

2027 Planting Plan

49 open spots in R1 to R12, 29 cultivars: 36 trees to buy and 13 grafts. Recommended cultivars for every open spot in R1 to R12; nothing is bought or grafted yet.

What this is: the recommended cultivar for every open spot in R1 to R12, so no hole is left: the 8 spots held for dead or relocated trees, 28 other empty positions, and the 13 reserved spots in R1 where you graft onto your own rootstocks. It is chosen for a short-season U-pick orchard at about 4,750 ft. R13 to R15 are future rows and are not planned yet. Every cultivar links to its profile in the cultivar guide, with sources.

Status: recommended, not bought, not grafted, not planted. The first 16 spots (the Urban-apple, dead-tree, and east-end apple spots in R4 to R11) were reviewed with you. The shared stone-fruit rows R11 and R12 follow your October 18 choice of four plums, two apricots, and four peaches. The rest (the R1 grafts, the east-end cherries, and the Seckel pear) are first recommendations that you can change. The planned trees are not counted as pollen partners on the pollination grid until they are in the ground.

At a glance

Fruit	On hand now	New trees to buy	New grafts (R1)	After the plan
Apples	51	13	13	77
Pears	24	2	0	26
Cherries	15	11	0	26
Peaches	8	4	0	12
Plums	3	4	0	7
Apricots	5	2	0	7
All fruit trees	106	36	13	155

On hand counts the living fruit trees placed in the orchard, with the unidentified trees counted by fruit type; the planted M-111 rootstock and the Urban apples that move outside are not counted. New grafts are the 13 apples in R1.

Buy list

Trees to buy (36: 13 apples, 2 pears, 11 cherries, 4 peaches, 4 plums, 2 apricots)

Cultivar	Count and spots	Ripens	Rootstock	Pollination	Why, and cautions
Apple: Pristine	1: R6-C9	Early	Semi-dwarf wanted; nurseries list M.27 or EMLA 26 dwarfs, too small here	Flowering group 2, diploid	One-tree test of a very early yellow apple. Sources disagree on ripening (mid-July or August) and zone (4 to 9 or 5 to 8), and Purdue rates it susceptible to cedar-apple rust, with junipers on site. No source gave its flowering group, so group 2 is assumed.
Apple: Williams' Pride	3: R6-C7, R6-C8, R5-C9	Early	Semi-dwarf wanted; G.214 is cold-hardy and fire-blight resistant	Flowering group 2, diploid	Early block: the first apples of the season. Ripens unevenly over about a week, so plan on more than one picking; keeps about six weeks in the fridge. Sources put its bloom early, in group 1 to 2, so group 2 is a planning value.
Apple: Dayton	2: R6-C4, R6-C11	Mid	Semi-dwarf wanted; nurseries list EMLA 27 or M.26 dwarfs, too small for 18 x 20 ft spacing	Flowering group 3, diploid	Large crisp sweet-tart apple for mid to late September. Cummins lists bloom group 3 and diploid. Raintree puts harvest in late September but Cummins calls it early-ripening, so its timing here is uncertain.
Apple: Priscilla	2: R5-C10, R6-C12	Mid	Semi-dwarf wanted; G.890 (about 60 percent of standard) is offered	Flowering group 3, diploid	Early-to-mid September apple; hardy to about -50 F. Medium fruit with a mild flavor and a licorice note; bears heavily, so thin the crop.
Apple: Freedom	3: R6-C5, R6-C6, R6-C13	Late	Size-controlling semi-dwarf wanted; nurseries often ship it on MM.111, which stays large	Flowering group 3, diploid	Large striped-red apple for early October; very disease resistant. Ripens with Delicious (about Oct 5 at Geneva, NY), so it is a gamble in a short season. Vigorous, spreading tree. No source gave its flowering group, so group 3 is assumed.
Apple: Haralson	2: R4-C9, R6-C10	Late	M.7 semi-dwarf; B.9 dwarf is also offered but too small here	Flowering group 4, diploid	October pie and cider apple; zone 3, late bloom. Bloom group 4 comes from a single nursery page (Roots to Fruits). Ripens in mid-October, the latest of the new apples, and is tart rather than a fresh-eating favorite.
Pear: Harrow Delight	1: R8-C1	Early	OHxF 87 (semi-dwarf, cold-hardy, fire-blight resistant)	Needs a partner (not self-fertile)	Fire-blight-resistant European pear that ripens early. Not self-fertile. Only one pollination partner counts within 50 ft (Red Bartlett at 49 ft), so fruit set may be light. A fifth Asian pear would have Hosui and Hardy Giant beside it.

Cultivar	Count and spots	Ripens	Rootstock	Pollination	Why, and cautions
Pear: Seckel	1: R8-C13	Mid	Semi-dwarf; ask for OHxF 87 or another fire-blight-resistant stock	Needs a partner (not self-fertile)	Small, very sweet, fire-blight-resistant 'sugar pear', ripe in September. Only partly self-fertile. Stark Bro's says Seckel is not a suitable pollinator for Bartlett, so the two Bartlett trees are not counted as its partners; it relies on Comice at 18 ft and, a little farther off, Anjou and Starking Delicious.
Cherry: Meteor	2: R9-C12, R9-C13	Early	Mahaleb (the dwarf size, 10 to 12 ft, is genetic)	Self-fertile	Dwarf Minnesota tart cherry that you can pick without a ladder. Sources disagree on ripening: about a week after Montmorency, in early July (Cummins and the University of Minnesota), or late July (Intermountain's table). No source gives it a bacterial canker rating.
Cherry: Black Gold	1: R9-C2	Mid	Mazzard or another canker-tolerant stock; avoid Gisela 6, the most canker-susceptible (Intermountain Fruit)	Self-fertile	Hardy, late-blooming, canker-resistant dark sweet cherry. Blooms later than Bing, so it adds no pollen for the Bing or Black Tartarian trees, which still depend on Lapins at R10-C2. Birds need netting.
Cherry: Surefire	3: R10-C9, R10-C10, R10-C11	Mid	Mahaleb, as nurseries sell it	Self-fertile	Late-blooming tart pie cherry; ripe about two weeks after Montmorency. Cummins calls it somewhat resistant to canker and brown rot, which is a nursery claim and not a trial. Tart cherries do not pollinate sweet cherries.
Cherry: WhiteGold	1: R9-C9	Mid	Mazzard, the least canker-susceptible; Cummins sells it on Mahaleb	Self-fertile	Cold-hardy yellow sweet cherry from Cornell. Cummins and Stark call it very resistant to bacterial canker, a nursery claim that WSU's trial list does not confirm. Cummins showed it sold out for spring 2027 in mid-October, so confirm stock elsewhere (Stark Bro's lists it). Birds need netting.
Cherry: Carmine Jewel	2: R10-C12, R10-C13	Late	Usually sold on its own roots (it is a bush of 6 to 12 ft, not a tree)	Self-fertile	Very hardy tart bush cherry (zone 2 to 3), a multi-stemmed shrub of about 6 to 12 ft. One Green World warns that bacterial canker can still damage it. It is a shrub, so it stands lower than the cherry trees beside it.
Cherry: Skeena	2: R9-C10, R9-C11	Late	Mazzard, the least canker-susceptible; avoid Gisela 6	Self-fertile	Very large, very firm dark sweet cherry; ripe 12 to 15 days after Bing. Hardiness is the thinnest margin in the cherry block: the only figure found is a retailer's zone 5 to 9 (about -10 F), milder than zone 5a's usual low, and WSU gives none. No trial rates its bacterial canker resistance. Birds need netting.
Peach: Harrow Diamond	1: R12-C11	Early	Lovell or Bailey peach seedling stock (best survival in the NC-140 trials, per Penn State)	Self-fertile	Early yellow freestone, ripe about 11 days before Redhaven, with good hardiness and bacterial spot resistance (University of Kentucky). The breeder's trial winters were -26 and -28 C, with 43 percent flower bud loss at -26 C, so zone 5a is a test. It sets a heavy crop that needs early thinning. No source rates bacterial canker (the breeder gives only moderate tolerance to the fungal perennial canker), and peaches here carry bacterial canker (untreated positives): prune only in dry weather, use dormant copper, and buy clean certified stock.
Peach: Reliance	1: R12-C8	Early	Lovell or Bailey peach seedling stock (best survival in the NC-140 trials, per Penn State)	Self-fertile	Very cold-hardy early peach (zone 4 to 8) with very hardy fruit buds and late bloom, the safe early tree. A third Reliance, next to the one at R12-C9, so the same cultivar sits together for easy picking and comparison. The fruit is sweet and very juicy but soft, so it bruises and does not ship well, and Gurney's says newer hardy peaches such as Contender taste better. Ripening dates vary a lot by region (July to mid August in the sources), so track your own first harvest. Peaches here carry bacterial canker (untreated positives): prune only in dry weather, use dormant copper, and buy clean certified stock.
Peach: Contender	1: R11-C12	Mid	Lovell or Bailey peach seedling stock (best survival in the NC-140 trials, per Penn State)	Self-fertile	Very cold-hardy, late-blooming yellow freestone with excellent flavor, ripe 16 to 20 days after Redhaven. A second Contender, so you can compare it with the tree you already have. Utah State lists it as very cold hardy and tolerant of spring frost, but it ripens a few weeks after Redhaven, so it is a mid-season peach in a short season. Peaches here carry bacterial canker (untreated positives): prune only in dry weather, use dormant copper, and buy clean certified stock.
Peach: Intrepid	1: R11-C10	Mid	Lovell or Bailey peach seedling stock (best survival in the NC-140 trials, per Penn State); a hybrid stock such as Krymsk 86, suggested earlier, had more cold injury and canker in those trials	Self-fertile	Bud-hardy, self-fertile mid-season freestone. Peaches here carry bacterial canker (untreated positives). Prune only in dry weather, use dormant copper, and buy clean certified stock.

Cultivar	Count and spots	Ripens	Rootstock	Pollination	Why, and cautions
Plum: Mount Royal	2: R11-C7, R12-C7	Early	Semi-dwarf tree (Raintree sells it as a semi-dwarf)	Self-fertile	Hardy blue European plum (zone 4 to 7) that ripens in August, before Italian plum. Bloom timing and black knot rating were not documented (Penn State's black knot list does not name it). The two trees stand side by side at the east end of the plum block, in the highest plum spots. The peaches and apricots nearby carry bacterial canker, so buy clean stock.
Plum: Damson	1: R12-C4	Mid	Semi-dwarf tree	Self-fertile	Tart blue jam and baking plum (zone 4 to 8), ripe in September. Sources disagree on its black knot resistance and on whether it ripens before or after Stanley.
Plum: Stanley	1: R12-C3	Mid	Semi-dwarf tree	Self-fertile	Late-blooming prune plum (zone 5 to 7) that eats fresh and dries; ripe in early September. Penn State rates Stanley very susceptible to black knot, so prune knots out in winter; that is why the plan has one Stanley, not three. It goes in the lowest plum spot because its late bloom (Stark Bro's) helps it miss spring frost. Early September ripening is close to the limit in a short season.
Apricot: Chinese (Mormon)	1: R11-C4	Early	Semi-dwarf tree (your purchase sheet lists it as a semi-dwarf); ask the nursery which rootstock it uses	Self-fertile	Hardy apricot (zone 4 to 7) that blooms late, which avoids some late frost, and ripens in late June to July; a heavy producer with good flavor and texture (Utah State). Apricots lose the most to spring frost: Utah State's frost table puts 10 percent bloom kill at 27 F and 90 percent at 22 F, and at the Prairie station a 28 F night still comes after the middle of May in most years, so expect only some crops (see the site climate page). The Chinese (Mormon) on your inventory is the one noted as girdled and kept in Boise, so this tree would be a second or replacement tree; if the Boise tree recovers, plant it here and skip this purchase. The apricots here carry bacterial canker (untreated positives): buy clean certified stock, prune only in dry weather, and use dormant copper.
Apricot: Harcot	1: R11-C5	Mid	Semi-dwarf tree (your purchase sheet lists it as a semi-dwarf); ask the nursery which rootstock it uses	Self-fertile	Late-blooming, frost-hardy, self-pollinating apricot (zone 5 to 7) with sweet, juicy, rich fruit, ripe in mid July; Stark Bro's reports good tolerance to bacterial spot and perennial canker. A second Harcot, so you can compare it with the tree at R12-C1. Sources disagree on its hardiness (zone 5 to 7 at Utah State, 4 to 9 at Dave Wilson). Tolerance to bacterial spot and to perennial canker, a fungus, is not tolerance to bacterial canker, which the apricots here carry (untreated positives). The same frost and clean-stock cautions as the Chinese (Mormon) apply.

Ask nurseries for semi-dwarf trees (about 60 to 75 percent of standard; G.890, G.214 or M.7 for apples). The grid is 18 x 20 ft and the site is dry and windy, so dwarf stocks (M.27, M.9, B.9) would need permanent stakes and leave gaps. Confirm that each nursery ships the item to Idaho before ordering; some retailers exclude Idaho for some items.

Scionwood to buy and graft onto your rootstocks (13 apples in R1)

Cultivar	Count and spots	Ripens	Graft onto	Pollination	Why, and cautions
Apple: Akane	2: R1-C6, R1-C7	Early	Your M-111 rootstock	Flowering group 4, diploid	Early red apple, ripe from late August into early September; precocious. Sources disagree on use: Intermountain calls it a baking apple that does not store, Orange Pippin a fresh-eating apple.
Apple: Chestnut crabapple	2: R1-C1, R1-C2	Early	Your M-111 rootstock	Flowering group 3, diploid	Crabapple you eat fresh: crisp and nutty, about 2 inches, ripe in early September. The orchard already has three crabapples (Kerr, Dolgo, Wickson); this one is larger, about 2 inches, with a nutty flavor mild enough for fresh eating. Cummins says it blooms early over a long period, so a spring frost can cost a crop.
Apple: Redfree	3: R1-C3, R1-C4, R1-C5	Early	Your EMLA 7 rootstocks (it is a vigorous scion), then M-111	Flowering group 3, diploid	Earliest graft: ripe toward the end of August, with a very good cedar-apple rust rating (Purdue). Ripens over several weeks, so plan on picking in stages, and keeps only 1 to 3 months. Scionwood showed sold out at Cummins in mid-October while another nursery had stock, so order early.
Apple: Sansa	2: R1-C8, R1-C9	Early	Your M-111 rootstock	Flowering group 4, diploid	Early Gala-type dessert apple, picked from late August to mid-September in Orange Pippin growers' records, with a very good cedar-apple rust rating. Orange Pippin Trees and Raintree rate it zone 4. Sources disagree on vigor (low at Cummins, average at Orange Pippin) and on storage (under a month, or a good keeper).

Cultivar	Count and spots	Ripens	Graft onto	Pollination	Why, and cautions
Apple: Novamac	2: R1-C10, R1-C11	Mid	Your M-111 rootstock	Flowering group 4, diploid	McIntosh-type apple, ripe a little ahead of McIntosh; very resistant to all four common diseases (Purdue). Hardiness (Canadian zone 4) and bloom group come from nursery pages, not a university. Scionwood was found at Walden Heights Nursery, not at Cummins.
Apple: Pixie Crunch	2: R1-C12, R1-C13	Mid	Your M-111 rootstock (a low-vigor scion)	Flowering group 4, diploid	Small, crunchy, kid-sized apple for mid-September, sold for U-pick. Cummins rates it susceptible to cedar-apple rust and powdery mildew (Purdue's table does not list it), and junipers grow near the orchard. Thin the crop or it turns biennial.

The 13 grafts in R1 go onto rootstocks you already own: 11 M-111 (vigorous, semi-standard), 2 EMLA 7 (semi-dwarf) and 1 of unknown type, so one rootstock is left as a spare. Order scionwood in winter from a nursery that sells it for spring 2027 (some sell out early), keep it cold and damp until grafting, and graft in early spring as the rootstock buds begin to swell. Use the two EMLA 7 rootstocks for Redfree, a vigorous scion (its third tree goes on an M-111), and put lower-vigor scions such as Pixie Crunch on the vigorous M-111. Grafted trees take longer to bear than bought trees. Check that a cultivar may be propagated at home before ordering scionwood.

Every spot in R1 to R12

Rows are listed south to north and columns east to west, as in the planting map: C1, the west end of each row beside the windbreak, is on the right, and C13, the east end by the driveway, is on the left. Every other row is staggered half a spot. Where it works, same-cultivar trees sit side by side for signage and easy picking. The west end of R1 (on the right) holds the Chestnut crabapple because that end has the fewest pollen partners, and the east end of the apple rows (on the left) holds three different apples for the same reason.

Row	C13	C12	C11	C10	C9	C8	C7	C6	C5	C4	C3	C2	C1
R1	PXC	PXC	NVM	NVM	SNS	SNS	AKN	AKN	RDF	RDF	RDF	CNC	CNC
R2	FRQ	FC	CO	AB	GL	JG	PL	CL	HC	FJ	JG	BB	FOX
R3	NP	UNK	RD	GO	FA	HC	UNK	FA	PL	MC	KB	CL	KER
R4	DLG	HR	AF	UNK	HAL	UNK	WC	ZT	UNK	GD	HC	UNK	CO
R5	KER	CC	HR	PSC	WLP	ZT	MT	CL	SS	LB	HG	ID	CAM
R6	FRD	PSC	DAY	HAL	PTN	WLP	WLP	FRD	FRD	DAY	RS	GS	KER
R7	BUT	KF	CE	SMC	PKR	SMC	BNT	CE	AU	RB	OG	SA	YHC
R8	SKL	CE	BT	AU	SD	HHC	AU	MW	BT	HHC	HG	HA	HDL
R9	MET	MET	SKN	SKN	WGC	NKI	HG	SWT	NKI	ST	BB	BGD	BB
R10	CJL	CJL	SUR	SUR	SUR	MNT	SWT	NKJ	MNT	SWT	BT	LP	BT
R11	RC	CR	FT	INT	RH	CR	MTR	IPL	HT	CE	GT	UNK	MP
R12	EA	UNK	HRD	UNK	RC	RC	MTR	IPL	IPL	DMS	STN	MP	HT

 planned 2027 cultivar code  a graft onto a rootstock you own (R1)  a spot held for a dead or relocated tree  tree already on hand, by its code.
No position in R1 to R12 is empty. R13 to R15 (39 positions) are future rows and stay open.

Codes: AKN = Akane; CNC = Chestnut crabapple; PTN = Pristine; RDF = Redfree; SNS = Sansa; WLP = Williams' Pride; DAY = Dayton; NVM = Novamac; PXC = Pixie Crunch; PSC = Priscilla; FRD = Freedom; HAL = Haralson; HDL = Harrow Delight; SKL = Seckel; MET = Meteor; BGD = Black Gold; SUR = Surefire; WGC = WhiteGold; CJL = Carmine Jewel; SKN = Skeena; HRD = Harrow Diamond; RC = Reliance; CR = Contender; INT = Intrepid; MTR = Mount Royal; DMS = Damson; STN = Stanley; CE = Chinese (Mormon); HT = Harcot.

Pollination check

Using the pollination grid's rules: partners are other cultivars within 50 ft that bloom in the same or an adjacent period and are compatible (apples: diploid donors whose flowering group is within one of the tree's own; cherries and pears: the bloom charts on the grid page). Living trees and the other planned trees count. Tart cherries, plums, and peaches are self-fertile and need no partner.

Spot	Cultivar	Partners within 50 ft	Nearest partners
R1-C1	Chestnut crabapple	3	Braeburn (34 ft), Redfree (36 ft), Cortland (44 ft)
R1-C2	Chestnut crabapple	5	Redfree (18 ft), Braeburn (22 ft), Cortland (40 ft)
R1-C3	Redfree	6	Chestnut crabapple (18 ft), Braeburn (22 ft), Fuji (34 ft)
R1-C4	Redfree	8	Fuji (22 ft), Braeburn (34 ft), Honeycrisp (34 ft)
R1-C5	Redfree	6	Akane (18 ft), Fuji (22 ft), Honeycrisp (22 ft)
R1-C6	Akane	6	Redfree (18 ft), Cortland (22 ft), Honeycrisp (22 ft)
R1-C7	Akane	7	Sansa (18 ft), Cortland (22 ft), Pink Lady (Cripps Pink) (22 ft)
R1-C8	Sansa	7	Akane (18 ft), Pink Lady (Cripps Pink) (22 ft), Cortland (34 ft)
R1-C9	Sansa	9	Novamac (18 ft), Gala (22 ft), Pink Lady (Cripps Pink) (34 ft)
R1-C10	Novamac	9	Sansa (18 ft), Gala (22 ft), Cox's Orange Pippin (34 ft)

Spot	Cultivar	Partners within 50 ft	Nearest partners
R1-C11	Novamac	7	Pixie Crunch (18 ft), Cox's Orange Pippin (22 ft), Franklin Cider (34 ft)
R1-C12	Pixie Crunch	6	Novamac (18 ft), Cox's Orange Pippin (22 ft), Franklin Cider (22 ft)
R1-C13	Pixie Crunch	4	Franklin Cider (22 ft), Cox's Orange Pippin (34 ft), Novamac (36 ft)
R4-C9	Haralson	8	Aztec Fuji (22 ft), GoldRush (22 ft), Priscilla (22 ft)
R5-C9	Williams' Pride	8	Zestar (18 ft), Priscilla (18 ft), Pristine (22 ft)
R5-C10	Priscilla	10	Harrison (18 ft), Williams' Pride (18 ft), Haralson (22 ft)
R6-C4	Dayton	9	Freedom (18 ft), Sweet Sixteen (22 ft), Cortland (34 ft)
R6-C5	Freedom	7	Dayton (18 ft), Cortland (22 ft), Sweet Sixteen (22 ft)
R6-C6	Freedom	6	Williams' Pride (18 ft), Cortland (22 ft), Macintosh (22 ft)
R6-C7	Williams' Pride	8	Freedom (18 ft), Macintosh (22 ft), Zestar (22 ft)
R6-C8	Williams' Pride	8	Pristine (18 ft), Zestar (22 ft), Macintosh (34 ft)
R6-C9	Pristine	7	Williams' Pride (18 ft), Priscilla (22 ft), Harrison (34 ft)
R6-C10	Haralson	5	Dayton (18 ft), Harrison (22 ft), Priscilla (22 ft)
R6-C11	Dayton	8	Haralson (18 ft), Priscilla (18 ft), CrimsonCrisp (22 ft)
R6-C12	Priscilla	6	Dayton (18 ft), Freedom (18 ft), CrimsonCrisp (22 ft)
R6-C13	Freedom	4	Priscilla (18 ft), CrimsonCrisp (34 ft), Dayton (36 ft)
R8-C1	Harrow Delight	1	Red Bartlett (49 ft)
R8-C13	Seckel	1	Comice (18 ft)
R9-C2	Black Gold	Self-fertile; none needed	None counted
R9-C9	WhiteGold	1	Skeena (18 ft)
R9-C10	Skeena	1	WhiteGold (18 ft)
R9-C11	Skeena	1	WhiteGold (36 ft)
R9-C12	Meteor	Self-fertile; none needed	None counted
R9-C13	Meteor	Self-fertile; none needed	None counted
R10-C9	Surefire	Self-fertile; none needed	None counted
R10-C10	Surefire	Self-fertile; none needed	None counted
R10-C11	Surefire	Self-fertile; none needed	None counted
R10-C12	Carmine Jewel	Self-fertile; none needed	None counted
R10-C13	Carmine Jewel	Self-fertile; none needed	None counted
R11-C4	Chinese (Mormon)	Self-fertile; none needed	None counted
R11-C5	Harcot	Self-fertile; none needed	None counted
R11-C7	Mount Royal	Self-fertile; none needed	None counted
R11-C10	Intrepid	Self-fertile; none needed	None counted
R11-C12	Contender	Self-fertile; none needed	None counted
R12-C3	Stanley	Self-fertile; none needed	None counted
R12-C4	Damson	Self-fertile; none needed	None counted
R12-C7	Mount Royal	Self-fertile; none needed	None counted
R12-C8	Reliance	Self-fertile; none needed	None counted
R12-C11	Harrow Diamond	Self-fertile; none needed	None counted

Every planned apple has at least 3 partners. Black Gold is self-fertile and blooms later than the Bing and Black Tartarian trees beside it, so it adds no pollen for them; they still depend on Lapins. The 2 planned pears are not self-fertile, and within 50 ft Harrow Delight has 1 partner and Seckel has 1 partner, which is thin. Seckel does not count the Bartlett trees beside it because Stark Bro's says it is not a suitable pollinator for Bartlett. Planned trees never change the partners shown for the trees already on the pollination grid.

Season fit

Only 4 of the 51 apples you already have ripen early, and 24 ripen late or very late, which is a gamble with about 90 frost-free days and a first 28 °F night around Sep 30. The 26 new apples add 13 early, 8 mid-season, and 5 late trees; the late ones (Freedom and Haralson) are the riskiest of the new picks, so the plan adds no more.

Apples	Early	Mid	Late	Very late	Not banded	Total
Living trees now	4	17	14	10	6	51
New in 2027	13	8	5	0	0	26
After the plan	17	25	19	10	6	77

Bands are relative to each fruit's own harvest in a cool northern climate (apples: Early before about Sept 10, Mid about Sept 10 to Oct 5, Late about Oct 5 to 25, Very late after Oct 25; see the guide for the others). Unidentified trees, bushes with no band, and trees whose profile gives no band are counted as not banded.

Other fruit	Early	Mid	Late	Very late	Not banded	Total
Pears now	2	9	13	0	0	24
Pears after the plan	3	10	13	0	0	26
Cherries now	2	7	3	0	3	15
Cherries after the plan	4	12	7	0	3	26
Peaches now	3	2	1	0	2	8
Peaches after the plan	5	4	1	0	2	12
Plums now	0	3	0	0	0	3
Plums after the plan	2	5	0	0	0	7
Apricots now	0	4	0	0	1	5
Apricots after the plan	1	5	0	0	1	7

Why these picks

The site

- About 4,750 ft, nearly flat; Simonton loam with soil pH about 6.2; 12 to 16 in of precipitation, with July and August almost dry (see the water-harvesting plan).
- Frost is measured at the nearest weather station, the Prairie SNOTEL, 2.8 miles away and about 50 ft higher. In a typical year its last 32 °F freeze comes about Jun 17 and its first about Sep 9. Counted year by year, from each year's own last spring freeze to its first fall freeze, the middle year has **90 frost-free days** (1 year in 10 has fewer than 74), and its coldest nights average −11 °F, USDA zone 5b. A night at 28 °F or colder still comes after May 20 in 63% of years, so bloom frost is a real risk. NRCS lists 60 to 100 frost-free days for this soil's setting. The four NOAA stations serving Elmore County share an 80-day season, and the longest single station allows 160 days; the nearest similar-elevation station (Hill City, 5,100 ft) has a median season of 111 days. The lot has no thermometer, so treat all of these as estimates, not readings on the ground (details on the site climate page).
- In general, bloom-frost risk runs worst to best from apricot to peach, sweet cherry, pear, and apple (a general horticultural ranking, not something measured here). That is why apples carry the plan and the stone-fruit and pear picks are chosen for hardiness: late bloom, frost-tolerant buds, or a hardy species. The two apricots are the exception: you asked for them, they are the riskiest picks in the plan, and they are planned as a trial.

What a U-pick orchard needs

- Fruit people eat off the tree or take home for pies and jam, a harvest that stretches over weeks (the orchard had four early apples), trees small enough to pick without ladders, and few sprays. That points to semi-dwarf trees and disease-resistant cultivars.
- Sweet cherries and European pears are the harder U-pick crops (birds and splitting; pears are picked hard and ripen off the tree), so they are kept to a modest share of the plan.

Apples: the bought trees and the R1 grafts

- The 13 bought apples (R4 to R6) fill the thin early band with disease-resistant cultivars and give every tree at least three pollen partners nearby.
- R1 is the row held for grafting onto the rootstocks you own, so its 13 trees are scionwood, not nursery trees. Its six cultivars favor early and mid-season fruit, strong disease ratings where Purdue's table covers them, and scionwood that nurseries list for 2027. Redfree is vigorous, so two of its three trees go on the EMLA 7 rootstocks; lower-vigor scions such as Pixie Crunch suit the vigorous M-111.
- One of the 14 rootstocks you own is left over after the 13 grafts. Keep it as a spare for a graft that fails or a later replacement.

Cherries at the east end of R9 and R10 (10 spots)

- Seven of the ten are tart or tart-type (Surefire, Meteor, Carmine Jewel). They are hardy, bloom late, and are self-fertile. In the Intermountain West, sweet cherry is the main host of bacterial canker (Intermountain Tree Fruit Production Guide), and nearly all of the orchard's sweet cherries are flagged as positive (see the canker note below). WSU's work lists Sweetheart, Bing, Staccato, Royal Ann, and Van as susceptible cultivars and Mazzard and Colt as the more resistant rootstocks.
- The three sweet ones (two Skeena and one WhiteGold) are self-fertile, so they need no partner this far from the Bing trees, and should be bought on Mazzard. No trial rates either for canker, and WhiteGold's resistance is only a nursery claim. Treat the 10 cherries as a two- or three-winter trial before copying the mix.

Plums and a Seckel pear (5 spots)

- You asked for four plums, two apricots, and four peaches in the shared stone-fruit rows R11 and R12. That keeps the ten spots the plan already had there (the seven gaps between the apricot, plum, and peach blocks, and the three spots of the dead peaches) and changes what goes in them. Texas A&M AgriLife says bacterial canker can affect all stone fruit but cherries, peaches, and apricots are the most susceptible, so plums are the safer addition to the shared rows. All three plum cultivars are self-fertile European types, because the pollination rules cannot pair plums and the Japanese and hybrid plums need a partner the orchard does not have. The orchard has only the three Italian plums, now together at

R11-C6, R12-C5, and R12-C6 after your October 18 move, so the four new plums go on either side of them: Mount Royal at R11-C7 and R12-C7 (the spots you held for plums), Stanley at R12-C3, and the Damson at R12-C4.

- Stanley is a favorite for U-pick but Penn State lists it as very susceptible to black knot (Damson is listed with some resistance), so the plan has one Stanley, not three, in the lowest plum spot, where its late bloom helps it miss spring frost. Wild chokecherry and plum within about 500 ft make black knot worse; prune knots out in winter.
- Seckel is a small, very sweet, fire-blight-resistant pear that ripens in September, with a mid-season bloom that overlaps Comice. It has fewer partners nearby than most trees here (only Comice at 18 ft), which is a known weak point.

Apricots at R11-C4 and R11-C5 (2 spots)

- Apricots bloom first and lose the most to spring frost: Utah State's frost table (from WSU) puts 10% bloom kill at 27 °F and 90% at 22 °F at full bloom. At the Prairie station a night at 28 °F or colder still comes after May 1 in 88%, after May 10 in 71%, and after May 20 in 63% of years. Your own bloom dates are not known yet, so expect only some crops until you have logged a few springs.
- Both picks are self-pollinating, so they need no partner, and both are described as blooming late: Utah State says the Chinese (Mormon) "blooms late avoiding damage from late frost" and is hardy to zone 4, and Stark Bro's calls Harcot frost-hardy and late-blooming, with good tolerance to bacterial spot and perennial canker. They take the two highest of the open gap spots that were not held for plums, in R11, which lidar puts about 0.7 ft above R12 at the same columns. Cold air drains downhill, so the higher row should see a little less of it (not measured on your lot). They sit beside the five apricots you already have (R11-C1 to R11-C3 and R12-C1 to R12-C2), so the apricot block stays together.
- The two ripen at different times (late June to July for the Chinese (Mormon), mid July for Harcot), and Harcot is the sweet, juicy, rich-flavored one. You already have a Giant Tilton (R11-C3; Utah State's entry for plain Tilton calls it very hardy and resistant to late frost), a Harcot (R12-C1), two Moorpark, and one unidentified apricot, so this adds an earlier apricot and a second Harcot to compare.
- Treat the apricots as a trial. They are the stone fruit most hurt by spring frost, and nothing measured on your lot shows how its cold air behaves (the site climate page lists this among the things still to check). Log first bloom, full bloom, and any frost damage on each apricot next spring.

Peaches at R11-C10, R11-C12, R12-C11, and R12-C8 (4 spots)

- Three peaches (J.H. Hale, Canadian Harmony, and Blazing Star) died in their pots before planting, so they say nothing about how peaches do on the site. Every one had been flagged for bacterial canker, which is why the peach picks lean on cold hardiness and disease resistance, not on novelty. All four picks are self-fertile, so no pollination pairing is needed.
- Intrepid (R11-C10) is the bud-hardy mid-season pick. Harrow Diamond (R12-C11) fills an earlier window: the University of Kentucky lists it about 11 days before Redhaven, rated Good for hardiness and bacterial spot resistance. Contender (R11-C12) is the second hardy mid-season tree: Kentucky rates its hardiness above Harrow Diamond's, and both above Redhaven's, and Utah State lists it as very cold hardy and tolerant of spring frost. Together with the Reliance and Redhaven you already have, they spread the harvest over several weeks.
- Reliance (R12-C8) is the fourth, the safe early tree: very cold-hardy, with very hardy fruit buds and late bloom (zone 4 to 8), planted beside the Reliance at R12-C9. It is soft and bruises easily, and Gurney's says newer hardy peaches such as Contender taste better, so it is the reliable choice, not the best-tasting one.
- Ask for Lovell or Bailey peach seedling rootstock. Penn State's summary of the NC-140 rootstock trials found peach rootstocks survived best, while non-peach and hybrid rootstocks suffered cold injury in the Midwest and bacterial canker in the Southeast.

Bacterial canker in the stone fruit

The inventory flags 24 stone-fruit records as *Pseudomonas* (bacterial canker) positive and untreated: 10 cherries, 5 apricots, 9 peaches. 4 of the 4 stone-fruit trees reported dead (Royalton cherry, J.H. Hale peach, Canadian Harmony peach, and Blazingstar peach) were among them. All 5 trees reported dead died, or were judged too poor to plant, in their pots before planting (your October 18 report), so none was lost in the ground here and they say nothing about how the site treats trees. The flags are still a reason to buy clean stock, and the flagged trees that are planted face their first winter in the ground this year, which is the real test.

So the stone-fruit picks are chosen and handled with canker in mind: tart cherries and plums, which are less affected than sweet cherries, peaches, and apricots; sweet cherries on Mazzard and peaches on peach seedling stock (Lovell or Bailey); buying clean certified stock; pruning only in dry weather; and dormant copper sprays at budbreak and leaf drop (Intermountain Tree Fruit Production Guide). The two new apricots are among the more susceptible fruits, so they get the same clean-stock and dry-weather care and are planned as a trial. WSU adds that vigorous rootstocks can pass the bacterium between neighboring trees through the roots, and that freeze damage and wounds that stay wet are what let it in. Cold-air drainage, winter injury, and drought stress all make canker worse; see the water-harvesting plan for how the stone-fruit rows drain.

Suggestions not followed

- **Encore peach** topped the first round of research for being the latest ripener. It ripens in fall, after Elberta, which is already a gamble here, so Intrepid replaces it.
- **Krymsk 86 rootstock** was suggested for Intrepid. UC Davis lists it as a peach and myrobalan plum hybrid, and Penn State's summary of the NC-140 trials found hybrid rootstocks more prone to cold injury and canker than peach seedling stocks, so the plan says Lovell or Bailey.
- **Gisela 6 cherry rootstock** was suggested for Black Gold. The Intermountain Tree Fruit Production Guide and WSU both list Gisela 6 among the most canker-susceptible rootstocks and Mazzard among the least, so the plan says Mazzard.

Alternates and what to avoid

Spots	Picked	Alternates	Avoid
13 bought apples (R4 to R6)	Williams' Pride, Priscilla, Dayton, Freedom, Haralson, Pristine	Honeygold is a poor fit (fire blight very susceptible, rust susceptible, junipers on site).	Braeburn: susceptible to scab, fire blight, rust, and mildew, and needs a long warm fall (one Braeburn is already in the orchard plan at R2-C2).
13 grafted apples (R1)	Chestnut crabapple, Redfree, Akane, Sansa, Novamac, Pixie Crunch	State Fair was dropped: both the University of Minnesota and Cummins call it very susceptible to fire blight. Extra Honeycrisp or Zestar for name recognition were not added because the orchard already has them.	Cosmic Crisp: patented and licensed to Washington growers until at least 2032, so it cannot be grafted at home, and WSU describes it as bred for a long Eastern Washington season.
R8-C1 and R8-C13 pears	Harrow Delight, Seckel	Potomac; Magness (pollen-sterile, so it needs a partner and pollinates nothing). The hardest pears (Luscious, Gourmet, Ure, Patten) were set aside as harder than this site needs and mostly not self-fertile.	Pineapple again (the first one died in its pot before planting)
R9-C2 cherry	Black Gold on Mazzard	WhiteGold or Skeena, the east-end picks below (both self-fertile, so they would add a second pollen source for Bing only if they bloom with it).	Royalton again (it died in its pot before planting, and was flagged for canker); Gisela 6 rootstock
10 east-end cherries (R9, R10)	Surefire, Meteor, Carmine Jewel, Skeena, WhiteGold	Regina with Hedelfingen (not self-fertile, so they need each other, but WSU lists Regina among the more canker-resistant cultivars); Balaton in place of Meteor (richer flavor, but only partly self-fertile and a higher brown rot risk).	Sweetheart: self-fertile and popular, but WSU lists it as canker-susceptible with Bing and Royal Ann.
R11-C10, R11-C12, R12-C11, and R12-C8 peaches	Intrepid, Contender, Harrow Diamond, Reliance	Veteran (Raintree's hardest peach, late-blooming, but UC Davis puts it a week before Elberta, a timing this plan already treats as a gamble); another Redhaven for a second safe early tree.	Encore (ripens too late); J.H. Hale, Canadian Harmony, and Blazing Star again (they died in their pots before planting, and all three were flagged for canker); Madison (Kentucky lists it 21 to 25 days after Redhaven, and says its fruit drops when ripe); Glohaven (Utah State: more susceptible to spring frost); hybrid rootstocks such as Krymsk 86.
R11-C4 and R11-C5 apricots	Chinese (Mormon), Harcot	Goldcot (cold-hardy and consistently productive, self-pollinating, zone 4 to 8, ripe early July) and Puget Gold (sets and sizes fruit in cool, frosty spring weather where others fail, self-pollinating, zone 4 to 9, ripe early August), both from the Intermountain table; neither has a library profile yet. A second Giant Tilton (very hardy and resistant to late frost), if you want to replicate the one you have.	Patterson (zone 6 to 9 per Dave Wilson, too tender); Rival and Tomcot (Intermountain says both bloom early, and Rival needs a partner); Goldrich, Perfection, and Goldbar, which need a partner this plan does not model.
4 plums (R11-C7, R12-C3, R12-C4, R12-C7)	Mount Royal (2), Stanley, Damson	Green Gage (self-pollinating, ripe in early August per the Intermountain table); Fellenberg or Early Italian, which Penn State lists as having some black knot resistance.	Santa Rosa: a Japanese plum bred for mild climates that blooms earlier than the European plums. A second or third Stanley (very susceptible to black knot).

Not planned: R13 to R15 (39 positions) are future rows. Not checked yet: Spartan, SnowSweet, and other apples you could graft later.

Ripening watch: apples you already have

These apples ripen very late, after about Oct 25 in a cool northern climate. At the Prairie station the first 28 °F night of fall comes about Sep 30 in a typical year (before Sep 13 in 1 year in 10) and the first 24 °F night about Oct 10, so they may not ripen reliably here. Watch them for the first few crops; any that cannot ripen before the hard freeze can be top-worked (grafted over) to an early or mid-season cultivar.

Cultivar	Trees	Ripening, from its profile
Arkansas Black	1: R2-C10	Very late (Early Nov per Raintree; about Oct 20 near Madison, Wisconsin per Lapacek's Orchard)
Aztec Fuji	2: R3-C6, R3-C9	Very late (Late October)
Campfield	1: R5-C1	Very late (Early Nov per Raintree; Raintree and Cummins both say it ripens late)
Fuji	1: R2-C4	Very late (Oct to Nov; one of the last apples. Needs a very long season, so it may not fully ripen in cold, short-season sites.)
GoldRush	1: R3-C10	Very late (Late Oct to early Nov in upstate New York; fruit hangs on well after it is ripe)
Granny Smith	1: R6-C2	Very late (Very late per Orange Pippin Trees; needs a long, warm season. WSU lists it as mid-season for Washington.)
Newtown Pippin	1: R3-C13	Very late (Late October in the eastern US (Orange Pippin); ripens poorly without a hot summer and autumn)
Pink Lady (Cripps Pink)	2: R2-C7, R3-C5	Very late (Late October in Willis's listing; needs roughly 150 frost-free days (Pomiferous))

Braeburn at R2-C2 belongs on this watch list too: its band is Late, but it is disease-susceptible and wants a long warm fall. Golden Delicious, Idared, Red Delicious, and Mutsu are less likely to be a problem: the Intermountain Tree Fruit Production Guide's apple table, written for Utah, lists them as cold hardy with September to October harvests. Prairie has a shorter season than most of Utah, so treat that as encouraging, not proof.

Sources and caveats

- Site: NRCS Web Soil Survey report (soil pH, frost-free period); US Growers Guide: Planting zones in Elmore County, Idaho (zones 5a to 7a; last spring freeze May 1 to June 16 and first fall freeze Sept 4 to Oct 8 across four NOAA stations); Bield: Elmore County frost dates (Hill City 1 W, 5,100 ft: median last frost May 30, first fall frost Sept 18, 111 days, zone 5b); University of Idaho Extension: backyard tree fruit in harsher climates (apples, apricots, cherries, pears, and plums can be grown in short-season zones with the right cultivars).
- Measured frost: the Prairie SNOTEL record, with the PRISM and Daymet models and the old Prairie weather station as cross-checks, on the site climate page; the numbers are in `data/climate.json`.
- Cherries: Oregon State Extension: sweet cherry compatibility and bloom timing chart (Black Gold in pollination period IV; Skeena and WhiteGold in III; Bing and Stella in II; Lapins in I); Intermountain Tree Fruit Production Guide: bacterial canker (rootstocks and copper sprays); WSU Extension: bacterial canker in Washington sweet cherries (susceptible and resistant cultivars and rootstocks).
- Plums and pears: Intermountain Tree Fruit Production Guide: plum varieties for Utah (harvest times, hardiness, and self-pollination); Penn State Extension: black knot of stone fruit (cultivar susceptibility and sanitation); Texas A&M AgriLife: bacterial canker in stone fruit.
- Apples: Intermountain Tree Fruit Production Guide: apple varieties for Utah (harvest times and hardiness for Golden Delicious, Idared, Red Delicious, Mutsu, and Haralson).
- Apricots: Intermountain Tree Fruit Production Guide: apricot varieties for Utah (harvest time, hardiness, bloom, and pollination for Chinese (Mormon), Harcot, Tilton, Goldcot, Puget Gold, and the others named above); Stark Bro's: Harcot apricot (frost-hardy, late-blooming, good tolerance to bacterial spot and perennial canker); the blossom-kill temperatures for apricots are in Utah State Extension's critical-temperatures table, shown on the site climate page.
- Cultivar facts, ratings, and ripening dates are in each profile's sources in the cultivar guide. Flowering groups and zones that no source confirmed are marked as planning values or retail figures in the buy list.
- Confirm that each nursery ships the item to Idaho and offers the rootstock you want before ordering, and that scionwood is still in stock; this plan does not pick nurseries.