilizing. Mow off diseased leaves.
- Mulch for winter with 2-4” of straw once soil has frozen. Uncover as spring growth begins.
The strawberry plant

Everbearing and day-neutral types produce branch crowns on the main stem.

Planting strawberries

- In spring as soon as soil can be worked

Strawberry flower trusses produced from crowns

Spring frost protection

Cover with straw, fabric or row cover

Types of strawberries

- Junebearing
- Everbearing
- Day-neutral

Primary, secondary and tertiary
Junebearing

- Flower once in June every year after the first year
- Replant after 4 – 5 years
  - Do not reuse plants
    - Less vigorous
    - May harbor pests that are not apparent

Growing Junebearing strawberries

- Allow runners to fill-in row 12-15” wide
  - Remove all runners outside of row
- Mulch after runners have rooted
- Remove all flowers the 1st year

Fertilize

- First year
  - twice; mid-June and mid-July
- Other years
  - At renovation

“Renovate” beds after harvest yearly

- “Narrow” rows back to 12-15” removing all plants between rows
  - Fruit only produced on outside edge of rows
- If foliage has diseases, mow or cut off just above crown
- Fertilize with nitrogen

Everbearing

- Flower once heavily; then sporadically all season
- Mulch with red plastic before planting
- Remove runners; don’t let “daughters” root
- Plants grow branch crowns
- The first year remove flowers for the first 6 – 8 weeks
- Fertilize every month they are flowering or fruiting
- Replace plants after harvest the second year
“Hill” planting system

Day-neutral
- Bear all season from mid-July on
- Mulch before planting
- Remove runners
- Remove flowers the first 6-8 weeks
- Grows branch crowns
- Fertilize every month they are flowering or fruiting
- Replace every year
- Good for containers

Watering and weeding are critical

Junebearing & Everbearing

Winter Protection

3 to 4 inches of clean straw
Applied after the ground freezes

Remove mulch when new leaves emerge

Place mulch between rows
**Pests**
- Leaf spot
- Sap beetle
- Tarnished plant bug
- Leaf blight

**QUESTIONS?**

**Blueberries in Containers**
- Half whiskey barrels
- Acidify container mix
  - 1:1 peat and soil or compost
  - Add elemental sulfur
  - Pre-planting
  - Annually
- Better yield with two plants
- Keep well watered & fertilized
  - Need winter protection

**Hardy varieties**
- Half-high bush cultivars
  - Full-sized fruit on small to medium plants
    - (Self-fruitful except ‘St. Cloud’ and ‘Polaris’)
- Low bush blueberry cultivars
  - Small-fruited on 12” tall, spreading plant
    - ‘Top Hat’

**Winter protection is MANDATORY!**
- Two half whiskey barrels with blueberry plants

**Winter protection is MANDATORY!**
- Two half whiskey barrels with blueberry plants
Questions?

D.I.Y. Fruits

- It is easy if you know the “tricks” – no magic, just good hort.
  - Use the UWEX publications
- The rewards are huge...luscious, fresh, healthy fruit
  - for you
  - your family
  - your friends (don’t forget your friendly, County Horticulture Agent!)
- Can, freeze or dry the extra to enjoy all season!
  - applesauce
  - stewed prunes
  - frozen grape snax
  - raspberry sauce for ice cream
  - strawberry preserves

QUESTIONS?