



Field-Tested Food Forest Design

A Zone 9b guide for Florida Panhandle gardens

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Site planning: build the site before the food forest

This guide is built from FL Panhandle Edibles' successful experience growing food-forest plants in the Florida Panhandle, USDA Zone 9b. The planting palette reflects plants we have successfully grown here, with Chestnuts added as a long-term canopy nut option supported by University of Florida (UF/IFAS) cultivar research.

Food forests work because the grower observes the growing environment first, builds the soil, and manages water, wind, and UV exposure before thoughtfully planting species in a logical pattern to produce the desired results. Plants thrive when placed in the right sun, drainage pattern, guild, and maintenance rhythm.

As you read this guide, bear in mind that it is based only on the plants we have successfully grown here in coastal Northwest Florida. It is not an exhaustive list of every tree that could survive or thrive in Zones 8 and 9. The techniques, however, are applicable to any food forest you might ultimately create. We suggest starting small and learning from your successes and failures. Over time, this long-term project will turn into a resource that feeds your body and your soul for a lifetime.

Site planning considerations

Observe and prepare for these elements before laying out rows, guilds, or paths. They turn a plant list into a working system.

Planning	How it guides the design
Microclimates	Identify spots in your planned space that are wetter or drier, more exposed to wind or more sheltered, and that get full sun all day, dappled sun, or mostly shade. These characteristics define your microclimates and can be used to support specific plants.
Water movement	Watch the property during rain. Build paths, mulch basins, swales, and raised planting areas so water soaks in without keeping tree roots wet and drains away when our torrential rains saturate the ground.
Sun map	Plan for each succession and evolution of your food forest. If you begin with small seedling trees that will eventually form your canopy, you can use the sunlight that reaches the lower strata now, before those areas are shaded in about five years. Be conscious of the position of the sun in all seasons.
Soil building	Building organic matter in the sand we call soil is the key step. Our native soil typically has less than 2% organic matter; good growing soil has 5–8%. This sometimes works for us but often works against us. Low-cost techniques such as cover cropping, chop-and-drop with dynamic accumulators, and pairing high-value trees with nitrogen fixers improve our soil over time.
Maintenance	Lay out paths, irrigation, harvest access, and mature canopies before planting. A food forest stays productive when every layer can still be reached at maturity and every stage in between.

Guiding principle

Build the site first, then let the plant layers follow the land. Good access, steady moisture, deep mulch, and enough sunlight solve more problems than adding more species.

Designing with the seven layers

A productive food forest is not seven rigid shelves. It is a managed vertical system: large trees set shade and wind conditions; smaller fruits, shrubs, seasonal crops, vines, roots, and living mulch occupy the openings. Keep every layer reachable for pruning, harvest, mulch, and irrigation repair.

Layer	Planning scale	Examples in this food forest
Canopy	Large, long-lived trees	Avocado, Ice Cream Bean, Mulberry, Dunstan Chestnut, and AU-Cropper Chestnut. Give each tree a permanent place in the canopy plan and prune to the desired height.
Understory / Sub-canopy	Small trees	Loquat, Fig, Papaya, Banana, Citrus, Carambola, Jaboticaba, Persimmon, and Moringa.
Shrub	Harvest-height woody plants	Pigeon Pea, Chaya, Katuk, Barbados Cherry, Grumichama, and Surinam Cherry.
Herbaceous	Seasonal and perennial vegetables	Roselle, Okra, Molokhia, Lagos Spinach, Society Garlic, Seminole Pumpkin, and other crops matched to light and season.
Ground cover	Living mulch	Sweet Potato (both a ground cover and a root-layer plant), Perennial Peanut, Strawberries, and low culinary herbs between trunks and paths.
Vine	Trellis or managed support	Passionfruit, Muscadine Grape, Chayote, Malabar Spinach, Runner Beans, and Luffa—kept off young trees until supports are strong.
Root / Rhizosphere	Underground crop zone	Cassava, Sweet Potato, Ginger, Turmeric, Yams, Jerusalem Artichoke, and Jicama produce early yields.

Layering rule

Put large woody trees where their mature shade, roots, fallen fruit, and maintenance access will be welcome. Use seasonal annuals in the bright openings while the tree layer is young; reduce or move them as shade increases. Remove nitrogen fixers as target species grow and crowd them out.

Canopy layer: long-term food, shade, and structure

The canopy anchors the food forest. Avocado, Ice Cream Bean, Mulberry, and Chestnuts supply food, biomass, shade, and long-term structure while the lower layers establish. Give every canopy tree enough room for its mature crown, harvest access, and the plants that will grow beneath it.

Avocado, Ice Cream Bean, and Mulberry

Avocado is a productive evergreen fruit tree for the upper layer. Ice Cream Bean adds edible pods, fast biomass, and nitrogen-fixing support. Mulberry brings early fruit, wildlife forage, and a broad, productive canopy. Together, these trees create the upper framework for the smaller fruits, greens, vines, and roots that follow.

Dunstan Chestnut

Dunstan Chestnut (*Castanea dentata* × *C. mollissima*, American × Chinese hybrid lineage) is a large perennial nut tree for the Zone 9b canopy. Plan roughly 40 feet of mature height and spread; use full sun, an upland planting position, and moderately acidic, well-drained soil. The current trade name is used for selected

hybrid seedling stock, so do not treat every Dunstan as a single cloned cultivar. Blight resistance is not immunity. (Sources 1, 2.)

Nuts are edible and mature after the spring flowering cycle, but reliable nut set requires pollen from a genetically distinct, flowering-overlapping Chestnut. Protect young trees from wildlife, harvest nuts frequently, and watch for Chestnut pests and root-rot risk where drainage is poor. (Source 2.)

AU-Cropper Chinese Chestnut

AU-Cropper (*Castanea mollissima*) is an Auburn-released Chinese Chestnut cultivar, not an American × Chinese hybrid. Give it the same large-tree allowance: full sun, freely drained, moderately acidic soil, and approximately 40–50 feet between mature backyard trees. (Sources 1, 2, 3.)

Published descriptions report heavy crops of medium-size nuts, but crop size, nut size, bearing age, and survival are site-dependent. Do not place it in wet or flood-prone soil; spiny burs, wildlife pressure, Chestnut weevil, and late-frost shoot damage are all operational considerations. (Sources 2, 3.)

Chestnut references

We don't grow chestnuts at the nursery, but they are popular in Florida, so the chestnut details above come from the research below.

1. **UF/IFAS Gardening Solutions — Chestnut.** Florida Chestnut suitability, including Dunstan and AU-Cropper; size, sun, drainage, and two-tree requirement. <https://gardeningolutions.ifas.ufl.edu/plants/trees-and-shrubs/trees/chestnut/>
2. **UF/IFAS HS1155 — Production and Marketing of Chestnuts in the Southeastern United States.** Regional fit, soil pH/drainage, frost, pollination, harvest, pest, and disease guidance. <https://ask.ifas.ufl.edu/publication/HS1155>
3. **Auburn University Agricultural Experiment Station — ‘AU-Cropper’, ‘AU-Leader’, and ‘AU-Homestead’ Chinese Chestnuts.** Original cultivar-release record. <https://journals.ashs.org/view/journals/hortsci/15/5/article-p665.xml>

Understory and shrub choices

The understory is the high-output fruit zone. Keep trees at a harvestable size through cultivar choice and pruning, then use the shrub layer to add food, fertility, and chop-and-drop biomass around the tree framework.

Plant group	Role	Design note
Loquat and Fig	Reliable small fruit-tree candidates	Place for light, airflow, and access; prune for harvest rather than chasing maximum height.
Papaya and Banana	Fast establishment and biomass	Treat as freeze-sensitive succession plants; keep backup plants or a regrowth plan for after a hard freeze.
Citrus and Carambola	Fruiting sub-canopy	Productive fruit trees that bring diversity and harvest spread to the middle layer.
Jaboticaba and Persimmon	Long-lived fruit trees	Place Jaboticaba in partial shade beneath taller trees; prune Persimmon to 15–25 feet for easy harvest.
Moringa	Pruned understory tree and chop-and-drop biomass	Grows 25–30 feet; keep pruned to 8–10 feet with active management. Cuttings make excellent chop-and-drop mulch.
Pigeon Pea and Chaya	Food plus managed biomass	Prune and harvest regularly to keep food and mulch production close to the tree guild.

Plant group	Role	Design note
Katuk and Barbados Cherry	Harvest-height shrub options	Mulched, productive shrubs for the easy-to-reach harvest layer.

Understory trees

Loquat (*Eriobotrya japonica*) ranks among the most reliable and productive understory fruits for Zone 9b, thriving in heat while tolerating cold to 15°F with minimal damage. The evergreen trees reach 15–20 feet, producing abundant tangy-sweet, apricot-flavored fruits from February to April, when few other crops bear—a critical early-season yield. Loquats need essentially no maintenance once established, tolerate neglect, and produce 50–150 pounds per tree annually without cross-pollination. University of Florida trials identify Loquat as among the top three most pest-resistant fruit trees for the state.

Fig (*Ficus carica*) achieves legendary productivity in Florida’s heat, with the cold-hardy Celeste variety producing two crops a year once fully established: a spring breba crop on old wood and a main summer/fall crop on new growth. Mature trees (12–15 feet) can yield 50–100+ pounds of fruit per season while needing almost no inputs beyond water during fruit swell. Because Figs fruit on one-year-old wood, cold damage rarely affects production; even trees frozen to the ground regrow and fruit within 12–18 months.

Papaya (*Carica papaya*) provides the fastest production of any tree crop, bearing fruit within 8–12 months of seed germination and producing 40–80 pounds per tree annually. Although technically a large herbaceous plant rather than a true tree, Papaya reaches 10–15 feet and fills the understory niche. Cold at 32°F kills foliage and sometimes stems, but plants typically regrow from the base within weeks. That makes Papaya an ideal succession species: plant new seedlings each year to ensure continuous production.

Banana (*Musa spp.*) forms a cornerstone of subtropical food forests. For fruit in our area, grow Dwarf Orinoco, Dwarf Cavendish, and Red Cuban. Blue Java, the “Ice Cream” Banana, is a beautiful plant, but it will not fruit here; we grow it as an ornamental and for chop-and-drop biomass. Height varies by variety, from the compact dwarfs to the much taller Red Cuban, and fruiting plants produce 40–80-pound bunches within 12–18 months. Cold damage kills foliage and pseudostems but rarely harms the underground corm. Bananas’ massive leaves and rapid growth make them exceptional biomass producers; chopping and dropping spent pseudostems generates 40–60 pounds of nitrogen-rich mulch per plant two to three times a year.

Citrus selection focuses on cold-hardy varieties that consistently survive 28–30°F: Satsumas (hardy to 15–20°F), Kumquats (to 10–15°F), and certain Mandarins provide reliable production. Standard Sweet Oranges and Grapefruit suffer significant damage below 28°F. Meyer Lemon and Persian Lime are more cold-sensitive options suited only to the warmest microclimates.

Carambola, or Starfruit (*Averrhoa carambola*), thrives as an understory species in Zone 9b, producing prolific crops of distinctive star-shaped fruit from May through February. Trees reach 18–25 feet with dense foliage that casts deep shade, making them effective canopy components in guild designs. The long fruiting season provides a consistent harvest through the challenging hot months.

Jaboticaba (*Myrciaria cauliflora*) is an unusual cauliflorous species whose fruits form directly on the trunk and branches; trees reach 15–25 feet at maturity. Cold-hardy to 26–28°F once established, Jaboticaba thrives in partial shade, making it ideal for planting beneath taller canopy trees. The trees produce two to four flushes a year of grape-like purple fruits with exceptional flavor.

Persimmon (*Diospyros spp.*) offers both native American (*D. virginiana*) and Asian (*D. kaki*) options. The native is exceptionally cold-hardy (to –10°F), while Asian varieties tolerate 10–15°F. American Persimmons

reach 30–50 feet in the wild but can be kept at 15–25 feet with pruning. Both thrive in Florida’s heat and sandy soils and are very drought-tolerant once established.

Moringa (*Moringa oleifera*) is a fast-growing understory tree that can reach 25–30 feet, but it can be kept pruned to 8–10 feet with active management. It also makes an excellent chop-and-drop plant: mature trees cut back to 3–4 feet regrow 6–10 feet within 8–10 weeks, producing 30–50 pounds of nitrogen-rich leaf material. Moringa is not nitrogen-fixing, but its leaves contain 25–30% protein by dry weight.

Shrub layer

Pigeon Pea (*Cajanus cajan*) occupies a unique position as both a productive food crop (edible pods and dried peas) and a nitrogen-fixing service plant, growing 6–12 feet tall as a short-lived perennial. Research shows Pigeon Pea fixes 40–80 kg of nitrogen per hectare when grown as hedgerows. The shrubs tolerate aggressive coppicing, producing 30–50 pounds of fresh biomass for mulch when cut two to three times a year.

Chaya (*Cnidoscolus aconitifolius*), often called “Tree Spinach,” is perhaps the most productive perennial vegetable for Zone 9b, with mature shrubs (6–10 feet) producing 50–100 pounds of edible leaves a year. The leaves are high in protein (25–30% dry weight) and must be cooked to neutralize mild toxins, but the plants are extraordinarily resilient, thriving in heat, tolerating drought, and regrowing rapidly after frost damage.

Katuk (*Sauropus androgynus*) produces tender, protein-rich leaves (6–8% protein, fresh weight) with a flavor reminiscent of peas, growing 5–8 feet as a shade-tolerant shrub. It thrives in partial shade beneath larger trees.

Barbados Cherry, or Acerola (*Malpighia emarginata*), produces small cherry-like fruits containing 50–100 times more vitamin C than oranges, with mature shrubs (5–8 feet) bearing 30–50 pounds a year. The shrubs tolerate heat and moderate cold (damaged below 28°F) while needing minimal maintenance.

Grumichama (*Eugenia brasiliensis*), sometimes listed as *E. dombeyi*, is a slender, highly ornamental evergreen shrub or small tree native to coastal Brazil, typically reaching 10–20 feet with a compact, pyramidal canopy. Thick, glossy, dark-green leaves are set off by rosy-wine new growth, and showy white flowers quickly give way to clusters of small, round cherries that ripen from green to glossy purple-black. The soft, melting, yellowish-white flesh has an exceptional sweet-to-subacid flavor reminiscent of a northern cherry, with hints of grape and plum. Established plants survive brief, light freezes down to 26–30°F, but young plants need frost protection.

Surinam Cherry (*Eugenia uniflora*) matches Barbados Cherry in productivity and cold tolerance, producing distinctive ribbed red fruits with a resinous flavor prized in jellies and beverages.

Herbaceous layer

Roselle, Molokhia, and Lagos Spinach fill the sunny herbaceous layer with food through the warm season. Use them in fertile, mulched, well-drained beds with irrigation access during dry spells, and replant them as the garden and canopy shift over time.

Plant	Use	Zone 9b timing	Key management
Roselle (<i>Hibiscus sabdariffa</i>)	Edible calyces and leaves	Warm-season annual; plant in April–May, with a second planting window in August. Calyces commonly mature in autumn; may perennialize in Zone 9b.	Full sun and good drainage. Harvest tender calyces before browning and before cold; below 40°F can end the crop. Rotate away from root-knot-nematode pressure.

Plant	Use	Zone 9b timing	Key management
Molokhia (<i>Corchorus olitorius</i>)	Cooked mucilaginous green	Hot-season annual; sow after frost risk, then harvest leaves until cold kills it.	Full sun; mineral-rich, well-drained soil. Growth slows below about 59°F. Watch for grasshoppers and nematodes; remove seed heads if volunteers are unwanted.
Lagos Spinach (<i>Celosia argentea</i>)	Cooked leaves, shoots, tender stems	Warm-season annual; first leaf harvest can begin about 4–5 weeks after sowing.	Full sun to light shade; fertile, moist but well-drained soil. Thin or transplant at roughly 6–12 inches and harvest before flowering. Freeze ends the crop; manage self-seeding.
Seminole Pumpkin (<i>Cucurbita moschata</i>)	Storage pumpkin; tastes like butternut, only better	Warm-season annual; expect 90–120 days from seed to harvest.	Vines spread up to 30 feet; use as ground cover, trellis it, or grow it up trees. Needs bees or hand pollination.
Okra (<i>Abelmoschus esculentus</i>)	Pods for stews and gumbos, pickled or fried	Warm-season annual; a rapid producer, maturing 50–70 days from seed.	Harvest pods every 2–3 days, picking them at 2–4 inches long.

Roselle at a glance

Roselle can reach roughly seven feet, so give it sun and a place where it will not shade lower crops at the wrong time. It flowers as days shorten and is therefore a late-season crop whose calyx harvest can be cut short by autumn cold in cooler parts of Zone 9b.

Molokhia and Lagos Spinach at a glance

Molokhia is the taller, heat-driven leaf crop. Its tender green leaves are used like cool-weather Spinach, and many people prefer the flavor. Treat it as a cut-and-come-again crop, harvesting leaves as needed.

Lagos Spinach is a separate warm-season annual, commonly maintained shorter by harvesting young leaves and shoots. It can grow much larger if left uncut. Cook the greens; harvest and remove mature seed heads where volunteers would be a problem.

Seminole Pumpkin and Okra at a glance

Seminole Pumpkin and Okra are quintessential heat-tolerant crops that provide abundant food through Florida's brutal summer months.

Ground cover, vines, and roots

The lower layers protect soil, use gaps between young trees, and create quick harvests. They are also where a food forest can become hard to manage. Establish a path network first, leave trunk collars open, and cut back anything that shades or climbs over a young fruit tree.

Layer	Use it deliberately
Ground cover	Use Sweet Potato and Perennial Peanut where their spread is wanted.
Vines	Use trellises or mature supports for Passionfruit, Muscadine, Chayote, Malabar Spinach, and Luffa. Inspect regularly so a productive vine does not become canopy competition.

Layer	Use it deliberately
Roots and rhizomes	Plant Cassava, Sweet Potato, Ginger, Turmeric, Yams, Jerusalem Artichoke, and Jicama along the edges for valuable crops. Harvest and replant on a deliberate cycle.

Service plants: use functions, not slogans

A service planting should earn its space through a visible function: mulch production, nitrogen fixation, ground cover, pollinator forage, temporary shade, or edible yield. The “dynamic accumulator” label is not a substitute for a soil test. Plants can redistribute nutrients already present in a system; they do not create nutrients from nothing, and tissue nutrient content changes with soil conditions.

Functional service palette

Use Pigeon Pea and Perennial Peanut as the legume-centered examples; use Sweet Potato as an edible ground cover; use flowering annuals where pollinator forage is the goal; and keep a dedicated compost/mulch area for biomass processing. Treat every chop-and-drop cut as a deliberate management action that produces mulch to cover the ground and feed the microbiome.

Mexican Sunflower: *Tithonia diversifolia* dynamic accumulator

Tithonia diversifolia is the Mexican Sunflower dynamic accumulator in this food forest. Tropical green-manure research finds nutrient-rich leaf biomass and a crop-fertilizer effect when the biomass is cut and transferred. That function redistributes nutrients already present in the system; it is not a net nutrient source, and leaf nutrient concentrations change with soil fertility.

Keep it in a deliberately managed in-ground service strip or demonstration area—not along natural areas, wetlands, drainageways, or unmonitored property edges. Keep it on a defined harvest cycle and remove flowers before viable seed is released.

Tithonia rotundifolia remains a separate, frost-sensitive annual Mexican Sunflower for pollinator and cut-flower use. It is not the dynamic-accumulator plant described above.

Comfrey

Comfrey is another dynamic accumulator. Once established in our subtropical climate it is perennial and can be cut for chop-and-drop mulch three to four times a year, adding organic matter to the soil. Comfrey and *Tithonia* can both be made into fermented plant juice (FPJ), which makes their nutrients bioavailable to your target species when diluted with non-chlorinated water and used as a soil drench.

Sudan Grass

Sudan grass is a high-powered, heat-loving soil rebuilder that makes the most of Florida’s rainy summer months. Its massive, deep root system breaks up hard, compacted soil and suppresses weeds, and repeatedly mowing its fast, 10-foot top growth produces large amounts of carbon-rich biomass for soil fertility.

Soil, water, and heat: a practical sequence

The fastest way to lose a new planting is to install it before the water, drainage, and mulch plan exists. Sequence the work so roots enter a prepared, irrigable planting zone rather than bare sand or a wet low spot.

Build from the surface down

1. Test the soil in each management zone before making pH-sensitive plant decisions, and start building organic matter.
2. Mark drainage paths and standing-water areas during a real rain event.
3. Install irrigation or confirm a hand-watering plan before planting the first tree.
4. Add organic mulch on the surface, keep it off trunks, and replenish as it decomposes.
5. Plant canopy species only after paths, access, and mature spacing are drawn on the ground.

Plan for heat, rainfall, and cold in the same design

Use sun and wind exposure to place heat-loving annuals where they can finish before cold. Keep tender subtropical fruit trees on the most protected side of the site, but do not let a wall or dense canopy create a drainage problem. On sloping ground, slow and spread runoff without allowing it to pond around Chestnuts, Avocados, or other drainage-sensitive roots.

Cold-event rule

Design for recovery, not for a promise that a hard freeze will never occur. Keep seasonal seed or young plants in reserve, mulch before cold snaps, put the hardiest plantings in the most exposed parts of the site, and keep a few frost cloths handy to cover tender plants.

Establishment and maintenance rhythm

Before planting

Map sun, water flow, frost pockets, utilities, paths, and irrigation zones. Order or grow from seed the species you will use for your own food production or as a cash crop. Grow what you like to eat, and learn to preserve your harvests. Done right, this system will produce more than your family can eat fresh.

First season

Plant in this order, keeping the mature size of each tree in mind:

1. The permanent tree framework (canopy). Pro tip: prune anything below the canopy to keep fruit at a harvestable height, and prune the bottom of the canopy to let in more filtered light where needed.
2. Support species, to accelerate the development of the canopy trees.
3. Understory and shrub species, where they will grow to a managed size.
4. Herbaceous and root-layer plantings, to fill the gaps.
5. Chop-and-drop plantings along the edges, where they will not interfere with crops but are close enough to minimize work.
6. The vining layer, on artificial structures until your trees are mature enough to support the vines.

Year-one harvests will be mostly annuals and perennial vegetables while the fruit-bearing shrubs and trees establish.

Years two and three

Review shade patterns, drainage after storms, and which plants survived the cool season. Prune for access and airflow. Expand only the plants that thrived in the site's actual microclimate; relocate or remove plants that repeatedly struggle or fail rather than increasing inputs indefinitely.

Ongoing

Maintain mulch, renew path edges, inspect vines, collect dropped fruit and nuts, and revise the planting list as the canopy closes. A food forest becomes lower-input only after its layout, irrigation, access, and maintenance rhythm are working.

Grow it with FL Panhandle Edibles

FL Panhandle Edibles is a licensed plant nursery in Port St. Joe that opened in March 2026. We grow locally adapted fruit trees, vegetables, herbs, and pollinator plants for Zones 8 and 9, and we help gardeners plan edible landscapes and food forests across the Florida Panhandle.

Visit, call, or book a consultation

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