

THE

Survival Food Garden

The hardest crops that keep feeding you year after year, and exactly how to plant them



plant once, eat for decades



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● How to use this guide

Start with the Quick Pick table on the next pages to see which crops fit your zone and how soon each one bears. Then fill in the “Pick your survival crops” worksheet, choose 5 to 10 plants, and read only those profiles. Each profile follows the same layout, so you can compare crops at a glance. For the exact planting-hole recipe, use the companion bonus *The Mega Planting Table* (also Part 4 of the book). This guide tells you which group each crop belongs to and what’s different about it.

● Plant once, eat for decades

Most of a vegetable garden starts from zero every spring. You buy seed, you sow, you weed, you hope the weather plays along. Miss a year, and there’s no harvest.

The crops in this guide work the other way. You plant them once. They put down roots, build a partnership with the fungi in your soil, and come back every year, bigger and more productive. Hybrid hazelnut bushes may live 30 years or more.¹ A well-kept serviceberry can produce for about 20.² Some asparagus beds are still cropping after 30 years.³

That’s what makes them survival crops. Once established, they keep feeding you through cold winters, dry summers and busy years when you can’t give the garden much time.

What “survival crop” means in this guide

Every fruit and nut crop here had to pass four tests:

1. **Hardy.** It survives at least a zone 4 or 5 winter, and most handle zone 3 or colder.
2. **Low-input.** Once established, it needs little more than mulch, a yearly prune and a picking basket. No spray schedule.
3. **Long-lived.** It bears for many years from one planting.
4. **Real food.** It gives you something you’ll actually eat, store or preserve: nuts for protein and fat, fruit for fresh eating, drying and jam.

The staples section at the end adds the calorie crops (potatoes, squash, beans) and the perennial vegetables that round out a garden you could lean on.

Why perennials love living soil

The book’s whole method rests on keeping living roots in the ground and never digging. Perennials do both by nature. A berry bush or nut tree feeds sugar to its root fungi every growing season, year after year, and those fungal threads build soil crumbs and gather phosphorus for the plant (see “Mycorrhiza: The Underground Internet” in Part 1 of the book). That’s why the book calls woody plants the “fungal” stage of a healthy landscape, and why hazel sits at the heart of its food forest.



The science in one line: Trees and shrubs grow best in soil where fungi are strong. Woody mulch feeds those fungi, which is why every crop in this guide gets a thick wood-chip blanket instead of bare soil (see Law 3, “Carbon,” in the book).

THE SCIENCE

● Quick Pick: the crops at a glance

Sorted from fastest to slowest to first harvest. “First crop” means years after planting a nursery plant; seedlings are often slower. Zones are USDA zones.

Crop	Zones	First crop	Needs a partner?	Mature size
Goji	4–7	1–2 yrs	No	0.9–1.8 m (3–6 ft) pruned
Nanking cherry	2–7	1–4 yrs	Yes, 2+ plants	2.4–3.7 m (8–12 ft)
Haskap	2 and up	3 yrs (a few berries sooner)	Yes, 2 unrelated varieties	Compact shrub
Aronia	3 and up	2 yrs	No	0.9–2.4 m (3–8 ft)
‘Chicago Hardy’ fig	6+ (5 with protection)	Varies; fruits on new wood	No	Shrub where it dies back
Goumi	4–9	2–3 yrs	No (2 give more fruit)	1.8–3 m (6–10 ft)
Chinese chestnut (grafted)	5 and up	2–3 yrs	Yes, 3 trees	11–12 m (35–40 ft)
Elderberry	4–8	About 3 yrs	Best with 2 cultivars	To 3.7 m (12 ft)
American persimmon (grafted)	4–9	About 3 yrs	Usually male + female	9 m+ (30 ft+) unpruned
Pawpaw (grafted)	5–9	3–4 yrs	Yes, 2 unrelated trees	4.6–9 m (15–30 ft)
Serviceberry / saskatoon	3–9	3–5 yrs	No	1.8–9 m (6–30 ft), by cultivar
Sea buckthorn	3–4 and up	About 4 yrs	Yes, 1 male per 6–7 females	About 3 m (10 ft)
Hazelnut (hybrid)	3 and up	4–5 yrs	Yes, 2+ varieties	2.4–4.6 m (8–15 ft)
Hardy kiwi	3–4 and up	4–9 yrs	Yes, 1 male per 6–8 females	Large vine
Mulberry	4–9	Varies	Pick a fruiting cultivar	7.6–18 m (25–60 ft)
Cornelian cherry	4–8	Varies	Unclear; plant 2 to be safe	4.6–7.6 m (15–25 ft)

Sources for every number are in each crop’s profile.

The coldest-proof shortlist

If you garden in zone 2 or 3, or on the Canadian Prairies, start here: **haskap**, **Nanking cherry**, **saskatoon**, **aronia**, **sea buckthorn**, **hybrid hazelnut**, and **hardy kiwi** (the *Actinidia kolomikta* species). Haskap is the champion: researchers at the University of Saskatchewan have seen no winter damage even at -47°C (-53°F).⁴

A note for Canadian readers

The US and Canada both use hardiness zones, but the two maps are built differently, and they don't always agree. Over 50 years, for example, the Canadian map showed zones creeping up in southeastern Canada while the USDA-style method showed slight declines in the same region.⁵ Use whichever system your nursery uses on its tags. When you're on the edge, choose a plant rated one zone colder than yours.

● Pick your survival crops

Ten minutes with this worksheet saves years of regret. Most failures with perennial crops come from the wrong spot, not the wrong care.

Step 1: Know your conditions

- ☐ My hardiness zone (USDA or Canadian): _____
- ☐ My average last spring frost date: _____
- ☐ Do I have a low spot where cold air or water collects? Note it, and keep haskap, hardy kiwi and chestnuts out of it.
- ☐ **Drainage test:** dig a hole 30 cm (12 in) deep, fill it with water, let it drain, then fill it again. If the second fill takes more than a day to drain, that spot is too wet for nearly every crop here. Elderberry is the most forgiving.
- ☐ **pH:** a home kit or lab test. Most crops here are happy around pH 6 to 7. Chestnut wants 5.5 to 6.5, pawpaw likes it below 6, and goji and Nanking cherry are fine up to 8 (see Law 4 in the book).
- ☐ **Black walnut nearby?** Its roots release juglone. Hardy kiwi vines can die from it,⁶ and the book's companion table lists walnut as a bad neighbor for haskap and aronia. Plant at least the width of the walnut's canopy away.

Step 2: Count your sun and space

Question	My answer
Hours of direct summer sun in my best spot	
Hours in my second-best spot	
Space for trees (6 m / 20 ft wide or more)?	
Space for shrubs (1.5–3 m / 5–10 ft wide)?	
A sunny fence, wall or pergola for a vine or fig?	
A spot I can let a spreading plant run wild?	

Full sun (6+ hours): every crop here fruits best in it. **Part sun (4–6 hours):** elderberry, pawpaw, cornelian cherry, goudi and saskatoon still crop, just less. **Room to spread:** sunchoke, goji and sea buckthorn sucker or spread. Give them a corner where it doesn't matter, or a barrier.

Step 3: Choose for your goals

If you want...	Start with
The fastest first harvest	Goji, aronia, Nanking cherry, haskap

If you want...	Start with
Protein and fat (nuts)	Hybrid hazelnut, Chinese chestnut
The earliest berry of the year	Haskap, then Nanking cherry
Fruit you can dry or store	Aronia, goji, saskatoon, persimmon, chestnuts
A living windbreak or hedge	Nanking cherry, hazelnut, sea buckthorn, saskatoon
Something new in a cold zone	'Chicago Hardy' fig against a warm wall
Staple calories	Potatoes, winter squash, dry beans (see the staples section)

My survival crop shortlist: write each crop, where it will go, and how many plants (remember the partner plants).

● Planting the living-soil way: the short version

Every crop in this guide is planted with the same basic method. Learn it once here, then use the profiles for the details that change.

Step 1: Find the right group in the Mega Planting Table

Crop type in this guide	Use this Mega Planting Table group
Nut and fruit trees: chestnut, persimmon, pawpaw, mulberry, cornelian cherry	Group 1: Fruit trees
Shrubs: haskap, aronia, saskatoon, Nanking cherry, goumi, goji, elderberry, sea buckthorn, hazelnut, fig	Group 2: Berry bushes
Vines: hardy kiwi	Group 8: Grapes
Potatoes, sunchokes	Group 4: Root crops and potatoes
Garlic, walking onions	Group 5: Greens and onions
Winter squash	Group 6: Tomatoes, peppers... pumpkins

The table gives the hole size, the fungal “cushion” of woody material at the bottom, the compost-and-native-soil mix, the mineral boost and the first watering.

Step 2: Set the plant at the right depth

However big the hole, set the plant so it sits at the same depth it grew in the pot or nursery. For hazelnuts, the University of Wisconsin and University of Minnesota team says the crown should be no more than 2.5 cm (1 in) below the surface.⁷ For trees, keep the root flare (where the trunk widens into roots) right at soil level. Firm the soil gently, then water it in to settle it.

 **Pro tip:** A big hole loosens a lot of soil, and loose soil settles. Firm the bottom layer with your foot before you set the plant, so the plant doesn’t sink below grade a month later.

Step 3: Bring in the fungi

Put a full shovelful of Johnson-Su compost right at the roots, or, if you don’t have it yet, good compost plus a spoonful of mycorrhizal inoculant touching the roots (see “Johnson-Su Compost” in Part 3 of the book). Hazel partners mainly with a different group of root fungi (ectomycorrhiza) than most fruit bushes do (see “What Mycorrhiza Is and How It’s Built” in the book), so for hazel, a few handfuls of leaf litter from under wild hazels or oaks is the better starter. Forest leaf litter brings in local fungi for every crop.

Step 4: Lay the fungal blanket

- **Width:** for a young tree or shrub, mulch a circle about 1 to 1.5 m (3 to 5 ft) out from the trunk (book, Law 3).
- **Depth:** 5 to 10 cm (2 to 4 in) of mixed wood chips, bark or leaves.
- **Gap:** keep mulch 10 to 15 cm (4 to 6 in) back from the stem. Make a donut, not a volcano.⁷
- **Boost:** a cup of oat flour under the chips, as the book describes in “The fungal blanket technique.”

Step 5: Win the first three years

This is where survival gardens are made or lost. In University of Minnesota trials, young hazelnuts with the best weed control gave about four times the four-year yield of plants that were only mowed around.⁷ Grass and weeds steal water and nitrogen from young roots. Keep the mulch circle weed-free and topped up, water deeply through dry spells, and guard young stems from deer and rabbits with tree tubes or wire cages.

i One caution about the Mega Planting Table's additives: the table adds wood ash and a spoonful of dolomitic lime to tree holes. Skip both for chestnut and pawpaw, which prefer slightly acidic soil. Test first, and see Law 4 in the book.

First-year care checklist (for every crop)

- ☐ Water deeply right after planting, then weekly in dry spells (amounts in the Mega Planting Table)
- ☐ Mulch circle weed-free and 5–10 cm (2–4 in) deep
- ☐ Tree guard or cage in place
- ☐ Pinch off flowers on elderberry and other young plants if the profile says so
- ☐ No quick nitrogen feed late in the season (it can lead to winter injury⁴)
- ☐ Label each plant with its variety, so you know which ones are partners

● The fruit and nut crops

Each profile follows the same pattern: why it's here, a four-box summary, then site, spacing, harvest, planting, care, eating, and the one mistake to avoid.

1. Hazelnut and filbert (*Corylus* species and hybrids)

Why it's a survival crop: Hazelnuts give you protein and fat from a shrub you can reach without a ladder, in climates far too cold for almonds or English walnuts.

Zone	Size	Pollination	First crop
3 and up (hybrids)	2.4–4.6 m (8–15 ft)	2+ varieties	Year 4–5

Know your hazels. European hazel or filbert (*Corylus avellana*) has the biggest, thinnest-shelled nuts, but it's less cold-hardy and easily hit by eastern filbert blight. American hazel (*C. americana*) is tough, adaptable and blight-resistant. Hybrids between them aim for the best of both.¹ Both native species and the Upper Midwest's hybrid selections are rated to zone 3.⁷ Unless your local extension office says the blight isn't present where you live, buy blight-resistant American or hybrid plants.¹

- **Site:** full sun for the best crops; well-drained soil. Avoid heavy clay, hardpan and wet ground.¹ Hazelnuts grow across pH 4.5 to 7.5; aim for about 6.⁷
- **Pollination:** hazelnuts are wind-pollinated and self-incompatible. Plant at least two different varieties, ideally more, that bloom at the same time.⁸ Each seedling is genetically unique, so a group of seedlings can pollinate each other.
- **Spacing:** for a hedge, 1.2 to 1.8 m (4 to 6 ft) apart in the row; 1.8 to 2.7 m (6 to 9 ft) if you want more sun on each bush.⁸ Stand-alone bushes: 3.7 to 4.6 m (12 to 15 ft).¹
- **Harvest and yield:** first nuts in about year 4, full production from year 8 or later.⁸ Nebraska test plots suggest an average planting may produce 2,240 to 3,360 kg per hectare (2,000 to 3,000 lb per acre) of husked nuts, with heavy and light years alternating.¹ Harvest mid-August to mid-September in the north, as soon as the clusters pull away easily.⁸
- **Plant it:** Mega Planting Table Group 2. A wood-chip-rich fungal cushion suits hazel perfectly.
- **First year:** weed control above all (see Step 5). Tree tubes help, and come off the next spring.⁷
- **Prune:** very little. After about 12 years, cut tired bushes to the ground in winter; they regrow and return to full crops in about three years.⁸
- **Eat and store:** spread nuts in an airy, rodent-proof spot or hang them in mesh onion bags until fully dry.⁸ Crack as needed; roast for flavor.
- **Common mistake:** planting one variety, or waiting too long to pick. Squirrels and jays don't wait for ripe nuts.⁸ Pick promptly and keep the crop under cover.

2. Nanking cherry (*Prunus tomentosa*)

Why it's a survival crop: A bombproof bush cherry that handles –40 to 32 °C (–40 to 90 °F) swings in a single year and doubles as a fruiting hedge.⁹

Zone	Size	Pollination	First crop
2–7	2.4–3.7 m (8–12 ft)	2+ plants	Year 1–4

- **Zones:** 2 to 7, and not recommended south of zone 7.¹⁰
- **Site:** at least 8 hours of sun for the best crops. Prefers well-drained, sandy soil but adapts to most. Happy in alkaline soil, even pH 8 or higher.⁹
- **Pollination:** needs cross-pollination. Plant two or more.⁹
- **Spacing:** 1.8 to 3 m (6 to 10 ft) for a hedge or windbreak; 2.4 to 4.6 m (8 to 15 ft) for single bushes.⁹
- **Harvest and yield:** usually starts in years 3 and 4 (Utah State); a Wisconsin trial suggests 1 to 2 years.^{9,11} Ripens in June. A mature bush can give 7 to 23 kg (15 to 50 lb) of small cherries.⁹
- **Plant it:** Mega Planting Table Group 2.
- **First year:** water, mulch, weed. That's all.
- **Prune:** in late winter, take out 3 to 5 of the oldest canes, plus broken or crossing ones.⁹
- **Eat and store:** the fruit is about 1.3 cm (½ in) with a big pit, very soft when ripe, and doesn't keep. Freeze it, or turn it into juice, jelly or pie filling the same day.⁹ There are no standard named varieties, so flavor varies from bush to bush; taste them at the nursery if you can.
- **Common mistake:** planting a single bush and wondering why it barely fruits.

3. Goumi (*Elaeagnus multiflora*)

Why it's a survival crop: A tough, drought-tolerant shrub whose roots host nitrogen-fixing bacteria, so it feeds the soil while it feeds you. (Some people call it “gummy” or “cherry silverberry.”)

Zone	Size	Pollination	First crop
4–9	1.8–3 m (6–10 ft)	Self-fertile; 2 give more	Year 2–3

- **Zones:** 4 to 9; drought tolerant once established; full sun to part shade.¹²
- **Soil:** sand to clay, poor to fair fertility, pH about 6.0 to 6.5 ideal. Needs good drainage.¹³
- **Nitrogen:** *Elaeagnus* roots partner with *Frankia* bacteria that fix nitrogen from the air.¹⁴ Go easy on rich feeds; they push leaves instead of fruit.¹³
- **Pollination and spacing:** partly self-fertile; a second variety within 30 m (100 ft) gives bigger crops. Space 2.4 to 3 m (8 to 10 ft) apart.¹³
- **Harvest:** berries ripen in early summer over several weeks; pick when bright scarlet, slightly soft, and they come off with a gentle twist.¹³ Yield: varies.
- **Plant it:** Mega Planting Table Group 2. Skip the extra nitrogen.
- **Prune:** late winter; remove dead and crossing wood, and renew by taking the oldest canes to the base over two to three years. Some varieties have soft spines, so wear gloves.¹³

- **Eat:** tart-sweet, with an edible but chewy seed. Fresh, dried or in pies.¹² The red fruit contains lycopene, the same red pigment found in tomatoes.¹⁵
- **Common mistake:** picking too early. Underripe goumis are mouth-puckeringly astringent.¹³

 **Check before you plant:** Goumi is a close relative of autumn olive, a well-known invasive shrub, and birds spread *Elaeagnus* seeds. Tennessee lists goumi on its “potential invasives” watch list,¹⁶ and some sources describe it as mildly invasive.¹² Check your state or provincial invasive-plant list first, and don’t plant it next to natural woodland.

4. Haskap, honeyberry or edible blue honeysuckle (*Lonicera caerulea*)

Why it's a survival crop: The earliest fruit of the year, from a bush that shrugs off -47°C (-53°F) and blooms through spring frosts.⁴

Zone	Size	Pollination	First crop
2 and up	Compact shrub	2 unrelated varieties	Year 3 (a few sooner)

- **Hardiness:** rated zone 2.¹⁷ Open flowers tolerate about -7°C (19°F).⁴ In warmer regions, some Russian types can wake up too early in mild winter spells, so choose varieties bred for your area.⁴
- **Soil:** very flexible, from about pH 5.5 to 8.0.¹⁷ Avoid saturated soil and spots where water stands in late June.^{4,17}
- **Pollination:** needs two unrelated varieties planted close together.⁴ Commercial growers use about 1 pollinizer per 8 bushes.¹⁷ At home, plant at least one of each.
- **Spacing:** 1 m (3.3 ft) in a hedge; 1.3 m (4.3 ft) for single bushes.⁴
- **Harvest and yield:** a few berries the year after planting, a few kilos per bush by years 3 to 4.⁴ Japanese and Russian growers expect about 3 kg (6.6 lb) from a good bush; the oldest University of Saskatchewan plants averaged about 7 kg (15 lb) at five years.⁴ Ripens in June, a few weeks before strawberries.⁴
- **Plant it:** Mega Planting Table Group 2 (haskap is listed there by name).
- **First year:** water deeply and less often rather than little and often.⁴ No fertilizer late in the season.
- **Prune:** late winter; thin older branches once the bush gets crowded, never more than 25% in a year. It doesn't sucker.⁴
- **Eat and store:** fresh, frozen, in jam or baking. Store cold: 2°C (36°F) with high humidity.¹⁷
- **Common mistake:** picking too early. Berries turn blue days before they're ripe. Cut one in half: if the inside is green, wait about 5 to 7 days.^{4,17}



Pro tip: Cedar waxwings love haskap. Use netting with 13 mm ($\frac{1}{2}$ in) holes; wider 2.5 cm (1 in) mesh can trap birds.⁴ For companions, the book's "Mega-Table of Good Companions" suggests clover and phacelia between rows.

5. Serviceberry, saskatoon or juneberry (*Amelanchier*, especially *A. alnifolia*)

Why it's a survival crop: A native North American berry, often compared to a blueberry, with no need for acid soil.

Zone	Size	Pollination	First crop
3–9	1.8–9 m (6–30 ft) by cultivar	Self-fruitful	Year 3–5

Serviceberry, saskatoon and juneberry are common names for the same group of plants. "Saskatoon" usually means *A. alnifolia*.

- **Zones:** cold hardy to zone 3;² listed to zone 9.¹⁸

- **Size:** varies hugely. 'Regent' stays about 1.8 m (6 ft); 'Thiessen' reaches about 4.6 m (15 ft).² Choose a compact cultivar for a small yard.
- **Soil:** prefers slightly acidic soil but tolerates up to pH 7.5.¹⁹ Needs good drainage; heavy clay can cause root rot.^{2,19}
- **Pollination:** self-fruitful,² but it seems to do better planted in groups.¹⁹
- **Spacing:** for a hedge, 0.6 to 1 m (2 to 3.3 ft) apart in the row.¹⁹ Single bushes: allow the cultivar's full width.
- **Harvest and yield:** fruit usually starts at 3 to 5 years; full crops at about 8.² Late June through July.² Top cultivars give about 4.5 kg (10 lb) per plant.²
- **Plant it:** Mega Planting Table Group 2.
- **Prune:** early spring. Light for the first 3 years, then remove about one-third of the old growth each year.²
- **Eat and store:** pick when berries turn from pink to deep purple; most ripen together.¹⁹ Eat fresh, freeze, dry, or bake into pies.
- **Common mistake:** planting near junipers. They share saskatoon-juniper rust.² Birds are the other big threat, so plan to net.

6. Goji or wolfberry (*Lycium barbarum*)

Why it's a survival crop: One of the fastest perennials to bear, and happy in alkaline soils where many fruits sulk.

Zone	Size	Pollination	First crop
4–7	0.9–1.8 m (3–6 ft) pruned	Self-fruitful	Year 1–2

- **Zones and size:** hardy cultivars grow in zones 4 to 7. Pruned plants stay 0.9 to 1.8 m (3 to 6 ft); unpruned, up to 3.7 m (12 ft).²⁰
- **Soil:** light loam, pH 7 to 8; clay works if it doesn't stay waterlogged.²⁰
- **Pollination and spacing:** self-fruitful. Give each plant about 1.2 to 1.5 m (4 to 5 ft) all round.²⁰
- **Harvest:** first fruit in 1 to 2 years, full crops in 3 to 5.²⁰ Small orange-red berries follow the purple flowers by about 4 to 6 weeks.²⁰ Yield: varies.
- **Plant it:** Mega Planting Table Group 2. Skip the extra nitrogen and the dolomitic lime if your soil is already alkaline.
- **Prune:** fruit forms on this year's wood, so prune more each year to keep the plant open and full of young shoots.²⁰
- **Eat and store:** fresh, dried, or in sauces and baking.
- **Good to know:** goji is in the nightshade family with tomatoes and peppers, and most cultivars have spines.²⁰
- **Common mistake:** letting the suckers go.

 **Spreading:** Goji spreads by suckers (usually from year 3 or 4) and by seed, and can turn weedy. Pull suckers every year, or dig and replant them.²⁰ Don't confuse it with wild native wolfberries, which need special preparation before eating.²⁰

7. 'Chicago Hardy' fig (*Ficus carica* 'Chicago Hardy')

Why it's a survival crop: A real fig for cold-winter gardens. Even when winter kills the top, the roots survive, send up new shoots, and fruit on that new wood the same year.²¹

Zone	Size	Pollination	First crop
6+ (5 with protection)	Shrub where it dies back	One plant is enough	Varies

- **Zones:** the Morton Arboretum rates it hardy to zone 5 and calls it a good choice for colder climates.²² An extension expert puts it more cautiously: it grows in zone 6 and warmer, and is only "marginally hardy" in zone 5, where it needs a warm spot and heavy winter mulch.²¹ Stems take about -12 °C (10 °F); roots take much colder.²¹
- **Size:** in a protected spot it can reach 4.6 to 6 m (15 to 20 ft).²² In zones 5 and 6 it usually acts like a shrub that regrows each year.

- **Site:** full sun to light shade, moist but well-drained soil; tolerates alkaline soil.²² The best spot is against a south- or west-facing wall, out of winter wind.
- **Pollination:** none needed. In one Michigan case, a single plant bore about 30 figs in its first season.²¹
- **Harvest:** late summer to fall. In zone 5 and 6 trials on farms in the North Central US, some figs didn't ripen before cold weather, so the shorter your season, the more you need that warm wall.²³
- **Plant it:** Mega Planting Table Group 2, with extra drainage.
- **Winter protection (zones 5–6):** after leaf fall, mound dry leaves or straw over the base, or wrap the plant in burlap and fill a wire cage around it with leaves.²³ Or grow it in a big pot and roll it into an unheated garage.^{21,23}
- **Prune:** in late spring, once new shoots show, cut out wood that didn't leaf out.
- **Eat and store:** pick when the fruit is soft and starts to droop on its stem; eat within days, or dry or freeze.
- **Common mistake:** giving up in April. A fig that looks dead often sprouts from the roots in late spring.²¹

8. Aronia or black chokeberry (*Aronia melanocarpa*)

Why it's a survival crop: Nearly indestructible, can bear by year two, and its berries are packed with polyphenols, the antioxidant plant compounds the book's food forest chapter highlights.

Zone	Size	Pollination	First crop
3 and up	0.9–2.4 m (3–8 ft)	Self-fruitful	Year 2

- **Zones and size:** hardy to zone 3. Keep it about 0.9 m (3 ft) across with pruning, or let it reach nearly 2.4 m (8 ft).²⁴
- **Soil:** prefers slightly acidic, well-drained soil, but tolerates both soggy and very dry sites.²⁴
- **Pollination:** one cultivar is enough.²⁴
- **Spacing:** roughly the width you'll let it grow: 1 to 2.4 m (3 to 8 ft).
- **Harvest:** can begin fruiting in year two. Harvest late August to mid-September, over a 4 to 6 week window.²⁴ Yield: varies.
- **Plant it:** Mega Planting Table Group 2 (aronia is listed there by name).
- **Prune:** late winter; remove canes once they hit 5 years old. Or cut the whole bush to the ground every 10 years, accepting two years without fruit.²⁴
- **Eat and store:** the berries hang well, so there's no rush. Raw, they're very astringent from tannins; juice, jam, baking and drying soften them a lot.²⁴ Berries are edible at about 18% sugar and peak at 22 to 24%.²⁴
- **Common mistake:** judging it by one raw berry. Aronia is a processing fruit. Mix the juice with apple, or bake it into muffins.

9. Elderberry (*Sambucus nigra* ssp. *canadensis* and relatives)

Why it's a survival crop: A fast native shrub that handles wet and dry ground, part shade, and gives both flowers and fruit.

Zone	Size	Pollination	First crop
4–8	Up to 3.7 m (12 ft)	Best with 2 cultivars	About year 3

- **Zones and site:** zones 4 to 8; full sun to part shade.²⁵ Tolerates wet to dry soils; ideal pH 6.8 to 7.2.²⁶ The best choice for that damp low corner.
- **Pollination and spacing:** wind-pollinated. Plant at least two cultivars, no more than 18 m (60 ft) apart, for better yields. Space plants 1.5 to 2.1 m (5 to 7 ft).²⁶
- **Harvest:** remove flowers for the first year or two so the plant builds roots; it takes a few years to get truly productive.²⁶ Flowers bloom June to July; process only fully ripe, deep purple berries.²⁶ Yield: varies.
- **Plant it:** Mega Planting Table Group 2. Elderberry suckers to form a colony,²⁶ so give it room or mow around it.
- **Prune:** late winter; take out dead, weak and the oldest canes to keep it young and productive.

- **Eat and store:** strip berries from the stems (freezing the clusters first makes this easy). Freeze berries and cook later.²⁶ Boiling-water canning is not considered safe for elderberries, and there's no tested pressure-canning method, so stick to freezing or refrigerated cooked products.²⁶
- **Common mistake:** eating them raw, or planting only one cultivar.

 **Toxic parts:** Elderberries must not be eaten raw. The leaves, twigs, roots and seeds contain compounds that can release cyanide, and unripe berries are much more toxic than ripe ones.^{26,25} Remove as many stems as you can, use only fully ripe berries, and always cook them; cooking breaks down the toxins in the seeds.²⁶ Never eat berries from red-berried elders (*Sambucus racemosa*).²⁶

10. Sea buckthorn or seaberry (*Hippophae rhamnoides*)

Why it's a survival crop: A thorny, salt- and drought-tolerant shrub that fixes its own nitrogen and grows on poor land where little else will.²⁷

Zone	Size	Pollination	First crop
3–4 and up	About 3 m (10 ft)	1 male per 6–7 females	About year 4

- **Hardiness:** rated to zone 3, surviving about –40 °C (–40 °F).²⁷ (Oregon State lists zone 3 or 4.²⁸)
- **Size:** usually a 3 × 3 m (10 × 10 ft) shrub, but can become a small tree.²⁸
- **Site:** full sun, well-drained light to medium sandy loam, pH 6 to 7. Moderately salt tolerant (good near salted roads), drought tolerant, and needs at least about 400 mm (16 in) of rain a year for good crops.²⁷
- **Pollination:** male and female flowers grow on separate plants. Orchards plant about 1 male for every 7 females;²⁷ Oregon State suggests 1 per 6.²⁸ At home: one male plus up to six females.
- **Spacing:** about 2 to 3 m (6.5 to 10 ft), going by its mature width.
- **Harvest:** best fruit set on plants 4 years and older.²⁷ The berries cling tightly; they pull off more easily later in the season, but quality drops as you wait.²⁷ Yield: varies.
- **Plant it:** Mega Planting Table Group 2. Skip extra nitrogen.
- **Prune:** remove suckers and crossing branches; keep it open so you can reach in to pick.
- **Eat and store:** very tart, orange berries. Juice them, or freeze whole branches and knock the frozen berries off.
- **Common mistake:** buying unsexed seedlings. Buy named female cultivars and a named male, or you may get all males and no fruit.

 **Thorns and suckers:** The branches carry sharp thorns,²⁸ so wear gloves and keep it away from paths and play areas. Sea buckthorn suckers into thickets unless you manage it.²⁷

11. American persimmon (*Diospyros virginiana*)

Why it's a survival crop: A native fruit tree that ripens into late fall, often hanging on the branches into winter, with very few pests.^{29,30}

Zone	Size	Pollination	First crop
4–9	9–24 m (30–80 ft) unpruned	Usually male + female	Grafted: about year 3

- **Zones and size:** zones 4 to 9; 9 to 24 m (30 to 80 ft) tall, though it can stay a 4.6 m (15 ft) shrub on poor sites.³¹ 'Meader' trees in a Wisconsin trial survived –35 °C (–31.6 °F).³⁰
- **Site:** sun; moist, well-drained loam. Avoid waterlogged or droughty ground.²⁹
- **Pollination:** most trees are male or female, and you need both to get fruit,³¹ although many named varieties set fruit without pollination.²⁹ 'Meader' is described as the only reliably self-fertile American selection.³⁰ For one tree, buy 'Meader' or a variety sold as self-fruitful.

- **Spacing:** about 6 m (20 ft) between trees.²⁹
- **Harvest and yield:** grafted trees can fruit about 3 years after planting; seedlings take 4 to 9; full crops may take 10 years.²⁹ Bearing trees of named varieties can give 41 to 45 kg (90 to 100 lb).²⁹ Fruit doesn't need frost to sweeten, just a long ripening time.²⁹
- **Plant it:** Mega Planting Table Group 1. It has a long, brittle taproot, so buy container-grown trees and plant them young.^{29,30}
- **Prune:** train it low; unpruned trees get too tall to pick.³⁰
- **Eat and store:** pick or gather fruit when soft, almost pudding-like.³⁰ Scoop the pulp, remove the seeds, and freeze it for breads and puddings.
- **Common mistake:** tasting one too soon.

 **Only eat fully ripe fruit:** Unripe American persimmons are loaded with tannins and very astringent.^{29,30} Wait until the fruit is soft all the way through. Ripeness varies within one tree, so expect several pickings.³⁰

12. Pawpaw (*Asimina triloba*)

Why it's a survival crop: A big native fruit (named cultivars top 140 g / 5 oz) with a custardy, tropical flavor, from a tree hardy to zone 5.³²

Zone	Size	Pollination	First crop
5–9	4.6–9 m (15–30 ft)	2 unrelated trees	Grafted: year 3–4

- **Zones and size:** zones 5 to 9; 4.6 to 9 m (15 to 30 ft) tall and wide.³³
- **Site:** most fruitful in full sun, though it tolerates part shade.³³ Deep, fertile, well-drained, slightly acidic soil; avoid heavy or waterlogged ground.³²
- **Pollination:** most cultivars need at least two genetically different trees. Two seedlings from the same parent, or two grafts of the same cultivar, don't count. Its fly and beetle pollinators are unreliable, so hand-pollinating with a small paintbrush helps in home plantings.³²
- **Spacing:** commercial plantings use about 295 trees per acre,³² roughly 3.7 m (12 ft) apart.
- **Harvest:** grafted trees bear in 3 to 4 years, seedlings in 5 to 8.³² Pick when the fruit gives slightly to a gentle squeeze and smells strongly fruity; skin color isn't a reliable guide. Check every other day once ripening starts.³² Yield: varies.
- **Plant it:** Mega Planting Table Group 1, but skip the wood ash and lime (pawpaw likes it below pH 6³³). Buy container-grown trees: the deep taproot is easily damaged, and dug-up trees often fail.³²
- **First year:** shade trees under 45 cm (1.5 ft) tall with a tree shelter.³²
- **Prune:** little needed. It can send up root suckers;³³ pull them if you want a single trunk, or let them form a thicket.
- **Eat and store:** ripe fruit lasts 3 to 5 days at room temperature, 1 to 3 weeks in the fridge, and up to a year as frozen pulp.³² Eat the flesh; discard the skin and large seeds.
- **Common mistake:** planting one tree, or two clones of the same cultivar.

13. Mulberry (*Morus species*)

Why it's a survival crop: A big, fast tree that rains sweet fruit for weeks in early summer, feeding you, your chickens and the birds.

Zone	Size	Pollination	First crop
4–9 (red mulberry)	7.6–18 m (25–60 ft)	Buy a fruiting cultivar	Varies

- **Species:** red mulberry (*Morus rubra*) is native to eastern North America, zones 4 to 9, 7.6 to 18 m (25 to 60 ft) tall.³⁴ White mulberry (*M. alba*) is an Asian import that grows 9 to 15 m (30 to 50 ft).³⁵
- **Site:** full sun; rich, moist, well-drained soil.³⁴
- **Pollination:** male and female flowers are usually on separate trees,³⁴ so a seedling may never fruit. Buy a named fruiting cultivar the nursery lists as self-fruitful.
- **Spacing:** at least 9 m (30 ft) from other trees and buildings, and away from patios, cars and laundry lines: the fruit stains.

- **Harvest:** fruit forms June through August, usually ripening in July in Minnesota.³⁵ Shake branches over a clean tarp. Yield: varies.
- **Plant it:** Mega Planting Table Group 1.
- **Prune:** keep it low and open in late winter so you can reach the fruit.
- **Eat and store:** fresh, frozen, dried, or in pies and jam. Pick only ripe fruit.
- **Common mistake:** planting a random seedling, or planting it over the driveway.



Invasive and toxic notes: White mulberry is restricted in Wisconsin and Ohio and prohibited in Indiana, and it cross-breeds with the native red mulberry.³⁵ Check your local rules and favor native red or a sterile or non-invasive cultivar where required. Unripe mulberries and the milky sap are poisonous, so eat only fully ripe fruit.³⁴

14. Hardy kiwi or kiwiberry (*Actinidia arguta* and *A. kolomikta*)

Why it's a survival crop: Grape-sized, smooth-skinned kiwis you eat whole, from a vine that can give 23 to 45 kg (50 to 100 lb) once mature.³⁶

Zone	Size	Pollination	First crop
4 (<i>arguta</i>); 3 (<i>kolomikta</i>)	Large vine	1 male per 6–8 females	Year 4–9

- **Hardiness:** *A. arguta* vines tolerate about -34°C (-30°F).³⁶ In Minnesota, *A. arguta* is rated zone 4 but often dies back to the snow line and regrows from the roots, which delays fruit; *A. kolomikta* is rated zone 3.⁶
- **Site:** avoid frost pockets. New spring shoots are very frost-sensitive, and frosted flowers mean no fruit that year.³⁶ Plant on a slope, north or east of a building or tree line for shelter, and mulch 10 cm (4 in) deep to delay bud break.⁶ Poorly drained soil invites root rot.⁶
- **Pollination:** male and female flowers grow on separate plants. Plant one male for every six to eight females.^{6,36} Nursery labels on female plants are sometimes wrong,⁶ so buy from a trusted grower.
- **Spacing and support:** 3 m (10 ft) apart is a common spacing;³⁶ Minnesota advises 6 to 9 m (20 to 30 ft) for vigorous *A. arguta*.⁶ It needs a strong T-bar trellis or pergola.^{36,6} A flimsy fence won't hold a mature vine.
- **Harvest and yield:** usually 5 to 9 years to fruit.³⁶ *A. arguta* ripens late August to mid-October.⁶ Vine-ripened fruit reaches 18 to 25% sugar; you can also pick at 8 to 9% and ripen it in the fridge, where it keeps up to two months.³⁶
- **Plant it:** Mega Planting Table Group 8 (grapes).
- **Prune:** in winter, remove up to 70% of the wood; fruit comes on new shoots from one-year-old canes. In summer, cut shoots back to 4 to 6 leaves past the last flower.³⁶
- **Common mistake:** planting in a frost pocket, or with no male.

15. Cornelian cherry (*Cornus mas*)

Why it's a survival crop: An adaptable, easy-care dogwood that flowers in late winter, needs almost no care, and gives tart red fruit for preserves.

Zone	Size	Pollination	First crop
4–8	4.6–7.6 m (15–25 ft)	Unclear; plant 2 to be safe	Varies

- **Zones and size:** zones 4 to 8; 4.6 to 7.6 m (15 to 25 ft) tall and 4.6 to 6 m (15 to 20 ft) wide.³⁷
- **Site:** full sun to part shade. Tolerates clay, sand, rocky soil and a wide pH range, but needs good drainage.³⁷
- **Flowers:** yellow, in late March to early April, before the leaves: an early food source for bees.³⁷
- **Spacing:** 4.6 to 6 m (15 to 20 ft), going by its spread.
- **Harvest:** olive-shaped fruit 1.3 to 2.5 cm ($\frac{1}{2}$ to 1 in) long ripens in midsummer.³⁷ Yield: varies.
- **Plant it:** Mega Planting Table Group 1.

- **Prune:** very little; remove dead or crossing wood in late winter.
- **Eat and store:** eat when dark red; it makes a tart jelly.³⁷ Many growers let the fruit soften fully, or gather it as it drops, for the sweetest flavor.
- **Common mistake:** picking it bright red and hard, when it's still sour.

16. Chinese and hybrid chestnut (*Castanea mollissima* and hybrids)

Why it's a survival crop: Chestnuts are a starchy nut you can cook like a potato, grind into flour, or roast. A mature planting yields grain-like harvests from a tree.

Zone	Size	Pollination	First crop
5 and up	11–12 m (35–40 ft)	3 trees, different cultivars	Grafted: year 2–3

- **Hardiness:** fully dormant trees tolerate about -29°C (-20°F).³⁸
- **Blight:** Chinese chestnut tolerates chestnut blight well enough to grow; American chestnut is highly susceptible.³⁸ Buy Chinese or blight-tolerant hybrid cultivars.
- **Site:** well-drained loam to sandy loam, pH 5.5 to 6.5. Heavy or wet soils invite root rot, and frost pockets are a bad idea.³⁸
- **Pollination:** nearly all trees need a different cultivar to pollinate them, mostly by wind, within 60 m (200 ft). Plant at least three trees.³⁸
- **Spacing:** 12 to 15 m (40 to 50 ft) apart in a backyard.³⁸
- **Harvest and yield:** grafted trees bear 2 to 3 years after planting. Well-managed orchards reach about 2,240 kg per hectare (2,000 lb per acre) by age 12 to 15.³⁸ Nuts fall in September and October over 2 to 4 weeks per tree; gather at least every other day.³⁸
- **Plant it:** Mega Planting Table Group 1, without the wood ash and lime.
- **Prune:** train young trees to a few strong, well-spaced main limbs; little pruning after that.
- **Eat and store:** fresh chestnuts are perishable because they're high in water and starch. Refrigerate them right away in sealed bags near 0°C (32°F), or dry them for long storage in airtight containers.³⁸
- **Common mistake:** leaving nuts on the ground or on the counter, where they mold or dry out fast. Wear heavy leather gloves: the burs are spiny.³⁸

● The staples: calories and perennial vegetables

Fruit and nuts are wonderful, but a garden that keeps you fed also needs calories and vegetables you don't have to replant every year. Here are the backbone crops.

Staple calorie crops

Crop	Why it's here	Plant	Store
Potatoes	Calorie-rich, easy to grow, keeps for months	Spring, after the soil warms; book Group 4, straw mulch	Cure at 10–16 °C (50–60 °F) for 14 days, then store at 0–4 °C (32–40 °F), 95% humidity, up to about 6 months ³⁹
Winter squash	Stores for months on a shelf, no freezer needed	After last frost; book Group 6	Cool and dry, around 10–16 °C (50–60 °F), 2 to 6 months depending on variety; don't cure acorn types like 'Table Queen' ³⁹
Dry beans	Protein that keeps for a long time when fully dry	After last frost, direct-sown	Let pods dry on the plant until they rattle, then thresh and keep in sealed jars
Garlic	Plant once, save your best heads to replant forever	Fall, a few weeks before the ground freezes; book Group 5	Cure in an airy, shady spot; store cool and dry



Pro tip: Save your own seed potatoes, garlic and bean seed only from healthy, disease-free plants. The book notes that infected seed tubers are a key source of late blight, so start with clean stock (see Group 4 in the Mega Planting Table).

Potatoes, the living-soil way: plant on the soil surface or in a shallow furrow and pile straw over them as they grow, instead of digging trenches and hilling with soil. The book's author finds straw gives perfect tubers. Mycorrhizal fungi matter here too: across 231 field trials, inoculated potatoes yielded about 9.5% more (see the mycorrhiza table in the book).

Winter squash: let fruits ripen fully on the vine, until the rind resists a thumbnail, and cut with a short stem. Pumpkins dislike storage below 7 °C (45 °F).³⁹

Dry beans: pick a variety bred for drying, and grow them as the third of the "Three Sisters" with corn and squash (see the companion table in the book).

Perennial vegetables

Crop	Zones	First harvest	Lasts
Asparagus	3 (some 2)	Year 3 for a full harvest	12–15+ years
Rhubarb	Cool climates	Year 2	Divide every 5+ years
Egyptian walking onion	3–9	Year 1 (greens)	Indefinitely

Crop	Zones	First harvest	Lasts
Sunchoke	Widely adapted	First fall	Forever (that's the problem)

Asparagus (*Asparagus officinalis*)

- **Hardiness:** most cultivars to zone 3, some to zone 2.³
- **Plant:** dig a trench 25 cm (10 in) deep and wide. Set crowns on small mounds 45 cm (18 in) apart, rows 75 to 90 cm (2.5 to 3 ft) apart. Cover with 7.5 cm (3 in) of soil, then add more as the shoots grow.³ Mulch the bed with straw or leaves, never wood chips thick enough to smother spears.
- **Harvest:** none the first year, a light picking the second, a full harvest from the third. Never cut for more than about six weeks a season.³
- **Lifespan:** peaks around year 8, stays productive 12 to 15 years, and some beds are still going after 30.³
- **Tip:** all-male cultivars produce more spears.³ Leave the ferns standing until they brown in fall, so they can feed the roots for next year.³

Rhubarb (*Rheum rhabarbarum*)

- **Plant:** crowns with the bud about 5 cm (2 in) below the surface, 0.9 to 1.2 m (3 to 4 ft) apart. Tolerates pH 5.0 to 6.8.⁴⁰
- **Harvest:** wait until year two. Pick for 1 to 2 weeks that year, then 8 to 10 weeks a season after that. Twist stalks off at the base instead of cutting. Remove flower stalks the first year.⁴⁰
- **Divide:** in early spring, split crowns older than five years into pieces, each with a bud and at least 5 cm (2 in) of root.⁴⁰

 **Rhubarb leaves are toxic:** Eat only the stalks. The leaves contain oxalic acid, which can harm the kidneys and cause breathing trouble and burning in the mouth and throat.⁴⁰ Cut leaves off right away and compost them. If someone eats leaves, don't make them vomit; call Poison Control (1-800-222-1222 in the US; your provincial poison centre in Canada).

Egyptian walking onion (*Allium x proliferum*)

- **Hardiness:** zones 3a to 9b.⁴¹
- **How it grows:** instead of flowers, each stalk grows a cluster of little bulbs (topsets) at the top. The stalk bends under their weight and plants them a short distance away, so the clump "walks."⁴¹
- **Plant:** press topsets no more than 2.5 cm (1 in) deep, 10 to 13 cm (4 to 5 in) apart, in full sun where they can stay for years. Divide clumps in spring.⁴¹
- **Eat:** young shoots like green onions; topsets and base bulbs are edible but strong.⁴¹ It's one of the first greens of spring and the easiest onion you'll ever grow.

Sunchoke or Jerusalem artichoke (*Helianthus tuberosus*)

- **Plant:** tubers 5 to 7.5 cm (2 to 3 in) deep, 60 to 75 cm (24 to 30 in) apart, in early spring. Plants reach 1.8 m (6 ft) or more.⁴² The book also lists it as a deep-rooted helper for opening up compacted clay (see Law 2).

- **Harvest:** dig from September right through to spring, before new growth starts.⁴² Expect 50 to 100 tubers per 30 m (100 ft) of row.⁴²
- **Store:** the thin skin dries out quickly. Keep tubers near 0 °C (32 °F) and 95% humidity, or in plastic bags in the fridge,⁴² or simply leave them in the ground and dig as needed.
- **Eat:** raw and crunchy, roasted, or in soup. They store their energy as inulin rather than starch.⁴² Start with small servings if you're new to them.



It spreads: Every tuber you miss will sprout, spread and turn into a weed.⁴² Never plant sunchokes in your vegetable beds. Give them their own corner, ringed by mowed lawn or a buried barrier, or grow them in a large tub.

What about perennial kale and collards?

You may see “perennial kale” and “tree collards” sold as plant-once greens. They’re grown as perennials mainly where winters are mild; in cold zones, don’t count on them coming back. There, treat kale as a frost-hardy annual or biennial instead: sown in spring, it often keeps producing well into late fall. Remember that the cabbage family doesn’t partner with mycorrhizal fungi, so follow kale with a crop that does (see “What you need to know about brassicas” in the book).

● Planting plan: a small yard

The space: a 10 × 10 m (33 × 33 ft) backyard with full sun over most of it and a sunny fence on one side. North is at the top.

The layout in words

- **North edge (the back):** the tallest plants go here so they don't shade the rest. A hedge of 3 hybrid hazelnuts (at least 2 varieties), 1.8 m (6 ft) apart. At the northeast corner, 2 elderberries of different cultivars, the right choice if that corner stays damp.
- **East side:** a berry row: 2 haskaps (two unrelated varieties) 1.3 m (4.3 ft) apart, 1 compact saskatoon such as 'Regent', 1 aronia, and 2 Nanking cherries.
- **West side:** 1 goumi (if it's allowed where you live) and 1 goji in a bed edged with a buried barrier to catch suckers.
- **South-facing fence or wall:** 1 'Chicago Hardy' fig in the warmest spot, and a sturdy pergola section for hardy kiwi: 1 female and 1 male, 3 m (10 ft) apart.
- **The middle:** four 1.2 × 3 m (4 × 10 ft) beds for staples, rotated each year: potatoes; winter squash; dry beans; garlic followed by fall greens. A fifth bed of the same size holds asparagus (two rows of 6 crowns). Put 2 rhubarb crowns and a clump of walking onions at the ends of the beds.
- **Outside the fence or in a big tub:** sunchokes.
- **Paths:** wood chips everywhere, feeding the fungi.

Plant list and spacing

Plant	How many	Spacing	Where
Hybrid hazelnut	3 (2+ varieties)	1.8 m (6 ft)	North hedge
Elderberry	2 (2 cultivars)	1.5–2.1 m (5–7 ft)	NE corner
Haskap	2 (unrelated)	1.3 m (4.3 ft)	East row
Saskatoon ('Regent'-size)	1	1.8 m (6 ft)	East row
Aronia	1	1.5 m (5 ft)	East row
Nanking cherry	2	1.8–3 m (6–10 ft)	East row
Goumi	1	2.4 m (8 ft)	West side
Goji	1	1.2–1.5 m (4–5 ft)	West side, with barrier
'Chicago Hardy' fig	1	3 m (10 ft) circle	Sunniest wall
Hardy kiwi	1 female + 1 male	3 m (10 ft)	Pergola
Asparagus	12 crowns	45 cm (18 in)	Asparagus bed, 2 rows

Plant	How many	Spacing	Where
Rhubarb	2 crowns	0.9–1.2 m (3–4 ft)	Ends of beds
Walking onions	1 clump	10–13 cm (4–5 in)	Bed corner
Staple beds	4 beds	1.2 × 3 m (4 × 10 ft)	Center

That's 16 fruiting shrubs, trees and vines plus perennial vegetables, in a space many people mow every Saturday.



Pro tip: Plant in stages, the way the book's food forest chapter suggests: shrubs and hazels in year one, the kiwi pergola and fig in year two, and the asparagus bed as soon as you can, since it's the slowest to reach full harvest.

My yard sketch: draw your boundary, mark north, sun and shade, then place your crops.

● Planting plan: a homestead

The space: about 0.4 ha (1 acre) set aside for food, with room for full-size trees and hedgerows.

The layout in words

- **North and windward edge:** a windbreak hedgerow of Nanking cherry, sea buckthorn and saskatoon. These all tolerate wind and cold, and they shelter everything downwind.
- **Nut grove:** 3 Chinese chestnuts of different cultivars, 12 to 15 m (40 to 50 ft) apart and within 60 m (200 ft) of each other, plus a production hedgerow of 20 to 30 hybrid hazelnuts.
- **Fruit trees:** 2 to 3 American persimmons (or 'Meader' if you only want one), 3 pawpaws of at least 2 unrelated cultivars on the sheltered, slightly acidic side, 1 mulberry well away from buildings, and 1 or 2 cornelian cherries near the house where you'll see the late-winter flowers.
- **Berry rows:** haskap (1 pollinizer per 8 bushes), aronia, elderberry (2+ cultivars in the low, moist spot), and goumi where permitted.
- **Kiwi pergola:** 6 female hardy kiwis and 1 male on a T-bar trellis.
- **Staple field:** potatoes, winter squash, dry beans and garlic, rotated through four blocks, with a cover crop between (see the book's "Northern Regenerative Cocktail" for cold zones).
- **Perennial strip:** 30 asparagus crowns, 4 to 6 rhubarb, walking onions, and a separate, fenced-off sunchoke patch far from any beds.

Homestead plant list

Plant	How many	Spacing	Notes
Chinese chestnut	3+ cultivars	12–15 m (40–50 ft)	Within 60 m (200 ft) of each other
Hybrid hazelnut	20–30	1.2–1.8 m (4–6 ft) in row	2+ varieties
American persimmon	2–3	6 m (20 ft)	Or one 'Meader'
Pawpaw	3+	3.7 m (12 ft)	2+ unrelated cultivars
Mulberry	1	9 m+ (30 ft+) clear	Fruiting cultivar
Cornelian cherry	1–2	4.6–6 m (15–20 ft)	Near the house
Sea buckthorn	6 females + 1 male	2–3 m (6.5–10 ft)	Windbreak
Nanking cherry	6–10	1.8–3 m (6–10 ft)	Windbreak hedge
Saskatoon	10+	0.6–1 m (2–3.3 ft) in row	Hedge
Haskap	8 + 1 pollinizer, or more	1 m (3.3 ft)	Hedge
Elderberry	4+ (2+ cultivars)	1.5–2.1 m (5–7 ft)	Low spot
Hardy kiwi	6 females + 1 male	3 m (10 ft)	Strong trellis

Plant	How many	Spacing	Notes
Asparagus	30 crowns	45 cm (18 in)	Permanent bed
Rhubarb	4–6	0.9–1.2 m (3–4 ft)	

My homestead plan: phase it over three to five years. Note what goes in each year.

● Your first five years

Perennial crops reward patience. Here’s what to expect, so you don’t give up just before the payoff.

Year	What you do	What you eat
Year 1	Plant shrubs, trees and asparagus. Mulch, water, weed, guard against deer. Plant staples in the beds.	Staples, walking-onion greens, maybe a few goji and Nanking cherries
Year 2	Add the kiwi pergola and fig. Top up mulch and Johnson-Su compost. Pinch elderberry flowers.	Aronia, goji, rhubarb (lightly), light asparagus, first haskaps
Year 3	Begin light pruning. Hand-pollinate pawpaws once they flower.	Asparagus in full, haskap, Nanking cherry, goumi, chestnuts on grafted trees, elderberry
Year 4	Net berries before they color. Start harvesting suckers to share or replant.	Hazelnuts begin, saskatoon, sea buckthorn, first persimmons and pawpaws on grafted trees
Year 5+	Renewal pruning; divide rhubarb when it’s crowded.	Everything climbing toward full crops for decades

i Trees bear sooner when the soil is alive. The book’s food forest chapter recommends Johnson-Su compost under every new tree so fungal partners settle in faster. Spread a fresh shovelful under the mulch each fall (see “The fungal blanket technique” in Law 3).

My harvest log: for each crop, write the year it first bore, the date, and how much you picked.

● Quick reference

The method, every time: right group in the Mega Planting Table → plant at nursery depth → Johnson-Su compost or mycorrhizal inoculant at the roots → wood-chip blanket 5–10 cm (2–4 in) deep, 1–1.5 m (3–5 ft) out, kept 10–15 cm (4–6 in) off the stem → weed-free for three years.

Plant partners (or get little or no fruit): hazelnut (2+ varieties), Nanking cherry (2+), haskap (2 unrelated), pawpaw (2 unrelated), chestnut (3 trees), sea buckthorn (1 male : 6–7 females), hardy kiwi (1 male : 6–8 females), persimmon (male + female, or 'Meader'). Elderberry and goumi crop better with 2.

One plant is enough: goji, aronia, saskatoon, 'Chicago Hardy' fig.

Fastest to bear: goji (1–2 yrs), aronia (2), Nanking cherry (1–4), chestnut grafted (2–3), haskap (3).

Coldest-hardy (zone 2–3): haskap, Nanking cherry, saskatoon, aronia, sea buckthorn, hybrid hazelnut, *A. kolomikta* kiwi.

Safety at a glance:

Crop	Rule
Elderberry	Never raw; ripe berries only, stems removed, always cooked; no leaves
Rhubarb	Stalks only; leaves are toxic
American persimmon	Only fully soft, ripe fruit
Mulberry	Ripe fruit only; unripe fruit and sap are poisonous
Goumi, white mulberry	Check local invasive lists before planting
Goji, sea buckthorn, sunchoke	Spread by suckers or tubers; give them a contained spot
Sea buckthorn, chestnut burs	Wear gloves

Ripeness cues: haskap purple inside, not green · saskatoon deep purple · goumi bright scarlet and slightly soft · persimmon soft as pudding · pawpaw gives to a squeeze and smells fruity · cornelian cherry dark red · hazelnuts slip from the husk · chestnuts fall from open burs.

Storage: potatoes 0–4 °C (32–40 °F) after curing · winter squash 10–16 °C (50–60 °F), dry · chestnuts in the fridge, sealed · hardy kiwi in the fridge up to 2 months · haskap and pawpaw: eat fresh or freeze.

Perennial vegetables: asparagus (full harvest year 3, max 6 weeks a season, beds last 12–15+ years) · rhubarb (from year 2, twist don't cut) · walking onions (zones 3–9) · sunchoke (never in your beds).

Go deeper in the book: "Mycorrhiza: The Underground Internet," Law 3 ("The fungal blanket technique"), Law 4 (pH), "Johnson-Su Compost," "The Architecture of the Land: How to Build a Food Forest," the Mega Planting Table, and the Mega-Table of Good Companions.

● Notes

Each number matches a small number in the text. A source used more than once keeps the same number.

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