

Uncommon Fruits for Kentucky Gardens

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Potential

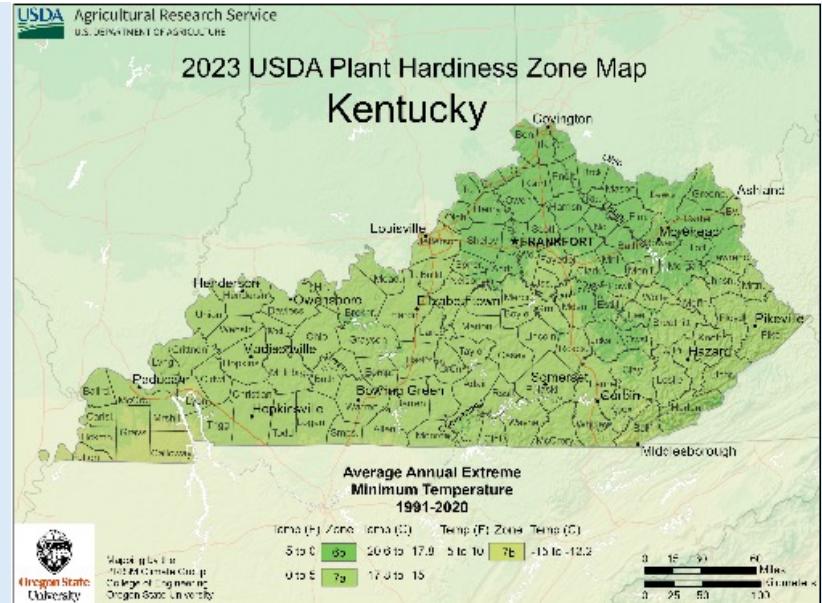
- Fewer pests? - less spraying
- Sustainability with natives
- Landscape interest
- New experiences – tastes, textures
- Health – antioxidant superfoods?

- But there's so many different kinds
 - What will grow well here in KY?
 - Are they as great as nursery catalogues describe them to be? Downsides?



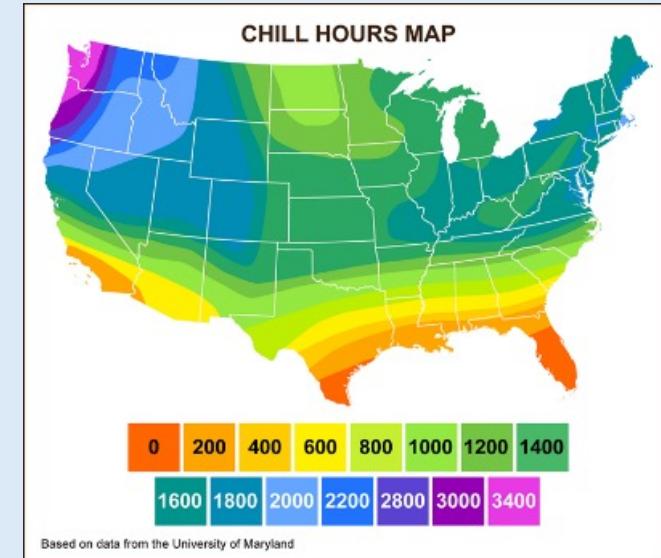
Considering Hardiness

- USDA zone map used widely to rate hardiness of perennials
 - Based on expected minimum temp.
 - Rolling average of previous 30 years
 - 10°F range/zone, 5°F for subzones
 - Not the extreme that is possible
 - Temps. can get colder than average!
- To be safe, choose plants at least 1-2 zones hardier
 - In 7a, choose plants with hardiness to 5-6a



Chilling Requirement

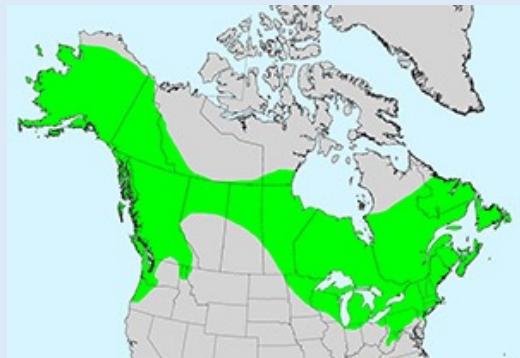
- Amount of cold needed to break dormancy
 - Adaptation to keep plants from growing too early
 - Plants can remain outwardly dormant
 - If growing conditions unfavorable (too cold)
 - But warm temps. will cause de-hardening
 - Clock starts ticking on eventual bud break



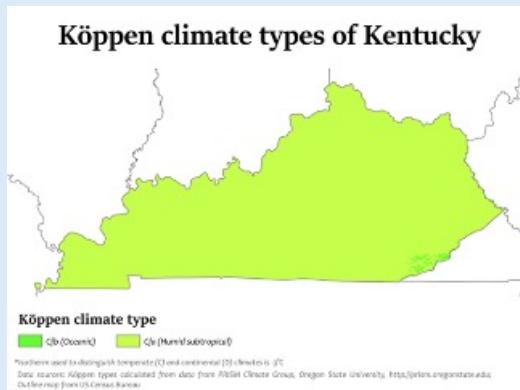
- Danger in growing low chill plants in high chill area
 - Chilling requirement satisfied by Dec. in KY
 - Cells become active in prolonged thaw
 - Winterkill possible, early bud break likely = crop loss

Climate Considerations

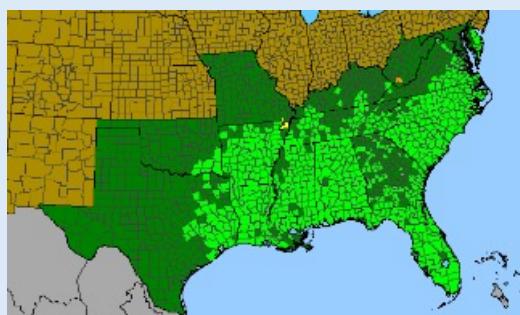
- Habitat determines adaptation
 - Tolerance of high/low temp., moisture (rainfall, humidity), light intensity, soils, nutrition, etc.
 - Growing season length
- Successful cultivation requires acknowledging adaptation
 - Attempting to grow too far “out of place” causes problems



Cranberry native range



Köppen climate types of Kentucky



Muscadine native range

Juneberry/Serviceberry

- *Amelanchier* genus ≈ 18 spp. in N. America
 - Members of rose family - pome fruit
 - June/serviceberry adapted to central U.S.
 - Forest edge or understory habitat
- Large bush to small multi-stemmed tree
 - 10-25'+ tall depending on species/cultivar
 - Minimum 10' spacing, maybe 15'+?
 - Adaptable – prefers slightly acidic, higher OM soil
 - Tolerates shade – prefers full sun



Juneberry

- Blueberry-sized blue/black fruit
 - Blooms (self-fertile) soon after flowering pear
 - 2-4 yrs. to bearing, ripens June-July
 - Fruit used in jelly, juice, preserves, pies
 - Some varieties have good fall color
- Downsides – birds love them
 - Mild apple-like flavor – sweet & low acid
 - Fresh is best – cooking can diminish flavor
 - Blend with something acidic
 - Rose family pests? – cedar rust, fire blight, curculio, etc.



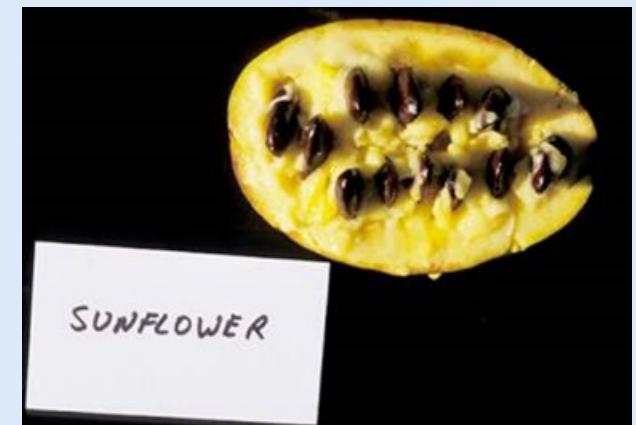
Pawpaw

- Largest native fruit
 - 3-6"+ long, 2-3"+ wide, up to 1 lb.
 - Pyramidal tree – 15-25' tall, 10-20' spacing
 - Minor early pruning & branch spreading (brittle wood)
 - Adaptable – prefers moist, well drained soil, pH 5-7
- Flowers late spring, rarely frosted
 - Pollinated by flies & beetles
 - 1-4 ovaries/flower – clustered fruits fused at ends
 - Ripens August-September ≈ 160 d. after bloom
 - **Choose named & grafted trees for fruit quality**



Pawpaw

- Tastes like banana pudding + spices
 - Pick soft or dead ripe (yellow skin w/black spots)
 - Can refrigerate ≈ 1 wk. (may develop off flavors if longer)
 - Pulp freezes well – scoop out & puree
 - Smoothies, baked puddings, pie, ice cream
- Downsides – limited pollination (100' max)
 - Less than 1% fruit set – 15-20 lb./tree normal
 - Cut or mow to control root suckers
 - Small trees may be sensitive to sunlight 1st yr.
 - Canopy protection needed?



Persimmon

- American (*Diospyros virginiana*)
 - Fruits 1-2", astringent until dead ripe
 - Then soft, sweet, & aromatic
 - Well suited to KY growing conditions
- Asian (*Diospyros kaki*)
 - Fruits 2-3+", some seedless & non-astringent
 - Winter injury some years even in zone 7
- Hybrids exist – combining qualities of parents



American Persimmon

- 30-40' tall & 15-20' spacing
 - **Choose named & grafted for fruit quality**
 - Most are 90 chromosome, northern race
 - Female & male flowers mostly on separate trees
 - Seedless fruit set if unpollinated?
- Downsides – fruit soft, jelly-like when ripe
 - Detaches naturally – can split/pop when gradually drop
 - Don't locate near walkways – let grass grow tall or place mats under tree
 - Roots brittle – can be difficult to dig/transplant larger trees
 - 5-8 yrs. to bearing – need to separate skins & seeds from pulp



Asian Persimmon Hybrid

- 90 chromosome *D. americana* x *D. kaki* crosses
 - Larger fruit than Am. & better hardiness than kaki
 - Will set fruit when unpollinated like Asian
 - Smallish trees – 15-20' tall depending on variety
 - Canopy between upright Am. & spreading kaki
 - ≈15' spacing between trees
- Downsides
 - Graft union winter protection when young?
 - Non-astringent fruit types do not exist
 - Must be fully ripe & completely soft to use like Am.



Mulberry

- Species: *Morus alba*, *rubra* (native), *nigra*
 - Tree size: most to 30-50', except nigra
 - Hardiness: zones 5-9, nigra only to 7-9
 - Variable leaf shape – un-lobed or lobed
 - Most $\frac{3}{4}$ -1 $\frac{1}{2}$ " fruit, some nigra (Pakistan) 3"+
- Adaptable, need full sun, 10-30'+ space
 - Pruning when young to establish framework
 - Self-fertile, relatively care-free
 - Minor pests: aphids, scale, popcorn fruit disorder



Korhnak



Mulberry

- Blooms L. spring, self-fertile
 - Ripens E. to L. (*nigra*) summer
 - Most fruits juicy, sweet, with low acidity
 - Full flavor develops late after acids drop
 - Used fresh, juice, preserves, baking
 - Best mixed with something tart
- Downsides – messy and can be tedious to process
 - Stems need to be removed before processing (seeds strained?)
 - Fruits drop readily when ripe; will stain sidewalks & decks
 - Birds love to eat and spread seeds; seedling will come up everywhere



Elderberry

(*Sambucus* spp. – American black, European, PNW blue)

- All very similar in habit – can cross readily
 - European & PNW types less cold & heat tolerant
 - Readily colonizes ditches, fencerows, pastures
 - Tolerate wet soils – some flooding when dormant
- Medium to large bush/hedge – 6-9' tall/wide
 - Perennial crown & short-lived hollow canes
 - Full sun – 10' individual spacing, 5' for hedge
 - Partially self-fertile, Aug.-Sept. harvest
 - Many uses – baking, jelly, juice, wine, flowers added to batter, wine, tea



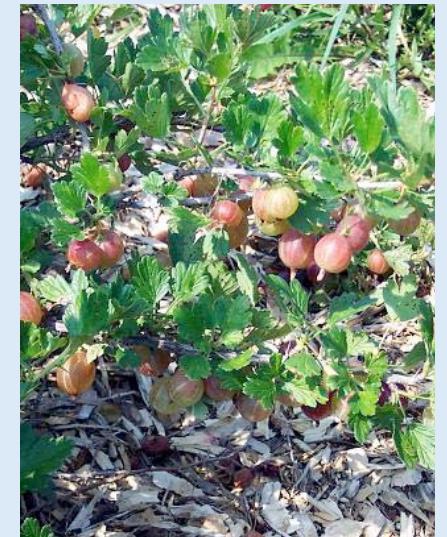
Elderberry

- Easy to care for once established
 - 1st yr. – set crowns & control weeds
 - Fertilize $\frac{1}{2}$ c. 10-10-10, water & mulch
 - 2nd yr. – fruit, 1 c. fertilizer at bud break
 - Prune annually
 - Remove & regrow all canes vs. selective pruning of 2nd or 3rd yr. canes
- Downsides – birds love them, processing can be tedious
 - Other pests – SWD, cane borers, rust, canker
 - Ripe fruit may upset stomach - solved by freezing, cooking, or drying
 - Roots, leaves, stems, & unripe fruit are considered toxic



Currants, Gooseberries, & Jostaberry

- Currants – black, red, white
 - Black – European, clove, American
 - Euro. – best fruit quality (aromatic, resinous)
 - Clove & Am. – better adaptation, disease tolerance
 - Red, white – milder flavor, less tolerant of leaf diseases
- Gooseberry
 - Same genus (*Ribes*) as currants
 - Am. x Euro. crosses – fair to good flavor & adaptation
- Jostaberry – black currant x gooseberry crosses



Currants, Gooseberries, & Jostaberry

- 3-6' tall bushes with small $\frac{1}{4}$ - $\frac{3}{4}$ ", tart fruits
 - Ripen June-July, used for juice, jams, pies, wine
 - Black currant, gooseberry, Jostaberry
 - Singular to small (2-4) fruit cluster
 - Red, white currant – longer fruit clusters (“strigs”)
- Plant at 3-6' spacing – tolerate some shading
 - Planting (1st) yr. – mulch & pull all fruit
 - 2nd yr. – keep only 3-5 new (1 yr.), vigorous canes
 - Continue until bush is mix of 1-3 yr. old canes, remove all 4th yr. canes
 - Should have 15-20 canes at maturity



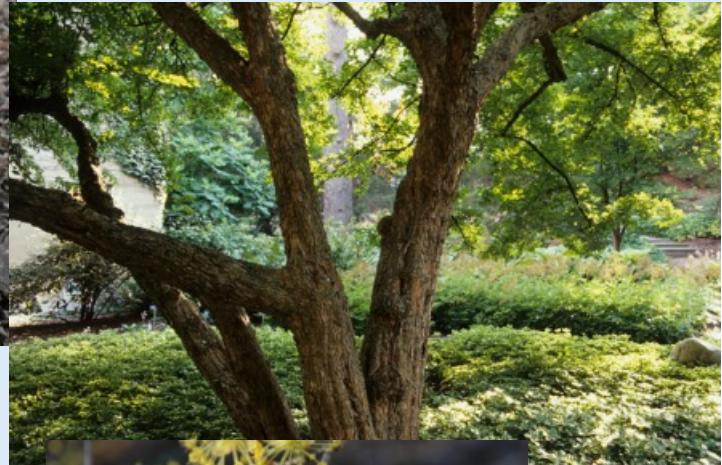
Currants, Gooseberries, & Jostaberry

- Choose white pine blister rust tolerant varieties
 - WPBR introduced about 1900
 - Requires *Ribes* spp. to complete disease cycle
 - Led to federal ban until 1966
 - Reduce spread by planting +1,000 ft. if susceptible
- Other downsides – birds, can suffer in summer heat
 - Early bloom frost losses – cross pollination helps
 - Most varieties partially self-fertile
 - Powdery mildew, leaf spots can defoliate if susceptible
 - Leaf raking, 3-4 sprays of captan, budbreak to post-harvest



Cornelian Cherry

- Member of dogwood family
 - E. European to W. Asian native
 - Part of Roman & middle age monastic gardens
 - Ornamental types have stunning yellow bloom
 - Very early (February-March) – bees love
 - Frost tolerant – total fruit loss rare
- Hardy to zones 5-8
 - Small, multi-stemmed tree, 15-25' tall/wide
 - 15-20' space needed – can be single trunk trained (suckers)
 - Well drained soils, 6-7 pH, full sun to partial shade



Cornelian Cherry

- Ripens July-September, depending on variety
 - Red or yellow fruit color – barrel or pear shaped
 - $\approx 5/8$ " length, large pit takes up $1/2$ of fruit
 - Choose variety specifically for fruit production
 - Chewy texture with flavor like slightly unripe tart cherry?
 - Jellies, tarts, wine, pickled like olive
- Downsides – tedious to pick and pit
 - Attractive to birds – don't place near walkways
 - Borers, other dogwood pests?



Jujube (Chinese Date)

- Small tree (15-30') in buckthorn family
 - S. Asia native, adapted to subtropical climate
 - Hardy to at least zone 6 (-10°F)
 - Can have issues with breaking dormancy early
 - Flowers 3-5 yrs. after planting
 - Inconspicuous blooms on new shoots
 - Most varieties partially self-fertile
- Widely adapted to different soils
 - Need full sun, thrive in heat, tolerate drought
 - Pruning mostly to maintain spreading, open canopy



Jujube (Chinese Date)

- Fruits cherry to small plum size (\approx 50% pit)
 - Long picking window, every few days (Aug.-Oct.)
 - Mottled to fully brown – crisp, v. mild apple taste
 - Overripe – begins to wrinkle, get sweeter/spongier
 - Eaten fresh, baked, fully dried in place of dates
- Downsides – some varieties armed with spines
 - Can send spiny suckers up from roots
 - Don't cultivate around tree to prevent root damage
 - If humid, will not dry on tree before split/dropping



Common Fig

- Top kills $\approx 10^{\circ}\text{F}$ & regrows from crown
 - Sets fruit without pollination
 - Fruits ready to harvest when colored, hanging down
 - Chicago Hardy most common for in-ground
 - Choosing others to try – most hardy, vigorous, earliest ripening (L. Aug.), will fruit after being killed back, small or closed “eye”, tolerant of fig rust
- Downsides – low yield, birds/wasps may take a few
 - Rains can cause splitting/rotting if “eye” is open
 - Fresh is not like dried/preserves/bars
 - Soft fruit does not store well (1-2 days) – don’t refrigerate
 - White sap (latex) may cause irritation



Haskap

- Native to Japan, zones 2-8
 - Fruit is tart with blueberry-like flavor
 - Blooms E. March – M. April
 - Flower buds frost resistant – limited fruit losses
 - Survives in KY but does better in moderate climate
 - Tolerates some shading
- Downsides – heat sensitivity, leaf bronzing
 - Phytophthora root rot in wet soils
 - Other pests: birds, powdery mildew, leaf spots
 - Fruit is soft when ripe, drops, short shelf life



Others?

- Aronia (chokeberry)
 - Ornamental bush, white flowers and good red fall color
 - Fruit is astringent (drying) even when ripe, unpleasant to eat
- Che (Chinese mulberry) & kousa dogwood
 - Ornamental, pretty trees, but lukewarm (mild) fruit flavor
- Nanking & bush sour cherry
 - Good flavor, but small fruit size, especially Nanking
 - Typical cherry pests, leaf spots can cause severe defoliation

Others?

- Autumn olive, sea buckthorn, & goumi (Eleagnacea family)
 - Bushes or small trees with small, tart, astringent fruits (variable)
 - Birds will spread seed and can become noxious weeds
- Maypop passionflower – herbaceous vine from rhizomes
 - Showy flowers, fruits are tart, mildly tropical (lemon-lime)
 - Aggressive growth – support needed; can become noxious weed
- Asian pears – Euro. pear relative, “apple pears”
 - Crisp, mild flesh, can be eaten off tree, choose fire blight tolerant varieties

Maybe?

- Alpine & musk strawberries – heat sensitive?
 - Alpine: white or red fruit, few runners, fair to good flavor
 - Musk: small red fruit, good flavor, male & female plants, many runners
- Goji berry (wolfberry, matrimony vine)
 - Sprawling habit, thorny, need well-drained soil, bland tomato-like flavor
- Medlar – N. Euro origin, heat sensitive?
 - Small tree, 1-2" rose hip-like fruit, good in tarts, butters, jellies

Maybe?

- Shipova – Euro. Pear x mt. ash hybrid
 - Small tree – 15-20', partially self-fertile, 2" fruits – sweet, fragrant aroma
 - Notoriously slow to bear – 10-20 yrs., likely FB susceptible
- Crabapples, hawthorn, mt. ash, mayhaw – apple relatives
 - Small fruit, tart, bitter or mealy flesh, susceptible to same pests as apple
- Beach, americana, marianna wild plums & their crosses
 - Bushes to small trees – 10-20', same pests as cultivate plums
 - Fruits tend to be small & tart, better for preserves & baking than fresh

Not Recommended

- Hardy Kiwi
 - Tolerates low temps., but de-hardens & breaks dormancy early
- Lingonberry, cranberry, lowbush blueberry, huckleberry
 - Not well adapted to humid, hot KY climate
- Hybrid (blackberry x raspberry crosses) & PNW brambles
 - Marionberry (maybe?), boysenberry, thimbleberry, salmonberry, etc.
 - Not reliably winter hardy & frost-sensitive (early de-hardening)

Not Recommended

- Plum crosses – apruims, pluots, pluerry, plumcots, etc.
 - Either not hardy, too early blooming, or disease susceptible
- Quince – pear relative (*Cydonia oblonga*)
 - Small tree – 15', not edible fresh – needs cooking to bring out flavor
 - Same pests as pear, except more susceptible to fireblight
- Asian persimmon (*Diospyros kaki*)
 - May survive average winters, but not years with polar vortex (1 in 10)
 - Chinebuli (non-astringent) hardiest, has survived trials in eastern KY

Select Varieties

- **Juneberry** – Regent, Autumn Brilliance, Smokey, Thiessen, Northline
- **Pawpaw** – KSU Atwood, Potomac, Wabash, Alleghany, Shenandoah, Susquehanna, Rappahannock
- **American persimmon** – Celebrity, Early Jewel, Lehman's Delight, Early Golden
- **Hybrid persimmon** – Zima Khurma, Kasandra, David's Kandy, Rosseyanka, Mikkusu, Sestronka, Picudo
- **Mulberry** – Illinois Everbearing, Wellington, Gerald Dwarf, Collier, Pakistan (M. nigra)
- **Elderberry** – Wyldwood, Bob Gordon, Ranch, Marge, Johns, Nova, York
- **Black currant** – Titania, Ben Sarek, Blackcomb, Whistler, Crandall (clove currant)
- **Red & white currants, & jostaberry** – Jonkeer van Tets (R), Viking (R), Primus (W), ORUS 10 (J)
- **Gooseberry** – Hinnomaki Red, Amish Red, Tixia, Friend, Red George, Jewel
- **Cornelian cherry** – Red Star, Yellow, Coral Blaze, Elegant, Pioneer, Red Dawn, Sunrise, Bodacious
- **Jujube** – Li, Lang, Sherwood, GA-886, Sugar Cane, So, Honey Jar, chico
- **Haskap** – Early Blue, Sunrise, Yezberry, Solo

Plant Sources

- England's Orchard and Nursery - <http://www.nuttrees.net/>
- Peaceful Heritage Nursery - <https://peacefulheritage.com/>
- Rockbridge Trees - <https://rockbridgetrees.com/>
- Hidden Springs Nursery - <http://www.hiddenspringsnursery.com/>
- Burnt Ridge Nursery - <https://www.burntridgenursery.com/>
- Edible Landscaping - <https://ediblelandscaping.com/>
- One Green World - <https://onegreenworld.com/>
- Raintree Nursery - <https://raintreenursery.com/>
- Indiana Berry & Plant - <https://indianaberry.com/>
- Nourse Farms - <https://www.noursefarms.com/>
- St. Lawrence Nurseries - <https://stlawrencenurseries.com/>
- North American Fruit Explorers (NAFEX) - <https://nafex.org/>