

Backyard Orchard in the Dragoons

Guide 9 · Perennial Track

Figs · Pomegranates · Jujubes · Stone Fruits · Pome Fruits · Citrus

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RELATED GUIDES

This guide is one of seventeen in the Dragoon Mountains Growing Guides Library: - **Guide 1 — Hydroponic Primer & Library Map** · the front door + master multi-crop calendar - **Guide 2 — Peppers in the Dragoons** · soil + hydroponic + variety-specific staking - **Guide 3 — Bato Bucket Hydroponic Systems** · system build, water treatment, operations - **Guide 4 — Hydroponic Nutrients** · Masterblend + DIY + pH + Indoor/LED - **Guide 5 — Grapes in the Dragoons** · Cochise County viticulture (the other perennial) - **Guide 6 — Cool-Season Crops** · brassicas + alliums + greens + roots - **Guide 7 — Warm-Season Companions** · tomatoes, cucurbits, beans, corn, sweet potatoes - **Guide 8 — Herbs in the Dragoons** · annual + perennial · soil & hydroponic - **Guide 9 — Backyard Orchard in the Dragoons** (this guide) · figs, pomegranates, jujubes, stone fruits - **Guide 10 — Pest, Disease & Wildlife** · IPM + Cochise wildlife exclusion - **Guide 11 — Foundations: Soil & Seed** · soil-building, composting, seed-starting, propagation - **Guide 12 — Harvest, Preservation & Storage** · canning, fermenting, drying, cellaring - **Guide 13 — Water in Cochise County** · sourcing, testing, treatment, rainwater, conservation - **Guide 14 — Season Extension Structures** · cold frames, low tunnels, hoop houses, high tunnels - **Guide 15 — Native Food Crops of the Sonoran-Madrean Region** · the indigenous food complex of the Dragoons and the wider sky-island region - **Guide 16 — Companion Plantings & Polycultures** · the design layer — companion matrix, anti-companions, cover crops, 9 Dragoons-specific guild designs - **Guide 17 — Recipes & Kitchen Integration** · what to cook with what came out of the garden this morning · by-crop recipes + seasonal menus This guide is the perennial companion to Guide 5. Where this guide touches alkaline-water treatment, pH chemistry, micronutrient correction, drip irrigation depth, or winter watering, it points back to Guides 2, 3, and 5 rather than restating them. The grape guide and this one share more than they differ — both are about perennial fruit on caliche soil at 4,700 ft, and both reward the grower who plays a multi-year game.

About this guide

A backyard orchard in the Dragoons is a long game. The first fig cutting goes into the ground in January; the first reliable harvest comes three summers later. A peach is the same; a pomegranate the same; an apple the same. The reward is that once these trees are established, they produce for decades with very little fuss, and they ripen fruit you cannot buy at any quality the local supermarket would recognize. A Cochise County Black Mission fig in late August, eaten warm off the tree in the dry afternoon air, is one of the best agricultural experiences this place offers.

This guide is the perennial counterpart to Guide 5 (Grapes). It covers the rest of the woody fruit that thrives on this landscape — the heat-and-drought-tolerant Mediterranean classics that genuinely love it here (figs, pomegranates, jujubes), the stone fruits and pome fruits that need more care but reward it, and the citrus that has to live in pots because Cochise winters will kill it in the ground.

The guide is in thirteen chapters:

1. **About this guide** — what's in it, who it's for, the perennial mindset.
2. **The Dragoons orchard environment** — climate, chill hours, frost windows, wildlife pressure.
3. **Site selection** — frost-pocket avoidance, slope, aspect, water, pollination.
4. **Selecting trees** — bareroot vs container, rootstocks, the chill-hours problem.
5. **The Dragoons classics** — figs, pomegranates, jujubes · varieties, planting, pruning, harvest.
6. **Stone fruits** — peaches, apricots, plums, almonds · the frost-protection chapter.
7. **Pome fruits** — apples, pears · low-chill varieties, codling moth, spur vs tip pruning.
8. **Citrus — container-only** — why it can't go in the ground; what works in pots.
9. **Irrigation for the orchard** — deep soaking, gallons per tree, the perennial pattern.
10. **Annual orchard calendar** — month-by-month for the whole orchard.
11. **Pest, disease & wildlife** — peach leaf curl, codling moth, borers, gophers, javelina.
12. **Harvest, storage & use** — fig windows, pomegranate storage, drying, preservation.
13. **Closing** — sense of place.

This guide assumes the orchard is for the household — half a dozen to twenty trees on a quarter acre to an acre, not a commercial planting. The economics, scale, and tooling of commercial orcharding in Cochise County (the big pecan operations in Bowie, the apple block at Apple Annie's) are different problems. This is the backyard pattern.

If you're new here. Plant a fig and a pomegranate this January. Plant a jujube next January. Add a low-chill apple and a peach the year after. Five years from now you will have a Dragoons backyard orchard. The biggest mistake new orchardists make is trying to plant everything at once, exhausting attention and water, and losing half the trees. Plant slowly, prepare each hole well, and let each tree get established before adding the next.

1 · The Dragoons orchard environment

Climate, chill hours, frost windows, wildlife, water, soil

The Dragoon Mountains sit at roughly 4,700 ft in USDA zone 8a. Summers are hot (95–100 °F afternoons) with intense sun and afternoon monsoon storms in July and August. Winters are mild but real — typical lows are in the 20s with 3–6 nights per winter dropping below 20 °F, almost always clustered in the second week of January. The diurnal swing is large year-round (30–45 °F is normal). Rainfall averages 15–22” annually, split between summer monsoon (8–12”) and a thin winter rain in December–February. Native soil is sandy loam over caliche, alkaline (pH 7.5–8.5), and very well-drained on slope.

For tree fruit this combination is a mixed blessing. The advantages are intense sun (excellent sugar accumulation and color), the diurnal swing (which builds flavor in the same way it builds wine quality at Sonoita), low summer humidity (most fungal diseases are weak here), and adequate winter chill for most temperate fruit varieties. The disadvantages are the late-spring frost window (early-blooming stone fruits get hit), the caliche layer (root depth is limited unless you augur through), and the strong wildlife pressure (javelina, deer, gophers, birds — all of them want your fruit).

The chill-hours window

Deciduous fruit trees require a certain number of hours below 45 °F during dormancy to set buds for the next spring. This is **chill hours** — the cumulative count of hours below 45 °F a tree experiences from the onset of dormancy in fall through bud break in spring. Cochise County and the Dragoons accumulate 700–900 chill hours in a typical winter — enough for most temperate fruit, but not enough for the highest-chill northern varieties (Honeycrisp apple, Bing cherry). On the other hand, it’s more than enough for low-chill varieties (Anna apple, Florida Prince peach), which then face the *other* Dragoon problem: low-chill trees break dormancy too early in February and get frozen at bloom.

The variety selection task for the Dragoon orchard is finding the medium-chill sweet spot — 400–700 hours — and protecting those trees through the late-frost window.

Chill-hour band	Behavior in the Dragoons	Examples
Very low (200–400 h)	Bloom in early February — high frost risk. Useful only with protection or for marginal-winter years.	Anna apple, Florida Prince peach, Dorsett Golden apple
Low-medium (400–600 h)	Bloom mid-late February. Best target for stone fruit here.	Babcock peach, Goldcot apricot, Methley plum

Chill-hour band	Behavior in the Dragoons	Examples
Medium (600-800 h) ●	Bloom early-mid March, mostly past worst frost. The sweet spot.	Pink Lady apple, Red Haven peach, Royal Blenheim apricot, All-In-One almond
Medium-high (800-1000 h)	Bloom mid-late March; reliable here. Use at higher Dragoon elevations.	Granny Smith apple, Elberta peach, Stanley plum
High (1000+ h)	Marginal — chill demand often not met in mild years. Avoid.	Honeycrisp apple, Bing cherry, most sour cherries

The chill-hours rule. The Dragoons accumulate 700-900 chill hours in a typical winter. Choose varieties in the 400-800 hour range. Below 400 you get February bloom and a frozen crop; above 800 you get inconsistent set in mild winters.

Frost windows

The last spring frost in the Dragoons is the parameter that drives everything else for stone fruit. Average last spring frost is around March 25–April 5, but it varies widely by site (frost pockets stay cold three weeks longer than slopes). Apricots and almonds bloom in mid-to-late February; peaches and plums in early-mid March; apples and pears in late March; figs leaf out in late March and don't really set fruit on the spring flush. The wider the gap between bloom and last frost, the safer the crop.

Average first fall frost is around October 25–November 10. This shapes the harvest end of the season — late apples, late pomegranates, and late-ripening Asian pears need to be off the tree before hard freezes split the fruit.

Wildlife pressure

The Dragoons are mountain habitat first and orchard habitat second. Every animal in the watershed knows what a fig tree is. The wildlife pressure on an unfenced backyard orchard is the single most underestimated cost of growing fruit here.

Animal	What they take	When	Defense
Javelina	Pomegranates, figs, fallen fruit, bark on young trees	Year-round, worst in summer-fall	4 ft welded-wire fence; trunk wraps in years 1-3
Deer	All foliage, fruit within reach	Year-round, worst in drought	8 ft fence for reliable exclusion

Animal	What they take	When	Defense
Gophers	Roots — kill young trees from below	Year-round	Wire baskets (gopher cages) at planting
Coyotes	Fallen fruit, occasionally trees	Year-round	Mostly tolerable; fence keeps them honest
Birds (mockingbirds, thrashers, finches)	Stone fruit, figs at ripening	June–September	Netting; harvest just before peak ripeness
Squirrels & pack rats	Almonds, pecans, soft fruit	Year-round	Trunk guards; trap pack rats; tolerate squirrels

Water and soil

Cochise County well water is alkaline (often pH 7.8–8.2) and moderately hard, with bicarbonates that slowly push soil pH up over years. For most tree fruit this is tolerable — apples, pears, and figs accept pH 7.0–7.5 — but the alkalinity-sensitive species (pears, peaches, apples late in life) develop interveinal chlorosis from iron and manganese lockout above pH 7.5.

For the water-treatment baseline and the bicarbonate routine that handles this, see **Guide 3 §4 (Water Treatment)**. For the acid options (phosphoric, citric, prickly-pear vinegar, oak-ash lye) and the foliar iron and zinc recipes, see **Guide 4 Part 3 (pH adjustment)** and **Guide 4 Part 2 (foliar feeding)**.

Native soil is sandy loam over caliche. The caliche layer (a cemented calcium-carbonate hardpan) starts anywhere from 12" to 36" down and is impenetrable to roots. Every tree planted in the Dragoons needs the caliche broken at the planting site, or root depth is permanently limited and the tree never reaches its potential. Plan to augur or pickaxe through at least 30" of caliche before backfilling each hole.

2 · Site selection

Frost-pocket avoidance · slope and aspect · water · pollination

Site selection for an orchard is a 20–40 year decision. Tree fruit lives longer than grape vines and is harder to move. The site decisions made the first weekend will be felt for decades. The rules below repeat some of what's in Guide 5 §2 — *terroir* does not care which guide you're reading.

The frost-pocket rule

The single most important site decision is to **plant on a slope, not in a valley floor**. Cold air drains downhill and pools at the lowest point on the property. A flat valley swale with deep soil and nice grass might look like the ideal spot — and it is, on paper, except that on a clear calm March morning it will be 8–10 °F colder than the slope 100 ft above it. For early-blooming stone fruit this is the difference between a crop and no crop.

The test: walk the candidate site at dawn on a clear calm morning in October or April. If you can feel that the air is noticeably colder at the candidate site than at higher points on the property, the candidate site is a frost pocket. Plant somewhere else.

WARNING

Frost pockets are the #1 cause of orchard failure in the Dragoons. A peach in a valley-floor swale will lose its crop to late-March frost in 4 of every 5 years. The same peach 50 ft upslope will crop 4 of every 5 years. Walk the site at dawn before committing.

Slope and aspect

For grapes, south-facing slopes are ideal because they warm up quickly and ripen the late-summer crop fully. For stone fruit, south-facing is actually a *problem* because south-facing slopes also warm earliest in the spring, which pulls bloom forward into the frost window. Counter-intuitive but true: **north and east slopes are safer for early-blooming stone fruit** in marginal-frost climates, because they delay bud break by 1–2 weeks past the worst frost dates.

Aspect	Best fit	Avoid for
South ●	Figs, pomegranates, jujubes, late-blooming apples	Apricots, almonds (pulls bloom too early)
Southeast	Apples, pears, plums (compromise)	Nothing critical

Aspect	Best fit	Avoid for
East	Stone fruit (peaches, apricots) — delays bloom past worst frost	Late-ripening varieties that need more heat
North	Apricots, almonds in marginal sites — latest bloom	Anything that needs heat to ripen
West	Hottest afternoon sun — stresses trees	Most temperate fruit

A 5–15 % gentle slope is ideal. Steeper than 25 % is hard to manage with irrigation and harvest. Flat is workable if it's on a *plateau* with air drainage off the edges — flat in a basin is a cold sink.

Proximity to structures

A south-facing wall is a heat battery. The wall absorbs sun all day and releases warmth at night, raising the local microclimate by 5–10 °F. For frost-marginal species — citrus pots, figs in their first winters, espaliered apricots — this is the single most effective site advantage on a Dragoons property. The flip side: a south-facing wall *encourages* early bloom, so it is the wrong place for an apricot or almond expected to take a March frost.

Use a south-facing wall for	Don't use a south wall for
Citrus pots (year-round warmth)	Apricot, almond (advances bloom too far)
First-winter fig trees	Established stone fruit with delicate bloom timing
Espaliered Asian pear	Trees needing extra chill hours
Container Meyer lemon	High-chill apple varieties

Water access

A backyard orchard with 10–20 trees uses 8,000–25,000 gallons of irrigation per year. Plan the water before plant the trees. The drip system should reach every tree from year one. A 1" mainline from the well or storage tank, branching to 1/2" feeder lines, with 1 gph emitters per tree (8–12 emitters arranged around the dripline of mature trees) is the standard pattern. Detail is in §9.

Pollination

Most tree fruit needs cross-pollination, meaning a second variety of the same species blooming at the same time. The exceptions are figs and most pomegranates (self-fertile) and some self-fertile peach varieties. Plan in pairs:

Species	Pollination	Strategy
Fig	Self-fertile (common figs)	Single tree works
Pomegranate	Mostly self-fertile, sets more with second variety	One is enough; two is better
Jujube	Mostly self-fertile but set heavier with cross	Plant two varieties
Peach	Most self-fertile	Single tree works
Apricot	Most self-fertile	Single tree works
Plum	Cross-required for Japanese (<i>P. salicina</i>); self-fertile for European (<i>P. domestica</i>)	Plant two Japanese varieties; one European
Almond	Cross-required except All-In-One	Plant All-In-One alone, or pair Hall's Hardy with a peach
Apple	Cross-required	Always plant two varieties with overlapping bloom
Pear	Cross-required	Plant Bartlett + Comice, or two Asian pears

3 · Selecting trees: bareroot vs container, rootstocks, chill hours

The January bareroot window · rootstock choices · variety-by-variety chill demand

When to buy and plant

The single best time to plant a tree in the Dragoons is **January through mid-February**, as a bareroot tree. **Bareroot** simply means a dormant tree sold without soil — dug from the field in fall, root-pruned, kept cool through winter, and shipped or sold bare from January to March. They are dramatically cheaper than container trees (typically \$25–40 versus \$60–120), establish faster because the roots are not bound, and the planting weather (cool soil, no leaves) is ideal. Order by November from a quality supplier; pick up or take delivery in January; plant within a week of receipt.

Container trees can be planted year-round but are best in fall (October–November, into warm soil) or early spring (February–March). Avoid container planting in summer — the heat stress on the rootball is severe in Cochise County, and water demand is brutal.

The bareroot-in-January rule. Plant bareroot trees in January–February. Trees that arrive bareroot, are heeled in or planted promptly, and get their first water within a day of planting have the best survival rate of any planting method in the Dragoons. Container trees in summer have the worst.

LOCAL TIP

Local sources. Bareroot trees can be ordered from **Stark Bro's** (Missouri, ships to Cochise County reliably), **Trees of Antiquity** (California, heirloom varieties), or **Bay Laurel Nursery** (California). Locally, **BFI Hardware** in Tombstone, **Cope's Western Outfitters** in Willcox, and the seasonal bareroot sale at the **University of Arizona Cooperative Extension office in Willcox** all stock trees in January. The Extension office sale is the best opportunity to ask local-knowledge questions before buying.

Bareroot vs container

Format	Cost	Best season	Survival in Dragoons	Notes
Bareroot, dormant ●	\$25-40	Jan-Feb	High if planted promptly	Best for most stone fruit, apples, pears
5-gallon container	\$50-80	Oct-Nov, Feb-Mar	Moderate	Cheaper than 15-gal; good for figs, poms
15-gallon container	\$80-150	Oct-Nov, Feb-Mar	High	Faster fruiting; better for jujube
25-gallon container	\$200+	Oct-Nov	High	Only if you need instant size
Cuttings (fig, pomegranate)	\$0-10	Dec-Jan rooted	High once rooted	The cheapest way to expand a fig hedge

Rootstocks

A grafted tree has two parts joined at a graft union near the base: the **scion** (the above-ground variety that produces the fruit you want — *Pink Lady*, *Elberta*, *Red Haven*) and the **rootstock** (the root system the scion is grafted onto, typically chosen for vigor control, disease resistance, or soil tolerance). Rootstock determines mature size, drought tolerance, and adaptation to alkaline desert soil. Scion determines the fruit.

Species	Common rootstocks	Mature size	Dragoon fit
Apple	M.27 (mini-dwarf)	6-8 ft	Container or espalier only
Apple	M.9 (full dwarf)	8-12 ft	Backyard scale, requires staking
Apple	MM.106 (semi-dwarf) ●	12-18 ft	Best for Dragoons backyard — drought-tolerant, alkaline-tolerant
Apple	MM.111 (semi-vigorous)	15-22 ft	Use on poorer soils
Apple	Seedling / standard	20-30 ft	Avoid in backyard — too large
Peach / nectarine	Lovell (peach seedling)	15-20 ft	Standard. Good for Dragoons.

Species	Common rootstocks	Mature size	Dragoon fit
Peach / nectarine	Nemaguard	15–20 ft	Nematode-resistant; use where root-knot suspected
Peach / nectarine	Citation (semi-dwarf) ●	8–12 ft	Best for backyard peach — easier management
Plum / apricot / almond	Myrobalan (plum seedling)	18–25 ft	Standard. Vigorous.
Plum / apricot / almond	Citation ●	10–14 ft	Backyard scale
Pear	OHxF 333 (semi-dwarf) ●	12–18 ft	Best for Dragoons; fireblight-resistant
Pear	Quince (BA29)	10–14 ft	Dwarfing; less alkaline-tolerant
Fig, pomegranate, jujube	Own roots	Variable	No rootstock needed — these are sold on their own roots

For backyard scale in the Dragoons, the sweet spot is **semi-dwarf rootstock** — MM.106 for apples, Citation for stone fruit, OHxF 333 for pears. Trees reach 10–14 ft, can be pruned to 8–10 ft for easy harvest, and don’t require staking past year 3. Standard-size trees are too large for most backyard plantings; full dwarfs are too vulnerable in our wind and heat.

Don’t buy whatever’s at the box store. Big-box nurseries stock high-chill northern varieties on standard rootstock — wrong on both counts for the Dragoons. Order specifically for Cochise County: 400–800 chill hours, semi-dwarf rootstock. The list in this guide is the starting point.

Chill hours by variety — the master table

This is the single most useful reference table for variety selection. The Dragoon target is the medium band; below 400 hours is too low (frozen blooms); above 900 is too high (inconsistent set).

Crop	Variety	Chill hours	Dragoons fit	Notes
Fig	Black Mission	< 100	●●●●●	Bulletproof. Two crops in long years.
Fig	Brown Turkey	< 100	●●●●●	Hardest fig — survives 15 °F
Fig	Celeste	100	●●●●●	Small sweet figs, closes “eye” — bird-resistant
Fig	Desert King	100	●●●●○	Breba crop only; larger fruit
Pomegranate	Wonderful	150	●●●●●	The commercial benchmark. Late ripening.
Pomegranate	Eversweet	150	●●●●●	Sweet, soft seeds, earlier than Wonderful
Pomegranate	Parfianka	150	●●●●●	Russian heirloom; very productive
Pomegranate	Salavatski	150	●●●●●	Hardest pom — survives 0 °F
Jujube	Li	150	●●●●●	Large fruit, eat fresh. The benchmark.
Jujube	Lang	150	●●●●●	Pear-shaped, dries well
Jujube	Honey Jar	150	●●●●●	Small but exceptionally sweet
Jujube	Sherwood	200	●●●●○	Larger tree, late ripening
Peach	Florida Prince	150	●●○○○	Too low — Feb bloom
Peach	Babcock	250–300	●●●○○	White flesh; early bloom risk

Crop	Variety	Chill hours	Dragoons fit	Notes
Peach	Red Haven	800	●●●●●	The benchmark Dragoon peach.
Peach	Elberta	850	●●●●○	Classic canning peach; late bloomer
Apricot	Goldcot	800	●●●●●	Hardy; later bloom than most apricots
Apricot	Moorpark	700	●●●●○	Classic flavor; mid-bloom
Apricot	Harglow	700	●●●●●	Best Dragoon apricot — late bloom for an apricot
Apricot	Royal Blenheim	400	●●●○○	California heirloom; early-bloom risk here
Plum	Santa Rosa (Japanese)	400	●●●●○	Self-fertile (mostly); early bloom
Plum	Methley (Japanese)	250	●●●○○	Very early — bloom often frozen
Plum	Stanley (European)	800	●●●●●	Best Dragoon plum — late bloom, self-fertile, dries to prune
Almond	All-In-One	400	●●●●○	Self-fertile semi-dwarf; early bloom
Almond	Hall's Hardy	350	●●●○○	Cold-hardest almond; pairs with peach for pollination
Apple	Anna	200	●●○○○	Bloom too early — frost risk

Crop	Variety	Chill hours	Dragoons fit	Notes
Apple	Dorsett Golden	250	●●○○○	Anna's pollinator; same problem
Apple	Pink Lady (Cripps Pink)	400	●●●●●	Best Dragoon apple — late bloom, very late harvest
Apple	Granny Smith	600	●●●●●	Reliable Cochise County variety
Apple	Fuji	500	●●●●○	Sweet, vigorous
Apple	Gala	500	●●●●○	Early-mid season
Apple	Honeycrisp	1000	●○○○○	Chill demand often unmet here
Pear	Bartlett	600	●●●●○	Classic; needs cross-pollination
Pear	Comice	600	●●●●○	Buttery dessert pear
Pear	Shinseiki (Asian)	400	●●●●●	Best Dragoon pear — alkaline-tolerant, fireblight-resistant
Pear	Hosui (Asian)	450	●●●●●	Sweet, crisp, very productive

WARNING

Don't plant Honeycrisp, Bing cherry, or any high-chill northern variety in the Dragoons. Chill demand is often not met in mild winters, and the trees produce poorly or not at all. Plant Pink Lady or Granny Smith instead.

4 · The Dragoons classics — figs, pomegranates, jujubes

Why these thrive · variety reference · planting · pruning · irrigation · harvest

If you plant only three fruit trees in the Dragoons, plant a fig, a pomegranate, and a jujube. These three are the easy wins. All three evolved in hot dry climates from the Mediterranean to Central Asia. All three tolerate alkaline desert soil. All three carry very little pest pressure in Cochise County. All three are drought-tolerant once established — a mature pomegranate or fig can fruit on supplemental water alone after the first three years. All three bloom *after* the late-spring frost window, so they crop reliably year after year.

If you're new to orcharding here, plant a fig and a pomegranate first.

They are the two easiest trees in the Dragoons — heat-tolerant, drought-tolerant, alkaline-soil-tolerant, almost pest-free, and they bloom past the frost window. A *Black Mission* fig and a *Wonderful* pomegranate planted bareroot in January will give you fruit by year three and decades of harvest after that. Add a jujube the second winter. Save peaches, apricots, and apples for year three, after you've watched the orchard rhythm once.

The classics are the right starting point for a new orchard. Plant them first, get them established while you learn the rhythm of the orchard, and add the more demanding stone and pome fruits in years 2 and 3.

4.1 Figs (*Ficus carica*)

Figs are arguably the perfect Dragoons backyard fruit. They love the heat. They tolerate the alkaline soil. They produce two crops a year in long seasons (a small breba crop on last year's wood in late June, and the main crop on this year's wood in August–September). They are nearly pest-free here. They root readily from cuttings, so one fig tree becomes a hedge in five years for the cost of a pair of pruning shears.

Variety reference — figs

Variety	Fruit color	Fruit size	Closed eye?	Hardiness	Notes for the Dragoons
Black Mission	Purple-black	Large	Open	15 °F	The classic California fig. Sweet, jammy, two crops. Most productive variety. ●●●●●
Brown Turkey	Bronze-brown	Large	Open	10 °F	Hardest common fig. Reliable two-crop producer. Excellent fresh and dried. ●●●●●
Celeste	Purple-brown	Small	Closed	10 °F	Closed “eye” resists bird and wasp damage — major Dragoons advantage. Honey-sweet. ●●●●●
Desert King	Yellow-green	Large	Open	15 °F	Breba crop only; very early (June). Good for short-season frost-pocket sites. ●●●●○
Kadota	Yellow-green	Medium	Closed	15 °F	The white commercial fig. Less productive than Mission here. ●●●○○

Variety	Fruit color	Fruit size	Closed eye?	Hardiness	Notes for the Dragoons
LSU Gold	Yellow	Large	Closed	10 °F	Newer southern variety; sweet; excellent disease resistance. ●●●●○

Planting figs

Figs root so readily from cuttings that the cheapest way to start is to take a 10–12" dormant cutting (pencil-thick) from an established Dragoons tree in December or January, stick the bottom half into a 1-gallon pot of damp sand, keep cool and shaded, and plant out the rooted cutting in October. From bareroot or container, plant in January–February, in a 30" deep hole with broken caliche, backfilled 50/50 with native soil and compost. Water in heavily; mulch with 4" of bark or straw out to the dripline.

Figs do not need rootstock. They are sold on their own roots and grow vigorously without grafting. If a fig is killed back by a hard winter, the roots survive and resprout — the tree returns even if the top dies.

Pruning figs — open-vase

Figs are pruned to an **open-vase** shape — the standard stone-fruit form, with a short trunk (24–36"), 3–5 main scaffold branches angled outward at 45–60°, an open center with no upright "leader," and overall tree height kept below 10–12 ft for easy harvest. Prune in late winter (January–February) while dormant.

Year by year:

Year	Pruning action
Year 1 (planting)	Head the leader at 24–36" tall. Select 3–5 buds to become scaffolds during the first growing season.
Year 2 (Jan–Feb)	Cut each scaffold branch back by half. Remove any vertical "water sprouts" from the center.
Year 3 (Jan–Feb)	Continue shaping. Begin removing crossing or inward-growing branches.

Year	Pruning action
Year 4+ (Jan-Feb)	Maintenance pruning. Remove 1/4 to 1/3 of last year's growth. Keep open center. Remove suckers from the base.

Figs fruit on both old wood (the breba crop, in early summer) and new wood (the main crop, on the current year's growth). Aggressive pruning reduces the breba crop but boosts the main crop — generally a good trade for the Dragoons where the main crop is larger and better quality.

Irrigation — figs

Figs are drought-tolerant once established but produce dramatically more and larger fruit with regular irrigation in summer. Plan for:

Tree age	Gallons / week, summer	Frequency
Year 1	8-12 gal	2× per week
Year 2	12-20 gal	2× per week
Year 3	20-30 gal	1-2× per week
Mature (5+ yr)	30-50 gal	1× per week, deep soak

Cut water dramatically in winter — one deep soak per month from November to February is sufficient unless the winter is unusually dry.

Harvest — figs

A fig does not ripen off the tree. The harvest window is short and specific. Pick when:

- The fruit hangs from the stem rather than standing out horizontally
- The neck of the fig has softened to the point where the fruit bends easily
- The skin has reached full color (purple-black for Mission, brown for Turkey)
- A drop of “honey nectar” appears at the eye

Figs picked even one day early are bland and rubbery; figs picked one day late are split and fermenting. The window is roughly 24-48 hours per fruit. In a productive tree, this means visiting daily through August and September.

4.2 Pomegranates (*Punica granatum*)

Pomegranates are nearly indestructible in the Dragoons. They tolerate temperatures from 10 °F to 110 °F, accept alkaline soil up to pH 8.5, drink very little water once established, and have almost no pest pressure here. The flower display in May-June

is striking (bright orange-red trumpets); the fall fruit color is one of the great Dragoon harvest sights. A mature pomegranate produces 50–150 lb of fruit per year and lives 30+ years with no fuss.

Variety reference — pomegranates

Variety	Fruit size	Seed type	Sweetness	Notes for the Dragoons
Wonderful	Large	Hard	Tart-sweet	The commercial benchmark. Late ripening (October). Best for juice. ●●●●●
Eversweet	Medium	Soft	Very sweet	Earlier (September). Seeds are nearly edible whole. ●●●●●
Parfianka	Medium-large	Soft	Sweet-tart	Russian heirloom; very productive; excellent eating. ●●●●●
Salavatski	Medium-large	Hard	Tart	The hardiest pomegranate — survives 0 °F. Best for cold sites. ●●●●●
Sweet	Medium	Soft	Very sweet	Mild, low-tannin; quick September ripening. ●●●●○
Granada	Medium	Hard	Tart-sweet	Earlier than Wonderful; classic SE Arizona variety. ●●●●○

Planting pomegranates

Plant as bareroot in January–February or as containerized plants in October. Like figs, pomegranates grow on their own roots — no rootstock. The planting hole should be 24–30" deep with broken caliche, backfilled 50/50 with native soil and compost. Pomegranates are unusual in tolerating both clay and sand, so soil texture is less critical than for stone fruit. Space 12–15 ft between trees if planting a row.

Pomegranates can be grown as a single-trunk tree or as a multi-trunk shrub. The multi-trunk shrub form is more natural, requires less pruning, and produces about the same fruit — recommended for backyard scale. To grow as a single trunk, remove all but one main stem at planting and continue removing suckers annually.

Pruning pomegranates

Pomegranates are vigorous suckers — they constantly send up new shoots from the base. The main pruning task is **sucker removal**. Beyond that, they need only light annual pruning:

- **January–February:** remove dead wood, crossing branches, and any suckers below 12" tall.
- **Form:** allow 3–5 main trunks for the shrub form (most natural), or remove all but one for the tree form.
- **Height:** prune to keep below 10 ft for easy harvest, though pomegranates will fruit fine at 15 ft if unpruned.
- **Light:** open the center somewhat for airflow, but pomegranates are less fussy about open canopies than figs or peaches.

Heavy pruning is unnecessary and actually reduces fruit. The tree wants to be a bushy shrub; let it.

Irrigation — pomegranates

The least-thirsty fruit tree in this guide. Mature pomegranates fruit on very little supplemental water:

Tree age	Gallons / week, summer	Frequency
Year 1	6–10 gal	2× per week
Year 2	10–15 gal	1–2× per week
Year 3	12–20 gal	1× per week
Mature (5+ yr)	15–25 gal	1× per week or less

Excess irrigation causes fruit split — especially in late summer when pomegranates are sizing up. Monsoon rains followed by heavy supplemental water are the classic

split scenario. Cut irrigation when the monsoon is active.

Harvest — pomegranates

Pomegranates ripen September–October depending on variety. Test for harvest:

- The fruit’s skin has changed from green to its mature color (deep red, pink-orange, or yellow-blush)
- The fruit makes a metallic “tink” sound when tapped — like a hollow coin
- The shape has flattened slightly at the calyx end (the “crown”)
- Harvest before the first hard freeze (below 28 °F splits the fruit)

Cut, don’t pull — use pruners to cut the stem flush with the fruit. Pulled fruit damages the spur and reduces next year’s crop. A whole pomegranate stores at 50 °F and 80–85 % humidity for 2 months, often longer.

4.3 Jujubes (*Ziziphus jujuba*)

The Chinese jujube — sometimes called Chinese date — is one of the least-known and best-performing fruits for Cochise County. Jujubes are tougher than any other tree in this guide. They tolerate desert heat, drought, alkaline soil, and saline water. They have almost no pest or disease pressure in the Dragoons. They produce small green-to-brown fruit in September–October that eats like an apple when fresh and like a date when dried. The tree is small (15–25 ft), with thorny twigs and a graceful weeping form.

Variety reference — jujubes

Variety	Fruit size	Shape	Use	Notes for the Dragoons
Li	Large (1.5")	Round, apple-like	Fresh eating	The benchmark jujube. Crisp, sweet, apple-flavored. ●●●●●
Lang	Medium (1.25")	Pear-shaped	Drying	Excellent dried; dries to date-like sweetness. ●●●●●
Honey Jar	Small (0.75")	Round	Fresh eating	Exceptionally sweet — like candy. Heavy producer. ●●●●●

Variety	Fruit size	Shape	Use	Notes for the Dragoons
Sherwood	Large	Elongated	Both	Vigorous tree; late ripening. ●●●●○
Sugar Cane	Medium	Round	Fresh	Crisp, intense sweetness, early ripening. ●●●●○
GA-866	Large	Round	Drying	Heavy producer; commercial dried-jujube variety. ●●●●○

Planting jujubes

Plant as bareroot in January–February or in container year-round (jujubes are tough enough to plant in summer if needed, though spring is still better). Dig a 24–30” hole, break caliche, backfill 50/50. Space 12–15 ft between trees. Jujubes are mostly self-fertile but set heavier crops with a second variety planted within 50 ft.

Jujubes are sold mostly on their own roots, though some named varieties are grafted onto seedling jujube rootstock. Either is fine. The trees sucker heavily from the roots, which can be a feature (free new trees to give away) or a nuisance (need to mow around the base each year).

Pruning jujubes — minimal

Jujubes have a naturally graceful form and need very little pruning. The main tasks are:

- **Year 1:** head the leader at 36” to encourage branching.
- **Year 2+:** remove dead wood, crossing branches, and any low branches that interfere with mowing.
- **Suckers:** mow around the base annually to keep root suckers from forming a thicket.
- **Thorns:** prune for access — jujube thorns are sharp and the tree resents being squeezed against by a harvester.

That’s it. Jujube is the most pruning-friendly tree in this guide.

Irrigation — jujubes

Jujubes are the second-least-thirsty fruit tree, after pomegranates. Mature trees fruit reliably on rainfall alone in long-rainfall years.

Tree age	Gallons / week, summer	Frequency
Year 1	6-10 gal	2× per week
Year 2	10-15 gal	1× per week
Year 3	12-18 gal	1× per week
Mature (5+ yr)	15-25 gal	Every 7-14 days

Harvest — jujubes

Jujubes ripen on the tree from green to yellow-green with brown spots to fully brown. The eating window is broad:

- **Yellow-green with brown speckling** — crisp, apple-like texture, mildly sweet — best for fresh eating
- **Fully brown, slightly wrinkled** — softer texture, candy-sweet, the start of the date stage — also excellent fresh
- **Fully wrinkled and brown on the tree** — fully dried on the branch; collect and store as you would dried dates

A single tree provides about 6 weeks of harvest from late August through October. The fruit is sturdy and ships well, unlike a fig.

5 · Stone fruits — peaches, apricots, plums, almonds

The chill-hours problem · frost protection · open-vase pruning · fruit thinning · pests

Stone fruits (*Prunus* species) are the heart of a productive Dragoon orchard for a household that wants summer fruit. A well-sited peach produces 80–150 lb of fruit in late June through August; an apricot, 40–80 lb in June; a plum, 50–100 lb in July; an almond, 5–15 lb of shelled nuts in September. They are also the most fussy crops in this guide — they bloom early, they freeze easily at bloom, they get peach leaf curl in wet springs, they harbor borers, and gophers eat their roots. They reward attention.

If you're new to stone fruit in the Dragoons. The February-through-March frost window is the entire challenge. Apricots and almonds bloom mid-to-late February — well before the average last frost. Peaches and plums bloom early-to-mid March. Plan and install the frost-protection infrastructure (frost cloth, heat source, stakes) *before* you plant the trees, not after. A stone-fruit grower who treats frost protection as optional will lose the crop in 3 of 5 years. The growers who succeed here are the ones who set February alerts on their phone and string Christmas lights inside frost-cloth tents on cold nights.

5.1 The chill-hours problem and the frost-protection mandate

All four stone fruits bloom early — apricots and almonds in **mid-to-late February**, peaches and plums in **early-to-mid March**. The Dragoons average last spring frost is **March 25–April 5**. Almost every year, at least one stone-fruit species blooms before the last frost. Almost every year, at least one stone-fruit species loses at least some of the crop to a late freeze. Almost every other year, the loss is severe.

The variety-selection task is to push bloom as late as possible (medium-chill varieties bloom later than low-chill); the site-selection task is to delay bloom with cold-aspect siting (east or north slope, away from south walls); and the management task is **frost protection at bloom**.

The frost-protection mandate. If you grow stone fruit in the Dragoons, you will need to protect blooms from late frost in 3 out of every 5 years. Plan the protection infrastructure (frost cloth, frost ring, water spray) before the first bloom. The single biggest cause of stone-fruit failure here is not having frost protection ready when the forecast turns cold.

Frost-protection methods

Method	Effective down to	Cost	Effort
Frost cloth (drape over tree)	28 °F	\$20–40 per tree	20 min to install at dusk, 20 min to remove at dawn
Frost ring + Christmas lights (heat)	25 °F	\$30–60 per tree	One-time setup; flip switch on cold nights
Overhead water (sprinkler)	24 °F	Plumbing investment	Run all night; ice protects bloom by releasing latent heat
Smudge / open burn	25 °F	Wood + fire-permit	High effort; not generally permitted in fire season
Wind machine (mix warm-air layer down)	28 °F	\$\$\$\$	Commercial only
Heat pad / christmas lights inside frost ring + cloth	22 °F	\$50–80 per tree	Strong protection — the backyard standard

For backyard scale, the standard protocol is:

1. **Watch the forecast** February 15–April 15. Any forecast low below 32 °F triggers protection.
2. At dusk on the cold-forecast day, **drape frost cloth** over the tree, stake the corners.
3. For temperatures below 28 °F, **add a heat source** under the cloth: a string of incandescent Christmas lights (the actual hot bulbs, not LEDs — LEDs don't make heat), or a small clamp-on heat lamp, or an open container of water (releases latent heat as it cools).
4. **Remove the cloth at dawn** as soon as the air warms above 35 °F. Leaving cloth on through the day stresses the tree and bakes the blooms.

LOCAL TIP

The frost-cloth stash. Buy 10x10 ft frost cloth (Agribon AG-19 or similar) in fall, before frost season. Keep one piece per stone-fruit tree, plus two spares, folded next to the door. The forecast often gives only 24-hour notice. Frost cloth sourced from BFI in Tombstone or ordered from Johnny's Selected Seeds is the standard. Avoid plastic — plastic touching the blooms transfers cold

directly and is worse than no cover.

5.2 Open-vase pruning — the universal stone-fruit shape

All stone fruits prune to the same basic shape: **open-vase**. Short trunk (24–36”), 3–5 main scaffold branches angled outward at 45–60°, no central leader, open center for sun and airflow, overall height kept below 10–12 ft for easy harvest. The open center lets light reach all the fruit, lets the monsoon humidity dry out quickly, and makes the inside of the tree harvestable.

Year	Pruning action
Year 1 (planting)	Head the leader at 24–36” tall. Select 3–5 evenly-spaced buds to become scaffolds.
Year 2 (Jan–Feb)	Cut each scaffold back by 1/3 to 1/2 to encourage branching. Remove any vertical shoots from the center.
Year 3 (Jan–Feb)	Continue scaffold development. Select 2–3 secondary branches per scaffold. Remove inward-growing shoots.
Year 4+ (Jan–Feb)	Maintenance pruning. Remove 1/4 to 1/3 of last year’s growth. Maintain open center. Remove water sprouts and suckers.
Summer (July)	Summer prune peaches and plums — remove vigorous upright shoots after harvest. Reduces winter pruning load and lets light into the fruiting wood for next year.

Prune in late winter (January–February), the same window as figs and pomegranates. Avoid pruning in wet weather — clean cuts on dry days reduce the introduction of canker organisms. Disinfect pruners between trees with a 10 % bleach solution or 70 % isopropyl alcohol.

5.3 Fruit thinning — the unglamorous critical task

Stone fruits in the Dragoons set heavier than they can ripen. A peach tree that survives the bloom-frost window will then produce 4–6 times more fruit than it can size to good quality. The fruit *can* ripen on the tree as marbles — small, hard, flavorless — or the grower can **thin** the fruit to 6–8” apart on the branch and let the tree’s resources go into the remaining fruits.

Thinning happens about 4–6 weeks after bloom, when the fruit is the size of a dime to a quarter. The rule is **one fruit every 6–8 inches** along the branch. Pinch off the

smaller, deformed, or doubled fruits; keep the larger, well-shaped ones. The remaining fruits will reach proper size and develop the sugars and aromatics that make a peach worth eating.

Crop	Final spacing	Timing
Peach	6–8 in	4–6 weeks after bloom
Apricot	4–6 in	4–6 weeks after bloom
Plum (Japanese)	4–6 in	4–6 weeks after bloom
Plum (European)	3–4 in	Less critical; do if heavily set
Almond	None	Almonds don’t need thinning

A thinned peach tree may look heartbreakingly bare in May. The August harvest justifies it. An unthinned tree produces twice the fruit count but at half the size and a quarter of the quality, and broken limbs from the weight are common.

WARNING

Don’t skip thinning. The most common stone-fruit complaint in the Dragoons — small bland fruit, broken branches, biennial bearing (heavy crop one year, none the next) — is the result of skipped thinning. Thinning is the difference between marbles and peaches.

5.4 Variety reference for stone fruits

Repeated and expanded from §3 for the species-by-species reference.

Peaches (*Prunus persica*)

Variety	Chill h	Harvest	Self-fertile?	Dragoons fit	Notes
Red Haven	800	Jul	Yes	●●●●●	The benchmark. Mid-season, yellow flesh, freestone.
Elberta	850	Aug	Yes	●●●●○	Classic canning peach. Late bloom — best frost avoidance.

Variety	Chill h	Harvest	Self-fertile?	Dragoons fit	Notes
Babcock	250	Jun	Yes	●●●○○	White flesh, sweet. Bloom too early most years.
Florida Prince	150	May-Jun	Yes	●●○○○	Very low chill. Blooms in February — too risky.
Frost	700	Aug	Yes	●●●●○	Resistant to peach leaf curl — major Dragoon advantage.
Indian Free	750	Aug	Partial	●●●●○	Heirloom red-fleshed; needs pollinator.
O'Henry	750	Aug	Yes	●●●●○	Large fruit, productive, late ripening.

Apricots (*Prunus armeniaca*)

Variety	Chill h	Harvest	Self-fertile?	Dragoons fit	Notes
Harglow	700	Jul	Yes	●●●●●	Best Dragoon apricot. Late bloom for an apricot — frost-tolerant.
Goldcot	800	Jul	Yes	●●●●●	Hardy; bright yellow; productive.

Variety	Chill h	Harvest	Self-fertile?	Dragoons fit	Notes
Moorpark	700	Jul	Yes	●●●●○	Classic flavor; mid-bloom risk.
Royal Blenheim	400	Jun	Yes	●●●○○	California heirloom. Early bloom — high frost risk here.
Tilton	600	Jul	Yes	●●●●○	Mid-late bloom; productive.
Puget Gold	800	Jul	Yes	●●●●○	Bacterial-spot resistant; reliable.

Plums (*Prunus salicina* / *P. domestica*)

Variety	Type	Chill h	Harvest	Pollination	Dragoons fit
Stanley	European (<i>P. domestica</i>)	800	Aug	Self-fertile	●●●●● Best Dragoon plum — late bloom, dries to prune
Santa Rosa	Japanese (<i>P. salicina</i>)	400	Jul	Mostly self-fertile	●●●●○ — classic Western plum; early bloom risk
Methley	Japanese	250	Jun	Self-fertile	●●●○○ — very early; bloom often frozen
Burbank	Japanese	400	Jul	Needs pollinator	●●●●○ — classic large red
French Improved	European	800	Aug	Self-fertile	●●●●● — the prune plum

Variety	Type	Chill h	Harvest	Pollination	Dragoons fit
Beauty	Japanese	250	Jun	Self-fertile	●●●○○ — heavy producer but early bloom

For Japanese plums, plant **two varieties** within 50 ft for reliable cross-pollination (Santa Rosa + Burbank is a classic pair). European plums (Stanley, French Improved) are self-fertile — one tree works.

Almonds (*Prunus dulcis*)

Variety	Chill h	Harvest	Pollination	Dragoons fit
All-In-One	400	Sep	Self-fertile	●●●●○ — only practical backyard almond; semi-dwarf
Hall's Hardy	350	Sep	Needs pollinator (peach works)	●●●○○ — cold-hardy; bitter kernel acceptable
Garden Prince	250	Aug	Self-fertile	●●●○○ — very early bloom
Mission	500	Sep	Needs pollinator	●●●○○ — commercial variety; full-size tree

Almonds bloom *earlier than apricots* — typically mid-February — making them the riskiest stone-fruit choice for the Dragoons. All-In-One is the only practical backyard almond because of the self-fertile habit (no need for a paired bloomer), the semi-dwarf size, and the slightly later bloom. Even so, expect a crop in 3 out of 5 years.

5.5 Pest pressure — stone fruits

Stone fruits carry more pest pressure than figs, pomegranates, and jujubes combined.

Pest / disease	Affected	Season	Symptoms	Control
Peach leaf curl (<i>Taphrina deformans</i>)	Peach, nectarine	Spring (wet)	Red puckered curled leaves; severe defoliation	Dormant copper spray in Jan + Feb. The only effective control. Plant Frost variety.
Brown rot (<i>Monilinia</i>)	All stone fruit	Bloom + harvest	Blossom blight; fruit rot	Copper at bloom; sanitation (remove mummies); thin for airflow
Bacterial canker	Plum, peach	Cool wet weather	Sunken bark lesions, gummosis	Avoid pruning in wet weather; copper spray
Peach tree borer	Peach, plum, almond	Jun-Aug egg-lay	Gummy frass at base of trunk	Trunk paint with white latex; pheromone trap; sanitation
Aphids (green peach)	All stone fruit	Spring	Curled leaves, sticky honeydew	Hard water spray; ladybugs; tolerate moderate levels
Codling moth	Plum (less than apple)	May-Aug	Wormy fruit	Pheromone traps for monitoring
Gophers	Roots of all stone fruit	Year-round	Sudden tree decline; eaten roots	Wire baskets at planting; trap actively
Birds	Ripening fruit	Late June-Aug	Pecked fruit	Netting from veraison to harvest
Squirrels	Almonds, peaches	Late summer	Stripped trees	Hard to control; tolerate or fence

Peach leaf curl — the spring fungal that ruins peaches

This is the most important stone-fruit disease in the Dragoons. *Taphrina deformans* infects buds during winter and emerges with the new spring leaves, causing the characteristic red puckered curled foliage and often severe defoliation. Once symptoms appear, control is impossible for the season. The control is **dormant spraying** before bud swell:

1. **Mid-January:** spray entire tree with copper fungicide (Bonide Liquid Copper at label rate, or Bordeaux mixture).
2. **Mid-February:** repeat copper spray, especially if a wet spring is forecast.
3. **Sanitation:** rake and dispose of fallen leaves in fall; do not compost on site.
4. **Variety choice:** the Frost peach variety is genetically resistant — worth planting as one of your peaches if leaf curl has been a problem.

Two dormant copper sprays, January and February. This is the single most important stone-fruit task in the Dragoon calendar. Skip it and the peach crop is at risk; do it religiously and peach leaf curl essentially never appears.

Peach tree borers and trunk paint

Peach tree borers (*Synanthedon exitiosa*) lay eggs at the base of the trunk in summer; larvae bore in and feed on the cambium, often girdling and killing young trees. Control is largely cultural:

- **White latex trunk paint** (50/50 with water) on the lower 24" of trunk reflects heat, discourages borer egg-lay, and prevents sunscald. Refresh annually in February.
- **Pheromone traps** monitor population pressure.
- **Sanitation** — remove dead and damaged limbs promptly; don't leave wounds for egg-lay.

Gophers — the underground threat

A pocket gopher will kill a young tree in a single season by eating the roots from below. Symptoms are sudden wilt and decline with no visible above-ground cause. Control starts at planting:

- **Wire baskets** (gopher cages, sometimes called "gopher baskets") — galvanized 1/2" hardware cloth fashioned into a 24" cube — installed in the planting hole around the rootball. The tree roots eventually grow through the wire but by then the trunk is thick enough that the gopher loses interest.
- **Active trapping** — once a gopher is in the orchard, set traps in fresh mounds. Macabee traps and Cinch traps are the standard.

Gopher pressure varies wildly across Dragoon sites. Some properties never see

one; others have constant problems. Ask the previous owners or neighbors before planting.

6 · Pome fruits — apples and pears

Low-chill apple varieties · Asian vs European pears · spur vs tip pruning · codling moth

Apples and pears (the pome fruits, *Malus* and *Pyrus*) are workable in the Dragoons but require more variety attention than stone fruit. The native apple range is the cool-temperate north — cold winters, cool summers, lots of chill. The Dragoons winters are mild and the summers are hot. Variety selection matters enormously: a Honeycrisp planted in Cochise County is a perpetual disappointment; a Pink Lady or a Granny Smith is a backyard pillar that crops year after year.

6.1 Apples — the low-chill imperative

The Dragoon chill window (700–900 hours) supports medium-chill apple varieties beautifully and high-chill varieties poorly. The 400–700 chill-hour band is the sweet spot.

Variety reference — apples

Variety	Chill h	Harvest	Bloom timing	Dragoons fit	Notes
Pink Lady (Cripps Pink)	400	Nov	Late	●●●●●	The Dragoon apple. Latest harvest of any apple here; long storage; crisp tart-sweet.
Granny Smith	600	Oct–Nov	Mid	●●●●●	Reliable Cochise variety. Cooks beautifully; stores 4–6 months.
Fuji	500	Oct	Mid	●●●●○	Very sweet; vigorous; productive.

Variety	Chill h	Harvest	Bloom timing	Dragoons fit	Notes
Gala	500	Aug-Sep	Mid	●●●●○	Early; sweet; doesn't store as well as later apples.
Anna	200	Jun-Jul	Very early	●●○○○	Blooms in February — frost risk. Useful only for low-chill years.
Dorsett Golden	250	Jun-Jul	Very early	●●○○○	Same problem as Anna.
Honeycrisp	1000+	Sep	Mid	●○○○○	Chill demand often unmet; inconsistent production. Avoid.
Arkansas Black	500	Oct-Nov	Mid	●●●●○	Heirloom; stores remarkably well — better in February than at harvest.
Mutsu	600	Oct	Mid	●●●●○	Crispin — large fruit, sweet-tart, productive.
Liberty	800	Sep	Late	●●●●○	Scab-resistant; reliable; good fresh eating.

Pollination — apples require cross-pollination

Almost all apple varieties require a second variety for fruit set, blooming at the same time. Pair varieties carefully:

Combination	Reason
Pink Lady + Granny Smith ●	Both late-blooming; both reliable Dragoon producers; complementary harvest (Granny Oct, Pink Nov)
Gala + Fuji	Both mid-bloom, mid-harvest; classic backyard pair
Anna + Dorsett Golden	The low-chill pair; both bloom early — only useful where frost protection is reliable
Granny Smith + Fuji	Bloom overlap is good; both reliable
Liberty + Arkansas Black	Late bloom, late harvest, long storage

Crabapples can also serve as pollinators for any apple — their bloom is heavy, prolonged, and overlaps with most apple bloom periods.

Spur-bearing vs tip-bearing pruning

Apples and pears come in two pruning patterns based on where they fruit:

- **Spur-bearing** varieties produce fruit on short spurs growing on 2-year-old and older wood. Most apples are spur-bearing. Prune to maintain spurs: head back annual growth, but don't remove the older spurred wood.
- **Tip-bearing** varieties produce fruit at the tips of one-year-old shoots. A few apples (Granny Smith, Beauty of Bath) are partly tip-bearing. Prune more lightly; don't head back all the new growth or you remove the fruiting tips.

Most apples can be pruned to either a **central-leader** form (a single vertical trunk with horizontal scaffolds, like a Christmas tree) or a **modified central-leader** (central leader for the first 6–8 ft, then opening into a vase form). The central-leader form is more productive per square foot but harder to manage for harvest; the modified form is the backyard standard.

Year	Apple pruning
Year 1 (planting)	Head the leader at 36–48". Select 3–4 wide-angled scaffolds at 24–36" up.
Year 2 (Jan–Feb)	Continue leader to next tier at 24–30" higher. Cut last year's leader to 1/2 above bud.
Year 3 (Jan–Feb)	Develop next tier. Begin selecting permanent fruiting wood. Remove vertical water sprouts.

Year	Apple pruning
Year 4+ (Jan-Feb)	Maintenance: remove water sprouts, dead wood, crossing branches. Maintain spurs on spur-bearing varieties. Tip back the leader to keep height manageable.

6.2 Pears — Asian outperforms European in the Dragoons

European pears (*Pyrus communis* — Bartlett, Comice, Anjou) are workable in the Dragoons but are stressed by the alkaline soil, the heat, and **fireblight** — a bacterial disease that the European pears are highly susceptible to. Asian pears (*Pyrus pyrifolia* — Shinseiki, Hosui, Kosui) are better adapted: more alkaline-tolerant, more heat-tolerant, much more fireblight-resistant. For the Dragoons, **start with Asian pears**.

Variety reference — pears

Variety	Type	Chill h	Harvest	Fireblight resistance	Dragoons fit
Shinseiki	Asian (<i>P. pyrifolia</i>)	400	Aug	Excellent	●●●●● — Best Dragoon pear . Crisp, sweet, productive.
Hosui	Asian	450	Aug-Sep	Excellent	●●●●● — Russet skin; very sweet.
Kosui	Asian	450	Aug	Excellent	●●●●○ — Sweet, early.
20th Century (Nijisseiki)	Asian	450	Aug-Sep	Good	●●●●○ — Classic Japanese variety.
Bartlett	European (<i>P. communis</i>)	600	Aug	Poor	●●●●○ — Workable; watch for fireblight
Comice	European	600	Sep-Oct	Moderate	●●●●○ — Buttery dessert pear

Variety	Type	Chill h	Harvest	Fireblight resistance	Dragoons fit
Anjou	European	800	Sep	Moderate	●●●○○ — Workable at higher Dragoon elevations
Kieffer	European × Asian hybrid	350	Oct	Excellent	●●●●○ — Tough, prolific, cooking pear

Pollination — pears require cross-pollination

Like apples, almost all pears require cross-pollination. Asian pears cross-pollinate with European pears, so a mixed planting works. The classic backyard combinations:

Combination	Reason
Shinseiki + Hosui ●	Both Asian; both fireblight-resistant; bloom overlap reliable
Bartlett + Comice	Both European; classic dessert combo
Shinseiki + Bartlett	Asian + European cross-pollination — fine

Fireblight — the major pear disease

Erwinia amylovora infects pear flowers in spring during warm humid weather, then progresses down the branch killing the wood. Symptoms are a blackened “shepherd’s crook” at the tip of a branch — the wilted tip looks like it’s been scorched by fire. Once established, the only control is **aggressive pruning** of infected wood 12” below the visible damage, with pruner sterilization between every cut. Pruning out fireblight early is the difference between losing a branch and losing the tree.

For the Dragoons, fireblight is moderate in pressure — drier than Pacific Northwest pear country but a real concern in monsoon years. Plant fireblight-resistant varieties (Asian pears, Kieffer); avoid heavy nitrogen fertilization (lush growth invites infection); prune aggressively at the first sign.

6.3 Codling moth — the apple pest

Codling moth (*Cydia pomonella*) is the dominant pest of apples in the Dragoons and most of the temperate world. The adult moth lays eggs on developing fruit in late spring; larvae bore into the apple and feed at the core; the result is the classic “wormy

apple.” A single apple tree can lose 60-80 % of fruit to codling moth in an unmanaged orchard.

Control is integrated:

- **Pheromone traps** for monitoring — hang in trees in April; check weekly. The trap catches the first flight and tells you when to act.
- **Bagging fruit** — at fruit thinning (4-6 weeks after bloom), slide a paper or nylon footie bag over each developing apple. Tedious but very effective for backyard scale.
- **Mating disruption** — pheromone twist-ties distributed through the orchard confuse males and prevent mating. Effective at scale (1 acre+); not really practical for a 2-tree backyard.
- **Spinosad spray** at first egg-hatch (use trap counts to time). Repeat in 10-14 days.
- **Trunk banding** — wrap trunks with corrugated cardboard in June; larvae crawl into the cardboard to pupate; remove and burn in fall.
- **Sanitation** — pick up fallen apples promptly; don't leave wormy fruit on the ground over winter (larvae overwinter in soil).
- **Codling moth granulosi virus (CYD-X)** — biological control, applied as a foliar spray; targets only codling moth larvae.

For a 2-4 tree backyard, the **bagging + sanitation** combo works well and uses no sprays. For larger plantings, monitoring traps + spinosad at peak egg-hatch is the standard.

7 · Citrus — container-only

Why in-ground doesn't work · Meyer lemon, Persian lime, kaffir lime · soil mix · wintering

Cochise County is **too cold for in-ground citrus**. The hardy citrus species (Meyer lemon, Persian lime, kumquat, kaffir lime, calamondin) survive brief frost down to about 28 °F but are damaged below 25 °F and killed below 20 °F. The Dragoons see 3–6 nights per winter below 25 °F and occasional January lows below 20 °F. An in-ground citrus tree, no matter how well-sited, will die in 1 to 5 winters. Don't plant citrus in the ground in the Dragoons.

WARNING

Don't plant in-ground citrus. Tucson and Phoenix grow citrus reliably in-ground at 2,000–2,500 ft. Cochise County at 4,500–5,000 ft is too cold. The investment in a citrus tree that dies its second winter is one of the most predictable failures in this guide.

The workable approach for citrus in the Dragoons is **container-only**, with the trees brought indoors during cold weather and set back outside in warm weather. Done well, container citrus produces good crops of Meyer lemon, Persian lime, and kaffir lime year-round.

7.1 What to grow in containers

Variety	Latin	Cold tolerance	Container size	Indoor light?	Notes
Meyer lemon	<i>Citrus × meyeri</i>	28 °F (brief)	15–25 gal	Tolerates indoors	The classic Dragoons container citrus. Productive.
Persian lime (Bearss)	<i>Citrus × latifolia</i>	28 °F	15–25 gal	Tolerates indoors	Productive; tart; ships well
Kaffir lime	<i>Citrus hystrix</i>	30 °F	10–15 gal	Tolerates indoors	Grown for leaves more than fruit
Kumquat (Meiwa, Nagami)	<i>Fortunella spp.</i>	25 °F	10–15 gal	Tolerates indoors	Cold-hardest citrus; small fruit eaten whole

Variety	Latin	Cold tolerance	Container size	Indoor light?	Notes
Calamondin	<i>Citrus × microcarpa</i>	28 °F	10-15 gal	Tolerates indoors	Ornamental + sour-orange substitute
Satsuma mandarin	<i>Citrus reticulata</i>	25 °F	15-25 gal	Tolerates indoors	Sweet, easy-peel; the hardest sweet citrus
Mexican lime	<i>Citrus aurantifolia</i>	32 °F	10-15 gal	Yes	True key lime — fussy; needs warm winter shelter

Avoid sweet oranges (Valencia, Navel) and grapefruit — they require more heat than container life provides at our latitude.

7.2 Soil mix for citrus pots

Citrus dislike water-logged feet and benefit from a fast-draining, slightly acidic mix. The standard recipe:

- 50 % high-quality bagged potting mix (Pro-Mix BX or equivalent)
- 25 % coarse perlite (improves drainage)
- 25 % composted pine bark fines (acidifies, improves drainage)
- Top-dress with 1/2" gravel mulch to retain moisture and prevent soil splashing

Citrus do best at **pH 6.0-6.5**, which is below Cochise well-water pH. Treat irrigation water for citrus pots the same way you would treat hydroponic reservoir water — drop the pH to ~6.2 with citric acid or phosphoric acid (see **Guide 4 Part 3** for the canonical pH-down recipe). Without water treatment, container citrus develop interveinal chlorosis from iron lockout within a year.

7.3 Wintering indoors

The standard rhythm:

- **March-November:** outside, in full sun on a south-facing patio. Water 2-3× per week in summer.
- **First frost forecast below 32 °F (typically October 25-November 15):** bring indoors. Place in a south-facing window, sunroom, or under grow lights.
- **November-February:** indoor light + reduced watering. Citrus go semi-dormant



Figure 1: Three potted citrus — Meyer lemon, Persian lime, and kaffir lime — on the south patio under overhead grow lights. The pots roll indoors below 28 °F and back outside in any clear week above 50 °F; the LEDs supplement the short winter days when the trees are inside.

in low light; over-watering at this stage causes root rot.

- **March, after last frost forecast (typically March 25–April 5):** transition outdoors over 7–10 days, starting in part shade and gradually exposing to full sun.

Citrus flower indoors in winter (Meyer lemons reliably bloom around January–February). Hand-pollinate with a small paintbrush moved between flowers to set fruit indoors.

LOCAL TIP

The south-facing patio rule. A south-facing wall or patio is the right outdoor home for container citrus from March through November. Radiant heat from the wall extends the frost-free window by 2–3 weeks on each end, and the wall blocks the cold north wind. Place pots on casters so they roll in and out easily — saves a great deal of back strain over the years.

7.4 Fertilizing container citrus

Citrus are heavy feeders, particularly for nitrogen and micronutrients. Use a balanced citrus fertilizer (often labeled “Citrus & Avocado”) at half-strength monthly from March through October. The DIY hydroponic Masterblend recipe (see **Guide 4 Part 1**) works fine as a liquid feed for citrus pots at standard fruiting-stage EC (1.6–2.0 mS/cm) — citrus are happy on the same nutrient profile as fruiting tomatoes and peppers.

Foliar iron and zinc sprays (see **Guide 4 Part 2**) are useful 2–3 times per growing season for citrus in pots; the alkaline tap water and tightly-confined root zone lock out micronutrients faster than in-ground trees.

8 · Irrigation for the orchard

Drip + deep soak · first-year establishment vs mature trees · gallons per tree per week

Orchard irrigation is different from annual-crop irrigation in two important ways. First, the **root zone is deeper** — tree roots can extend 6–10 ft down on a Dragoons site with broken caliche, so the irrigation schedule should deliver water deep enough to wet that whole profile, not just the top 8". Second, **the schedule shifts seasonally** with a much bigger range than vegetables — a mature peach in February uses essentially zero gallons; the same tree in August uses 50+ gallons per week. The irrigation system must accommodate both extremes.

8.1 Drip irrigation layout

The standard backyard orchard irrigation setup:

- **Mainline** — 1" poly tubing from the well or storage tank, on a slope down to the trees
- **Sub-mains** — 1/2" poly tubing branching off the main, looping to each tree
- **Emitters per tree** — 4–6 emitters at year 1; expanding to 8–12 emitters for mature trees, arranged in a ring at the dripline (the projection of the canopy's outermost edge)
- **Emitter flow rate** — 1 gph (or 2 gph for high-summer demand)
- **Timer** — RAINPOINT or Rachio battery-operated timer with multiple stations
- **Filter** — 200-mesh inline filter at the mainline (Dragoon well water carries enough sediment to clog emitters within a season)

The emitter ring expands outward as the tree grows. A young tree has emitters within 12" of the trunk; a mature tree has emitters in a ring 4–6 ft out from the trunk at the dripline. **Don't water the trunk** — water the root zone, which is where the feeder roots live.

8.2 First-year establishment vs mature trees

A newly-planted tree has all its roots in the original rootball (or, for bareroot, in a small clump of new roots). It cannot draw water from a wide area. It needs frequent, light watering — every 2–3 days in summer, focused close to the trunk. As the roots expand, the watering shifts to deeper and less frequent.

Year	Watering frequency (summer)	Watering depth	Emitter pattern
1 (newly planted)	Every 2–3 days	Wet the original rootball + 12" beyond	4 emitters within 18" of trunk

Year	Watering frequency (summer)	Watering depth	Emitter pattern
2	Every 3–4 days	Wet to 24" depth	6 emitters at 24" radius
3	Every 5–7 days	Wet to 36" depth	8 emitters at 36" radius
Mature (5+ yr)	Every 7–10 days	Wet to 60" depth	10–12 emitters at dripline (4–6 ft)

The principle: as the tree matures, water **less often** but **more deeply**. Deep watering encourages deep rooting, which makes the tree more drought-tolerant. Frequent shallow watering keeps the roots in the top foot of soil, where they dry out fast and where the tree is fragile during heat waves.

8.3 Gallons per tree per week by season

Season	Months	Fig	Pomegranate	Jujube	Peach	Apricot	Plum	Apple
Dormant	Dec-Feb	0–4	0–4	0–4	0–6	0–6	0–6	0–6
Bud break / bloom	Mar-Apr	4–8	4–6	4–6	8–12	8–12	8–12	8–12
Fruit set / sizing	May-Jun	15–25	10–15	10–15	20–30	20–30	20–30	15–25
Hot summer / monsoon	Jul-Aug	25–40	15–25	15–25	30–50	25–40	25–40	20–35
Late summer / harvest	Sep	20–30	15–25	15–20	20–30	—	15–25	20–30
Post-harvest	Oct-Nov	8–12	8–12	8–12	10–15	10–15	10–15	10–15

These numbers assume a **mature** tree (year 5+) on a Dragoon site with 15 minutes of irrigation = roughly 1 gallon per emitter. Adjust downward for monsoon weeks (8" of August rain in two weeks reduces irrigation need by half or more) and upward for unusually dry windy springs.

Deep-and-infrequent beats shallow-and-frequent. A mature orchard tree wants one long deep soak every 7–10 days in summer, not a 15-minute drip every other day. The deep soak encourages roots to follow the water down, which builds drought tolerance and tree health. The frequent shallow watering pattern that works for vegetables is wrong for trees.

8.4 Mulch and weed pressure

Bare soil under a fruit tree heats to 130 °F in Cochise sun, dries fast, and grows aggressive weeds (bindweed, Russian thistle, prickly lettuce) that compete for water.

Mulch every tree:

- **First year:** 4" of straw or wood-chip mulch out to 24" radius. Keep mulch 4" away from the trunk to prevent crown rot and rodent damage.
- **Year 2+:** wood-chip mulch out to the dripline; refresh annually.
- **Gravel option:** decomposed granite or pea gravel mulch (1/2"–3/4") works for figs, pomegranates, and jujubes and lasts 5+ years. Less effective for stone fruit which prefer organic mulch.

A mulched tree uses 30–40 % less water than a bare-soil tree and is easier to weed-control.

8.5 Winter watering

Don't stop watering in the dormant months — just water much less. A deep soak (the tree's full week-of-summer volume) **once per month** from December through February prevents the desiccation that kills marginal trees in dry Dragoons winters. For the same reason discussed in **Guide 5 §8 (post-harvest vine care)**, dormant trees are still actively translocating water and the root system is alive; it just looks dead from above.

9 · Annual orchard calendar

Month-by-month maintenance schedule for the whole orchard

Month	Climate	Tasks	Watch points
January	Cold, 3-6 hard-freeze nights; dormant	Dormant pruning all trees (figs, poms, jujubes, stone fruit, apples, pears). First dormant copper spray on peaches/nectarines. Plant bareroot trees. Winter water deep, monthly. Order any spring supplies.	Hard freeze January 5-15. Wrap young trunks if not done.
February	Cold continuing; bud swell on stone fruit	Second dormant copper spray on peaches. Finish pruning by month end. Apricot/almond bloom may begin late month — frost-watch begins. Install frost-cloth caches near doors. Refresh white trunk paint on stone fruit.	First apricot/almond bloom triggers frost protection. Forecast watching becomes daily.

Month	Climate	Tasks	Watch points
March	Warming; bloom for most stone fruit and apples	Frost protection — drape cloth on cold-forecast nights. Bud-break fertilization — compost or fish emulsion drench at the dripline. Start drip irrigation after first warm week. Plant any remaining bareroot trees. Last frost typically Mar 25-Apr 5.	Peach/plum bloom in early-mid month. Pear and apple bloom late month. Frost-watch continues.
April	Warm days, cool nights; fruit set	Fruit set — first small green fruits visible. Continue frost watch on cold forecasts. Thin apples when 1/2" diameter (4-6 weeks after bloom). Increase irrigation as canopy expands. Begin codling-moth trap monitoring for apples and pears.	Late frost still possible early month. Hummingbirds arrive — fig leaves emerging.
May	Hot afternoons; cool nights; flowering finishing	Thin stone fruit when 3/4"-1" diameter. Increase irrigation as fruit sizes. Begin bird-netting plan for stone fruit and figs. Apply foliar zinc + iron if chlorosis appears. First breba figs visible.	Spider mites can appear in dry weeks. Codling moth first flight begins.

Month	Climate	Tasks	Watch points
June	Hot, dry pre-monsoon	Harvest early stone fruit — Babcock peach, early plum, Royal Blenheim apricot, breba figs late June. Net stone fruit at first color change. Summer prune vigorous peach and plum upright shoots. Watch for borers at base of stone fruit trunks.	Heat stress on young trees — increase irrigation. Codling moth peak flight.
July	Hot; monsoon begins mid-month	Harvest peak — peaches, plums, apricots, early apples. Continue netting . Reduce drip as monsoon rains arrive. Watch for brown rot on ripening stone fruit in humid weeks. Begin fig main crop harvest late month. Trunk-band apple trees with cardboard for codling moth pupation.	Monsoon humidity = brown rot risk. Fig wasps may emerge in some varieties.

Month	Climate	Tasks	Watch points
August	Hot, humid; monsoon active	Fig main-crop harvest peak. Jujubes begin ripening late month. Continue codling moth control for apples. Watch peaches and plums for split from heavy rain. Reduce drip in heavy rain weeks. Net pomegranates if javelina pressure is high.	Bird pressure on figs is intense. Javelina sightings increase.
September	Cooling; monsoon tapering	Harvest Asian pears, late apples (Gala, Fuji), almonds, jujubes, early pomegranates (Eversweet). Continue fig harvest. Post-harvest fertilization on stone fruit — fish emulsion + potassium. Plant garlic in adjacent beds (see Guide 6).	First fall frost typically Oct 25–Nov 5 — keep watching forecast late month.

Month	Climate	Tasks	Watch points
October	Cool; first frost likely late month	Pomegranate harvest (Wonderful, Salavatski). Apple harvest — Granny Smith, late varieties. Last fig harvest. Bring citrus pots indoors at first forecast below 32 °F. Plant new container trees in cooler weather. Sanitation — clean up fallen fruit, leaves.	First frost ends jujube and pomegranate harvest if uncovered.
November	Cold nights; some frost; trees yellowing	Final apple harvest — Pink Lady (last apple). Drop irrigation to monthly deep-soak schedule. Mulch refresh under trees. Compost top-dress around dripline of mature trees. Trees losing leaves — sanitation continues. Plant cover crop between trees if desired.	Hard freezes begin late month. Cover citrus pots if any are still outside.

Month	Climate	Tasks	Watch points
December	Coldest weather; full dormancy	Plan next year — order bareroot trees for January. Inspect trunks for sunscald, borer entry, rodent damage. Sharpen pruning tools. Cover crop mowed and left as mulch. Review the year's harvest notes. Order frost cloth replacements.	Coldest nights; check on young trees for cold damage.

10 · Pest, disease, and wildlife management

Peach leaf curl · codling moth · borers · gophers · birds · javelina

The Dragoons have lower fungal disease pressure than wetter fruit regions, but enough that two diseases (peach leaf curl and fireblight) and several insect pests need active management. Wildlife pressure is *higher* than in most fruit regions, and the orchard fence is not optional.

10.1 Disease summary

Disease	Affected	Season	Symptoms	Control
Peach leaf curl (<i>Taphrina deformans</i>)	Peach, nectarine	Late winter-spring	Red puckered curled leaves; defoliation	Dormant copper spray Jan + Feb. Plant Frost variety.
Brown rot (<i>Monilinia</i>)	All stone fruit	Bloom + harvest	Blossom blight; fruit rot	Copper at bloom; sanitation; thin for airflow
Fireblight (<i>Erwinia amylovora</i>)	Pear, apple	Spring (warm wet)	Shepherd's-crook blackened tips	Prune 12" below visible damage; sterilize between cuts; plant resistant varieties
Bacterial canker	Stone fruit	Cool wet	Sunken bark lesions, gummosis	Avoid wet-weather pruning; copper
Apple scab (<i>Venturia</i>)	Apple	Spring (wet)	Olive spots on leaves and fruit	Plant resistant varieties (Liberty); rake leaves; rare in Dragoons
Powdery mildew	Apple, peach	Late summer humidity	White coating on leaves	Sulphur spray every 14 days from June; rare here
Iron / zinc chlorosis	All trees on alkaline soil	Year-round	Interveinal yellowing of new growth	Foliar chelated iron + zinc; see Guide 4 Part 2

10.2 Insect pest summary

Pest	Affected	Season	Symptoms	Control
Codling moth (<i>Cydia pomonella</i>)	Apple, pear, walnut	May-Aug	Wormy fruit; entry hole at calyx	Pheromone traps + bagging + spinosad at first egg-hatch
Peach tree borer (<i>Synanthedon</i>)	Peach, plum, almond	Jun-Aug egg-lay	Gummy frass at base of trunk	White trunk paint; pheromone traps; sanitation
Green peach aphid	Peach, plum	Spring	Curled leaves, honeydew	Water spray; insecticidal soap; encourage ladybugs
Spider mites	All trees	Hot dry	Stippled bronze leaves	Sulphur dust; reduce dust; encourage predator mites
Apple maggot	Apple	Mid-late summer	Tunneled fruit; brown trails	Red sticky sphere traps; sanitation
Scale insects	Citrus, occasionally stone fruit	Year-round	Bumpy crust on bark; honeydew	Horticultural oil in dormant season; predatory ladybugs
Thrips	All trees, especially apricot	Spring	Silvery scarred fruit	Tolerate; spinosad if severe

10.3 Wildlife management

Birds

Bird damage to stone fruit and figs can be severe — flocks of mockingbirds and curve-billed thrashers know when peaches ripen and return daily. The defenses:

- **Netting** — physical bird netting (3/4" mesh) draped over the tree from veraison (first color change) to harvest. Most effective; tedious to install on large trees.
- **Harvest just before peak** — pick fruit when it's still firm enough to ripen indoors.

The window is narrow but reduces in-tree damage.

- **Reflective tape, fake owls** — minor effect; birds habituate within 1-2 weeks.
- **Closed-eye fig varieties** (Celeste) — bird-resistant compared to open-eye varieties (Mission, Brown Turkey).

For figs specifically, the “**harvest first**” strategy works: visit the tree daily during ripening, picking fruit at the just-ripe stage before birds find it. A tree that has been routinely cleaned daily often loses very little fruit; a tree that’s left alone for three days loses 30 % to birds in one bad weekend.

Javelina

Javelina (collared peccary, *Pecari tajacu*) are the largest predictable threat to a Dragoons orchard. A 30 lb javelina will push over a small tree, strip ripe pomegranates, eat fallen figs, and chew bark from young trunks for the moisture. They are nocturnal, work in herds of 6-15, and cover surprising distances.

The standard defense:

- **Welded-wire fence**, 48” high, around the entire orchard perimeter. Stake every 6 ft.
- **Trunk wraps** (corrugated drain pipe, milk-carton sleeves, or commercial vine guards) on the lower 24” of every young tree for the first 3 years.
- **Don’t leave fallen fruit on the ground** — pick it up daily during ripening.
- **Don’t compost fruit waste at the orchard edge** — javelina find the compost pile and stay.

WARNING

The unfenced backyard orchard is a javelina restaurant. Plant the fence before the trees. A herd that learns where the figs are will return every year, and once the orchard is in the local rotation it’s much harder to drive them away than to keep them out the first time.

Deer

Deer pressure varies hugely across the Dragoons — some sites see none, others see herds nightly. Where deer are present, an 8 ft fence is the only reliable defense. Motion-activated sprinklers and scare devices have short-lived effect; deer habituate. Solitary trees in fenced gardens can use individual welded-wire tree cages 6 ft tall.

Gophers

Pocket gophers eat tree roots from below and can kill a young tree in a single season. Defenses are at planting time:

- **Wire baskets** — 1/2” galvanized hardware cloth fashioned into a 24” cube around

the rootball.

- **Active trapping** — Macabee or Cinch traps set in fresh mounds when gophers are detected.
- **No baits in orchard soil** — secondary poisoning of hawks and owls is a real concern, and the local raptor population is part of the long-term gopher control.

Squirrels and pack rats

Squirrels and pack rats take almonds, soft fruit, and young bark. Pack rats are particularly destructive — they build large stick nests at the base of trees and chew bark. Trap pack rats with snap traps baited with peanut butter; squirrels are harder to control and most orchards simply tolerate some loss.

11 · Harvest, storage, and use

Fig harvest window · pomegranate storage · drying stone fruit · cider and preservation

The orchard year culminates in 4–5 months of harvest, from breba figs in June through Pink Lady apples in November. The Dragoons climate is unusually friendly to the post-harvest stage: low humidity makes drying fruit trivial, dry afternoon air carries away moisture from spread cuttings and racks, and the cool nights stretch the storage life of fall apples and pomegranates.

11.1 Harvest indicators by crop

Crop	Ready when	Storage life	Notes
Fig	Hangs from stem; soft neck; full color; “honey drop” at eye	24–48 h fresh; freezes well	Does not ripen off-tree. Pick daily.
Pomegranate	“Tink” sound when tapped; flat at calyx	2 months at 50 °F, 80% RH	Cut, don’t pull. Pick before hard freeze.
Jujube	Yellow-green with brown speckling (fresh) or brown wrinkled (dried)	Fresh 1–2 weeks; dried 1+ year	Wide window; can dry on tree
Peach	Background color shifts yellow; fragrant; slight give	5–10 days fresh; cans/freezes well	Picked firm-ripe stores best
Apricot	Full orange; slight give; aromatic	3–7 days fresh; dries beautifully	Ripens fast — harvest daily
Plum (Japanese)	Background color shifts to mature color; slight give	1–2 weeks fresh	Brix increases on-tree only
Plum (European)	Color full; some softening at stem end	2–4 weeks fresh; dries to prune	Allows longer hang time
Almond	Hull cracks open along suture; nut rattles inside	1+ year in shell	Dry on porch screen 2 weeks before storing
Apple	Brown seeds; easy stem separation; flavor	2–6 months at 32–40 °F, 90% RH	Pink Lady stores longest; pick at full color
Pear (European)	Background green→yellow; firm at pick	1–2 weeks fresh after ripening at room temp	Pick firm, ripen off-tree

Crop	Ready when	Storage life	Notes
Pear (Asian)	Full color; sweet aroma; sample-test	2-4 weeks fresh, refrigerated	Pick ripe on tree — Asian pears ripen on tree

11.2 Drying — the Dragoons advantage

Cochise County's low summer humidity (15-30 % outside monsoon) makes drying fruit easier here than anywhere east of California. A simple drying setup:

- **Spread sliced fruit** on stainless or food-safe nylon screens
- **Stack screens** on the covered porch in afternoon shade
- **Air-dry 3-7 days** depending on fruit and weather
- **Finish in a dehydrator** at 135 °F for 4-8 hours to ensure shelf-stable moisture content (< 15 %)

What dries well:

Fruit	Drying notes
Figs	Halve and air-dry. The Mediterranean classic. Mission and Brown Turkey both excellent.
Apricots	Halve, pit, dry skin-down. Bright orange when finished.
Peaches	Slice 1/4" thick, dip in lemon water to prevent browning.
Plums (European)	Whole, with a small slit. Stanley and French Improved make traditional prunes.
Apples	Slice 1/8" thick, dip in lemon water. Pink Lady and Granny Smith dry well.
Jujubes	Often dry on the tree; finish on a screen for shelf storage.
Pomegranate arils	Spread loose; brittle when fully dry.

11.3 Cider, juice, and preservation

A small backyard orchard easily produces more apples and pears than a household can eat fresh. The standard preservation directions:

- **Apple cider** — press in late October–November (when Granny Smith and Pink Lady are heavy). A small basket press handles a 10-20 tree backyard. Cider freezes

well (gallon containers, 4" of headspace); fermented to hard cider with cider yeast; canned as sweet cider with a hot-fill at 185 °F.

- **Pear preserves** — Asian pears are best preserved as halves in light syrup; European pears as butter or as the classic pear-honey conserve.
- **Stone fruit canning** — peaches and apricots in light syrup are the most useful canning project of the year. Plan to do 30–50 quarts in August.
- **Frozen fruit** — sliced peaches and apricots tossed with a little sugar and lemon, flash-frozen on trays, then bagged. The simplest preservation; quality is excellent.
- **Pomegranate juice** — extract by halving and pressing, or by rolling whole fruit and tapping the juice. Freezes well in pints.
- **Fruit leather** — surplus apricots and peaches into a blender; spread on parchment; dehydrate at 135 °F until pliable.

A planned Harvest & Preservation guide (Guide 12, not yet written) will go deeper on the cider, drying, and canning workflows. For now, the references to start with are the Ball Blue Book of Preserving (canning) and the UC Davis food preservation extension sheets (drying and fermentation).

11.4 Storage temperatures

Fruit	Optimal temp	Optimal humidity	Approx storage life
Apple	32–34 °F	90–95 %	2–6 months (variety-dependent)
Asian pear	32–34 °F	90 %	2–4 weeks
European pear	30–32 °F	85–90 %	1–3 months (then ripen at room temp)
Pomegranate	45–50 °F	80–85 %	2 months whole; 5 days arils
Quince	32–40 °F	85 %	2 months
Jujube (dried)	50–70 °F	< 50 %	1+ year
Almond (in shell)	50–60 °F	< 60 %	1+ year

A basement cold room or an old refrigerator dedicated to fruit (set to 35 °F, with a pan of water for humidity) gives the household the cool-storage capacity of a 1920s farmhouse cellar — apples in November can be eaten in March.

Sources & references

Reference material consulted, suggested for further reading, and where to verify or extend the claims in this guide.

Local resources

- **UA Cooperative Extension — Cochise County office (Willcox / Sierra Vista)** — soil testing, fruit-tree variety advice, IPM and pest-identification help, and the seasonal bareroot tree sale. Phone 520-458-8278.
- **UA Cooperative Extension Master Gardener program** — Cochise County help desk; the right place to bring a sample of leaf-curl peach or a fireblight branch for diagnosis.
- **Native Seeds/SEARCH (Tucson)** — regional source for heritage and Southwest-adapted fruit varieties.
- **Apple Annie's Orchard (Willcox)** — the regional commercial apple operation; useful for variety reality-checks and harvest timing observations.
- **Sulphur Springs Valley feed and farm supply** — frost cloth, drip irrigation parts, gopher cages, copper fungicide.

Books & references

- *Growing Food in a Hotter, Drier Land* by Gary Paul Nabhan — the Sonoran orchard context behind the fig/pomegranate/jujube emphasis in Chapter 4.
- *The Holistic Orchard* by Michael Phillips — comprehensive low-input orchard management; the dormant-copper and trunk-paint protocols.
- *The Apple Grower* by Michael Phillips — the deep apple reference; codling moth IPM and pruning logic.
- *Backyard Fruits and Berries* by Diane Relf et al. — the household-scale planning framework.
- *Western Garden Book* (Sunset Publishing) — variety adaptation by zone, with detailed Southwest entries.

Online resources

- **UA Cooperative Extension publications** (extension.arizona.edu) — *Backyard Fruit Tree Production in Arizona*, chill-hour bulletins, peach leaf curl, and fireblight management sheets.
- **UC Davis Fruit & Nut Research and Information Center** (fruitsandnuts.ucdavis.edu) — the canonical rootstock, variety, and pest reference; chill-hour databases for nearly every cultivar.
- **Stark Bro's Nursery** (starkbros.com) — bareroot variety descriptions with reliable chill-hour data; the standard mail-order source for Cochise County.
- **Trees of Antiquity** (treesofantiquity.com) — heirloom apple and stone-fruit varieties; rootstock-specific orders.

- **Bay Laurel Nursery** (baylaurelnursery.com) — California bareroot specialist; reliable shipping to Cochise County.
- **Womack Nursery (Texas)** (womacknursery.com) — Southwest-adapted fig, pomegranate, jujube, and stone-fruit varieties.
- **OMRI (Organic Materials Review Institute)** (omri.org) — verify copper, spinosad, kaolin clay, and other orchard inputs before applying.

12 · Closing

A backyard orchard is a multi-year promise. The first fig planted on a January weekend is just a stick in the ground for the first eight weeks, leafs out hesitantly in April, sends up its first slender shoots in May, and produces maybe two figs the first August. The second August, it produces twenty. The third August, eighty. By the fifth August, it is producing 200 figs in a wave that lasts three weeks, and the household has more figs than it knows what to do with, and the freezer is filling with fig jam and the dehydrator is running every afternoon and the wasps and birds are competing with the family for the daily harvest, and an adolescent who refused fresh figs at year one is now eating them by the bowl.

That is the rhythm of orchard work in the Dragoons. Plant slowly, plant for the long view, and let each tree mature on its own schedule. The first three years are an investment; the next thirty years are the dividend.

The pattern that works for a Dragoon backyard orchard is something like this. In year one, plant a Black Mission fig, a Wonderful pomegranate, and a Li jujube. They are the easy three — heat-tolerant, drought-tolerant, low-pest, and almost impossible to kill once established. In year two, add a Red Haven peach and a Stanley plum, with the frost-cloth and dormant-copper-spray infrastructure to support them. In year three, add a Pink Lady apple and a Shinseiki pear, paired with a Granny Smith and a Hosui for pollination. In year four, fill in the gaps — a Harglow apricot, an All-In-One almond, a second pomegranate variety for cross-pollination. In year five, the orchard is complete and the harvest calendar runs from June through November.

By year ten, the trees have taken on the character of the place. The fig hedge has been propagated from cuttings into a windbreak. The pomegranate is six feet tall and producing 80 lb of fruit a year. The Pink Lady has its first heavy crop. The jujubes drop their candy-sweet fruit on the gravel underneath in October, and the chickens follow the harvest. The orchard has become part of the property's biography — it's where the spring frost-cloth weekend happens, where the August figs are eaten warm under the trees, where the November cider press is uncovered, where a chair gets dragged out at sunset in May to watch the trees bloom.

The Dragoons are not the easiest fruit region in North America — California has more reliable winters, the Northwest has more reliable rainfall, the Northeast has more reliable chill — but the Dragoons have the combination that grew the original orchards of the ancient Mediterranean and the Middle East: hot dry summers, mild winters, intense sun, dry harvest air, and a long quiet season for trees to mature. A Black Mission fig, a Wonderful pomegranate, and a Li jujube growing on caliche at 4,700 feet are growing in conditions their ancestors would recognize. The orchard returns the favor with fruit.

Plant the fig this winter. Plant the pomegranate next to it. Plant the jujube the next

year. In five years you will have a Dragoons backyard orchard. The work is small; the patience is long; the reward is decades.

RELATED GUIDES

The 14 guides: - **Guide 1 — Hydroponic Primer & Library Map** · the front door + master multi-crop calendar - **Guide 2 — Peppers in the Dragoons** · soil + hydroponic + variety-specific staking - **Guide 3 — Bato Bucket Hydroponic Systems** · system build, water treatment, operations - **Guide 4 — Hydroponic Nutrients** · Masterblend + DIY + pH + Indoor/LED - **Guide 5 — Grapes in the Dragoons** · Cochise County viticulture - **Guide 6 — Cool-Season Crops** · brassicas + alliums + greens + roots - **Guide 7 — Warm-Season Companions** · tomatoes, cucurbits, beans, corn, sweet potatoes - **Guide 8 — Herbs in the Dragoons** · annual + perennial · soil & hydroponic - **Guide 9 — Backyard Orchard in the Dragoons** (this guide) · figs, pomegranates, jujubes, stone fruits - **Guide 10 — Pest, Disease & Wildlife** · IPM + Cochise wildlife exclusion - **Guide 11 — Foundations: Soil & Seed** · soil-building, composting, seed-starting, propagation - **Guide 12 — Harvest, Preservation & Storage** · canning, fermenting, drying, cellaring - **Guide 13 — Water in Cochise County** · sourcing, testing, treatment, rainwater, conservation - **Guide 14 — Season Extension Structures** · cold frames, low tunnels, hoop houses, high tunnels - **Guide 15 — Native Food Crops of the Sonoran-Madrean Region** · the indigenous food complex of the Dragoons and the wider sky-island region - **Guide 16 — Companion Plantings & Polycultures** · the design layer — companion matrix, anti-companions, cover crops, 9 Dragoons-specific guild designs - **Guide 17 — Recipes & Kitchen Integration** · what to cook with what came out of the garden this morning · by-crop recipes + seasonal menus

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