



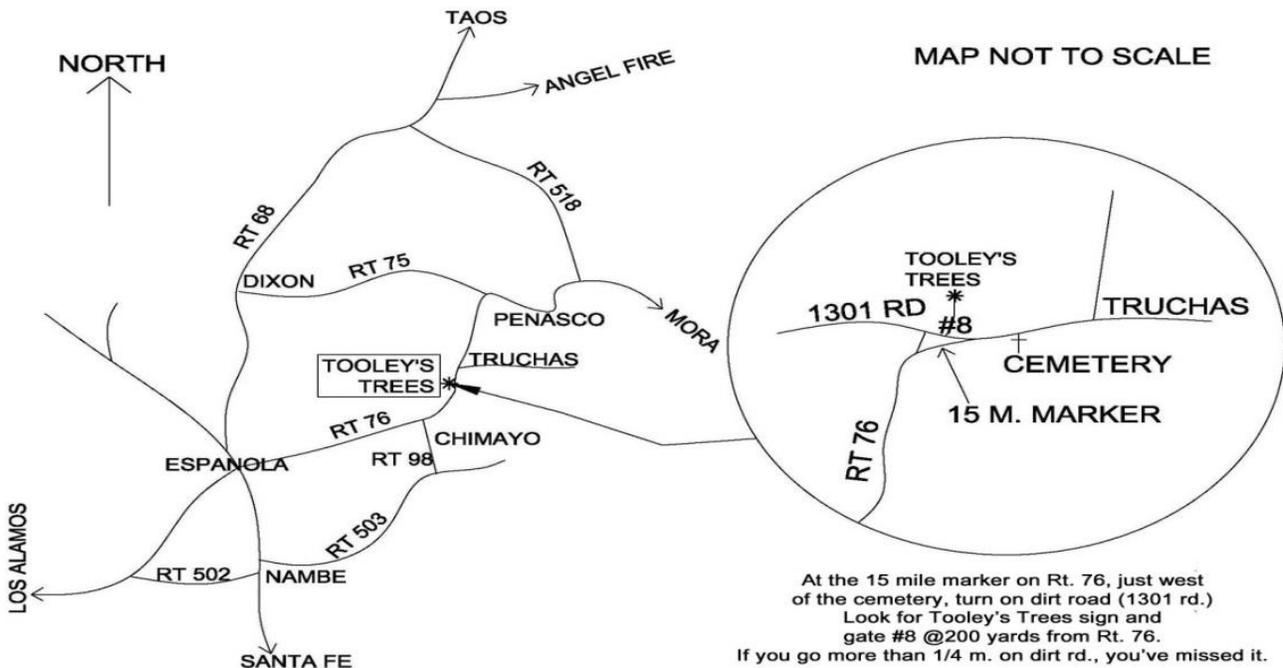
www.tooleystrees.com

2019 AUTUMN CATALOG

We offer a unique alternative to large commercial growers at great prices.

• Quality • Beauty • Toughness •

SUPPORT LOCAL AGRICULTURE



TOOLEY'S TREES & KEYLINE DESIGN
P.O.BOX 392 1301 RD. #8
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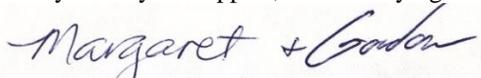
Tooley's Trees is a retail and wholesale nursery in Truchas, NM, on the highroad between Santa Fe and Taos, at 7,960'. Focusing on varieties that are drought tolerant and adapted to high pH, we grow species trees, shrubs, and grafted fruits. We grow our trees and shrubs in native soil contained in fabric bags and rootmaker pots. Our stock is grown with organic methods and we practice holistic orchard management. These practices are time consuming and labor intensive, but result in healthier plants, soils, water quality and beneficial insect populations.

We will have many heirloom and uncommon varieties of grafted apples, apricots, plums, pears and cherries in the late summer or fall but have limited inventory of fruit trees for this spring. Some of them may be new to you but are an opportunity for you to grow varieties that have all but disappeared from our markets. Our grafts are on rootstocks carefully selected to match climate and soil types in this area. Our species trees and shrubs are easy to care for and will provide screening, habitat and food for wildlife and yourself.

We believe in selling small caliper trees with well-developed root systems. The fabric root bags we plant in are key factors in building a fibrous root structure. Smaller caliper trees establish more quickly with less transplant shock, and grow more vigorously in difficult sites than large caliper trees.

Please refer to the price page for current prices. All our plants are healthy and true to name. Their survivability depends on their care once they leave this farm. No other warranties are implied. But if you have questions, please contact us by phone or email.

Thank you for your support, and for buying local,



Gordon Tooley and Margaret Yancey

HOURS FOR RETAIL SALES:

April through early November- Fridays, Saturdays and Sundays from 8-5.

Weekdays other than Friday are by appt. only.

HOLIDAY CLOSURES:

We will be closed all of JULY 4TH WEEKEND, July 4,5,6,7

We are closed on Labor Day weekend which is August 30,31,September 1, 2 this year.

Wholesale prices are reserved for nursery and landscape professionals.

We will close for the winter on November 3 this year.

WE DO NOT ACCEPT CREDIT CARDS. CASH OR CHECK ONLY PLEASE

TREE AND SHRUB PLANTING GUIDELINES

The most common reasons for plant failure are planting too deep and over amending the soil.

THE ADVANTAGES OF FABRIC ROOT BAGS

- Plants grown in fabric bags are healthier and grow faster than plastic container grown stock.
- Containers are more susceptible to problems of inadequate or excess water and fertilizer.
- Roots often circle in pots.
- Plants grown in root control/rootmaker bags have fibrous roots.
- The tough fabric of the bag prunes the root structure so shock is reduced when the tree or shrub is transplanted.
- 90% of the plant's root structure remains intact in the bag.
- Traditional field digging can cut away too much of the root structure.
- At the nursery it is easier to keep bagged stock from drying out or tipping over than containerized stock.

INSTRUCTIONS FOR PLANTING FROM ROOT BAGS

Remove the bag before planting the tree.

Cut the fabric from top to bottom and peel it away.

Occasional roots may be caught in the fabric – cut these with hand pruners.

Do not jerk the fabric away from the root ball.

SITE PREPARATION

Dig shallow planting holes two to three times as wide as the root ball. Wide, shallow holes encourage horizontal root growth that trees and shrubs naturally produce. Trunk flare should not be below grade. In well-drained soil, dig holes no deeper than the trunk flare. In poorly-drained clay soil, dig holes two to four inches shallower so that trunk flare is higher than grade. This will help prevent crown rot.

Don't dig holes deeper than trunk flare or put loose soil beneath roots, because loose soil will settle over time, leaving trees and shrubs planted too deep. Widen holes near the soil surface where most root growth occurs. Score walls of machine-dug (auger, backhoe) holes to remove glazing.

Backfill holes with existing unamended soil. **Do not incorporate organic matter into backfill for individual planting holes.** This can cause problems with water movement and root growth between the root ball, planting hole, and surrounding soil. Backfill with soil, then water thoroughly to settle out air pockets. Then water again. Cover any exposed root ball tops with mulch, but keep the mulch 2" away from the trunk flare. Spread any soil amendments you like to use around the tree on the surface of the soil, under the mulch. Soil builds from the top down so the amendments will do your plants more good spread in a wide area than dumped in the planting hole.

TREE CARE AFTER PLANTING

Remove tags and labels from trees and shrubs to prevent girdling branches and trunks. Make a map of planted area.

Good follow-up watering helps promote root growth. Drip irrigation systems and water reservoir devices facilitate efficient watering. Mulch, but don't over mulch, newly planted trees and shrubs. Two to three inches of mulch is best; less if a fine material, more if coarse.

Keep mulch from touching tree trunks and shrub stems. This prevents disease, insect and rodent problems if using organic mulches, and bark abrasion if using inorganic mulches.

Don't use black plastic beneath mulch around trees and shrubs because it blocks air and water exchange.

Only stake trees with large crowns or those situated on windy sites or where people may push them over. **Stake for a maximum of one year.** Allow trees a slight amount of flex rather than holding them rigidly in place. Use guying or attaching material that won't damage the bark such as wide cloth straps. Wrap the strap once around the trunk at half the height. Use 2 wood stakes, not metal. To prevent trunk girdling, remove all guying material after one year.

Most trees should not have their trunks wrapped. Wrapping often increases insect, disease, and water damage to trunks.

*****VERY IMPORTANT PROTECTION FOR YOUR TREES*****

For protection against small animals or equipment damage, install guards or a circle of 1/4" hardware mesh fencing to protect the trunk. Be sure the guards or mesh are loose-fitting and permit air circulation. Remove plastic guards in spring.

For protection against larger animals (like deer) install a large ring of field fencing to keep the animals from nibbling at the leaves and young branches.

TREE PRUNING

Pruning is a very intuitive process. "Touch Trees". Feel that trees are living organisms, get to know your subjects. They all have different growth patterns to observe. Work with the natural form the trees possess.

Be a good investigator, take your time, pay attention to details, do a good job, educate yourself.

Why to Prune

- Control size and develop strong tree structure
- Reinvigorate old wood to productive wood
- Decrease vigor, issue new responses at cut site
- Increase fruit spurs and thin fruiting wood
- Open up canopy for better light penetration and air circulation
- Remove weak crotch angles
- Remove competing branches
- Remove co-dominate branching, crossing, and dead branches
- Remove interior non fruiting and marginal fruit sites(fruit spurs growing below branches)
- No sealers or paint on any cut surface ever
- Pruning influences fruit quality and balances vegetative growth with fruit load

General Rules

- Never remove a branch or twig without having a reason to do so.
- Don't remove lower branches too early, lower branches aid in trunk flair, good anchorage, and branch development
- Seedling trees usually need less or very little pruning to maintain a natural habit
- Clonal rootstock tend to need more maintenance due to tendencies to produce more branches that want to grow vertical
- Spur types need very little training, thinning, or heading
- Pruning is a dwarfing process, increases vegetative growth, stimulates wood replacement, and reinvigorates tired, low productive wood
- Pruning reduces yield, removal of wood with flower buds reduces potential fruit,
 - Yields are less but quality is improved by size.
 - Weight load to scaffold is reduced- especially important in young trees
- Never Top an established tree to lower size!
- Pay attention to natural tree shapes, try to work with what the tree wants to do.
- In most cases you can follow up with pruning that complements natural branching rather than making them do what they may not want to do.

- Tool hygiene; clean, sharp, keep off the ground, wipe or spray with 90 percent alcohol, approved bactericides and fungicides, or 5% bleach and water
- Cut or chip the cut branches and twigs into small pieces to create Ramial wood mulch. Remove all diseased wood.

Types of Cuts

Pruning is: thinning, heading, bench cuts, notching to increase or decrease bud vigor

- Thinning cuts: removal of competing branches and twigs, opens up light and air
- Heading cuts: reduce apical dominance, reduce length, control height and width, send new vigor to the next 3 to 5 buds below the cut to direct growth to spurs
- Never make flush cuts, they callus improperly and increase decay surface area
- Avoid stub cuts, final cuts should be at collar or branch bark ridge

Timing of Pruning

- Things that flower first, get pruned last; late in the dormant season or very early in the spring before bud break
- Heavy pruning in the growth flush, and before leaf drop in the fall should be avoided
- No more than ¼ of the trees canopy should be removed per season
- Young trees can respond to heavy pruning better than established trees
- Trees don't heal, they seal. Cutting wood at any time stimulates cell activity at the cut site to compartmentalize cell walls to seal out infection
- Early winter pruning can cause winter damage and interrupt dormancy clock, even causes some species to break bud too soon. It should be avoided.

Dormant Season Pruning

- Dormant pruning stimulates wood replacement, don't remove a branch unless you have a reason and make yourself aware of the response the tree will make at that site
- Very late winter or early spring is the preferred time to prune. This can aid in preventing premature bud break, fruit loss, and winter damage.
- Pruning delays fruiting, unpruned trees will flower and fruit sooner
- One to four year old trees should not be pruned too much in winter for these reasons
- Stone fruits (apricots, plums, cherries, peaches, nectarines) sometimes experience limb die back or gummosis caused by the fungus *Eutypa lata* or *Cytosporina*. It is safer to prune these in early summer during periods of low humidity.

Summer Pruning

- Summer pruning encourages spur formation and can lessen water sprout competition in trees that are heavily pruned or have an umbrella formation
- Summer pruning reduces canopy and root growth due to loss of leaf surface, can affect trunk flair and retard vigor in young trees, and delay fruiting
- Summer pruning stiffens branches so use caution when pruning narrow crotch angles that will eventually be pushed out with limb spreaders, since this can cause included bark which is more prone to splitting
- One to four year old trees should not be pruned too much in summer for these reasons
- Summer pruning can help bring biennial croppers into a more annual cycle
- Summer pruning is preferred for stone fruits

ADDITIONAL RESOURCES

'The Apple Grower', 'Mycorrhizal Planet' or 'The Holistic Orchard'- Michael Phillips. We encourage everyone to read these.

They cover all aspects of tree care, healthy orchards and wildlife habitat.

Alex Shigo – Anything he published

'Physiology of pruning fruit trees'- publication number 422-025, Virginia Tech cooperative extension

Cornell Cooperative extension publication #112

NMSU cooperative extension bulletins

'Encyclopedia of Organic Growing'- Rodale press

'The Pruning Book' or 'Grow Fruit Naturally' – Lee Reich

'Organic Orchardin'- Gene Logston

'Fruit, Berry and Nut Inventory' Fourth Edition, Seed Savers Exchange

'Growing Food in the Southwest Mountains' Lisa Rayner

'Will Bonsall's Essential Guide to Radical, Self-Reliant Gardening' Will Bonsall

For more information on tree planting, look at the International Society of Arboriculture's website:

<http://www.treesaregood.org/treeowner/plantingtree.aspx>

Also check out: www.GrowOrganicApples.com for a wealth of helpful information- not just on apples.

SPECIES TREES & SHRUBS

***Acer ginnala*/Amur Maple**

To 20'. Zone 3. Small, shrubby maple widely used for screening and shelterbelts. Easily trained as multi-trunk specimen. Hardy and tough. Dense glossy foliage, vivid scarlet autumn leaf color, fragrant spring Bloom clusters. Low maintenance, establishes readily on most sites.

***Acer tataricum*/Tatarian Maple**

Zone 3. 15'-20'. Width comparable to height. A large multi-stemmed shrub or a small rounded wide-spreading tree. Dark green in summer, yellow and red in fall. Tolerant of adverse conditions including drought and high pH. Good where a small tree is desired. Local beekeepers tell us that the bees love its early season flowers.

***Amelanchier alnifolia*'Smokey' Serviceberry**

To 9ft. Zone 2. Large fruited selection of Western Serviceberry. Sweet, ½" blueberry like fruit. Used for fresh eating, pies, muffins or canning. Clusters of white flowers in early spring. Yellow fall foliage. Bears 2-3 years after planting. Does well in neutral or acid soils. Self-fertile and long lived. Adaptable to moist or dry soils. Hardy and drought tolerant. Ripens during July. Originated in Alberta, Canada. Introduced in 1952.

***Cercocarpus ledifolius*/Curl leaf Mountain Mahogany**

10-20 ft. Zone 5-9. Evergreen shrub or small tree with white bark and small, leathery leaves - dark-green on top and silvery underneath. Slightly resinous with compact, rounded crown of widely spreading, curved, and twisted branches and many stiff twigs. The leaves are narrow and pinched at the mid-rib, then bent to one side, hence the name curl-leaf. The flowers are inconspicuous, but the short, spiral, silver-haired seed plumes are eye-catching. The whole plant has a spicy aroma. The dark reddish-brown, mahogany-colored heartwood may have led to this name. The Navajo made a red dye from the roots by grinding and then mixing them with juniper ashes and powdered alder bark. Adaptable, hardy and trouble-free, this is a good dwarf specimen tree. The tree fixes nitrogen and is good for revegetation and erosion control. It is considered one of the hardiest broadleaf evergreens with the capacity for growing to tree size. It is native to high altitude desert areas; dry, rocky slopes; 4000-10,000 ft.

***Crataegus douglasii*/Douglas Hawthorn**

To 30'. Zone 4. Small tree with pendulous branches, dark green, shiny leaves. Black berries liked by birds.

***Crataegus monogyna*/Singleseed Hawthorn**

20'-30 ft. tall. Zones 4-7. Rounded, densely branched tree with slightly pendulous branches and moderate thorny character. Rich, polished green foliage, white flowers in mid to late May. Red ¼" to ½" fruit in September and October.

***Juniperus scopulorum*/Rocky Mountain Juniper**

30'-40' high by 3'-15' wide. Zone 3. Narrow, pyramidal tree often with several main stems. Valued for its use as screens, hedges, backgrounds. Very nice blue cast to the foliage. Withstands drought conditions very well.

***Morus alba tartarica*/Russian Mulberry**

Blackberry-shaped, sweet, mild, white fruit, sometimes pink or purple. Dried like raisins. Staple food in parts of Asia. Also delicious fresh or in pie and jam. Large spreading, bushy tree grows rapidly to 45-50 ft. tall. Bears fruit in about 3 years. Tolerates poor conditions and practically disease free. Self-fertile. Hardy to -25 degrees F. Native to China, but naturalized around the world. Used to feed silkworms.

***Picea engelmannii*/Engelmann Spruce**

Zone 2. Grows just below timberline on the highest mountain ranges throughout the Southwest. May reach height of 165 ft. and diameter of 5 ft. in extreme instances. Cones are small, from 1 to 2.5 in. long. Needles feel soft in contrast to the sharp stiffness of blue spruce needles.

***Picea pungens*/Colorado Spruce & *Picea pungens glauca* /Colorado Blue Spruce**

To 100', Zone 2. Foliage bluish-green or silver. Broad dense narrow pyramid with horizontal stiff branches to the ground. Is more drought tolerant than other Picea. Native to the southwestern states.

***Picea schrenkiana*/ Schrenk Spruce**

Zone 4. Introduced from Central Asia in 1877. Height: 80 ft Spread: 20 ft. Annual growth rate less than 12 inches. Schrenk Spruce is native to Asia and it is relatively rare in landscapes. The crown is pyramidal to somewhat oval. The horizontal branches do not develop the drooping habit that is typical of other spruces. The bark is purplish-gray and flakes off to reveal orange-brown new bark.

***Pinus flexilis*/Limber Pine We have a few 7 GAL. BAGS SPECIAL PRICE \$40 EACH**

To 60'. Zone 2. Young trees conical becoming rounded with age. Bark dark gray, deeply furrowed with age. Native range from Alberta to Texas. Five needles per cluster, densely crowded on the ends of branchlets, pointing forward, dark green to a slight glaucous dark green. Very adaptable species. The seeds of Limber Pine are large enough to be of value as food.

***Pinus leucodermis*/Bosnian Pine**

Zone 5. To 20' Compact dwarf, growing 3" to 6" per year. Excellent for small gardens. One of Europe's most common ornamental pines. Well suited to dry or shallow soils.

***Populus x acuminata*/Lanceleaf Cottonwood**

25' to 45'. Zone 3. Upright form with broad spreading crown. Introduced into cultivation in late 1800's. Good alternative to Aspens for lower elevations. Greenish, yellowish bark. Fairly fast growing, hardy, cottonless shade tree.

***Populus tremuloides*/Quaking Aspen**

To 50', Zone 2. Beautiful, fast growing native tree. Extremely cold hardy. Green, heart-shaped leaves flutter in the slightest breeze. Brilliant yellow, rarely red fall color.

***Prunus americana*/Wild or American Plum**

10'-25', Zone 3. Small graceful tree or shrub. Beautiful fall color. Fragrant, white flowers bloom profusely. 1" red and yellow fruit. Excellent food for wildlife. Good for jams and jellies. Drought tolerant, and not soil specific. Excellent pollinator. Good choice for screening and wildlife habitat.

***Prunus armeniaca mandshurica*/Manchurian Apricot**

10'-12', Zone 2. Compact, bushlike tree. Pinkish-white, frost resistant blossoms appear in early spring before the glossy green foliage. Vigorous, thrives almost anywhere. Bears young and heavily. Self-fertile, but more fruitful in groups of two or three. Small, plump, golden yellow fruit. Sweet freestone flesh, good for fresh eating, preserves and drying. Cultivated in Manchuria since 2000 BC.

***Prunus besseyi*/Western Sand Cherry**

Zones 3-6. 4'-6' tall and wide. Suckering, spreading shrub. Pure white ½" diameter flowers in late April/early May. Purplish black ¾" fruit in July and August. Tolerates hot, dry conditions. Prefers well drained soil. Introduced 1892.

***Prunus tomentosa*/Nanking Cherry**

To 10', Zone 2. Bark is shiny, reddish-brown and exfoliating. Leaves are dark green, flowers are pinkish in bud, changing to white and fragrant. One of the earliest flowering prunus species. The fruits are scarlet, ripening June through July. Good windbreak filler, drought tolerant.

***Prunus virginiana*/Chokecherry**

20'-30', Zone 2. Small suckering tree or large shrub with oval crown. Flowers are white 3"-6" long racemes. The fruit is red, ripening to dark purple. The fruits can be used for making jams, jellies, sauces and wines. Good screening and habitat plant.

***Quercus gambelii*/Gambel Oak**

20'-40'. Zone 5. Drought tolerant native oak of the Rocky Mountains. Shrubby to tall, rounded crown. Excellent wildlife food, browse and acorns. Nice fall color.

***Rhus trilobata*/Skunkbush or 3 Leaf Sumac**

To 6', Zone 2. Medium, informal shrub, clumping habit makes a natural low hedge. Brilliant yellow to red fall color. Very drought tolerant. Refreshing drink can be made from the berries.

***Ribes rubrum*'Pink Champagne'/Pink Champagne Currant**

Zone 3-8. Red x white currant cross. Compact bush produces large clusters of light pink berries. Not as tart as red currants. Good for fresh eating, cooking and preserving. Resists mildew, rust and aphids. Easy to grow. Sun or part shade. Ripens in July.

***Ribes rubrum*'Red Lake'/Red Lake Currant**

Zone 2-6. Superior strain of *Ribes rubrum*. Compact clusters are medium to large, 4" long with 8-10 berries. Long stems for easy picking. Large ½" diameter dark red berries. Excellent for jellies, preserves, tarts and muffins. Makes sparkling red jelly. Strong, vigorous, upright bush with dense foliage; 4'-6' tall and 2'-5' wide. Early bearing; produces fruit on two-year and older wood. Long ripening season; holds well on the bushes. Remains productive in partial shade. Excellent bird forage and windbreak plant. Ripens during July.

***Ribes rubrum*'Rovada'/Rovada Currant**

Zones 3-7. Bears abundant long clusters of translucent red berries. Delicious eaten fresh and in jams and jellies. Vigorous and disease resistant. Late flowering escapes most frost. Ripens late July. Developed in the Netherlands.

***Rosa glauca* (also known as *rubrifolia*)/Red-leaf Rose**

5'-7', Zone 2. High erect cane shrub of good density. Beautiful purplish hue. Canes covered with a purplish bloom, armed with small prickles. Flowers single clear pink, hips are red. Fine shrub border. One of the hardiest of roses.

***Rubus sp.*/ Prime Ark® Freedom Blackberry**

Zones 6-9. Released from Dr. John Clark and University of Arkansas primocane breeding program. For floricanes fruiting, it ripens fairly early and has very large fruits, with excellent flavor. Freedom is a great choice for local commercial distribution and home gardens. It is not recommended for the shipping market. Prime Ark® Freedom requires "tipping" to achieve the highest yields and performance. Fall-bearing or primocane blackberries respond favorably to tipping. As the primocanes reach 12-15" in height, break or cut ¾-1" off the tip of each cane to force branching. Tip again when branches reach 30". This process stimulates earlier fruit development, keeps plant height in check, and increases yield.

Rubus sp./Nova Raspberry

Zones 3-8. Medium size, dark red fruit. Mild flavor. Medium height, nearly thornless canes. Suitable for fresh market, pick your own or freezing. Resistant to most cane diseases. Bears early in the season.

Sambucus nigra/Samdal Black Elderberry

Zones 3-8. This is one of several newer elderberry varieties from Denmark. Plants are vigorous, producing long shoots from soil level one growing season and bearing fruit the next. These are removed after bearing and replaced by the current year's growth. This makes the plant easy to prune and manage as a bush. Large fruit clusters with good flavor ripen in August each year. Berries have high anthocyanin content. Both varieties, or another *S. nigra* cultivar, are required for cross pollination.

Sambucus nigra/Samyl Black Elderberry

Zones 3-8. This variety will provide good cross-pollination when paired with the Samdal variety. Samyl has particularly high-quality flowers.

GRAFTED APPLES

We try to have a large selection of heirloom and newly developed grafted apples to offer you. We do much of the grafting here on the farm and select rootstocks and scion wood that should be productive in Southwestern soils and in this climate. These apples may be less well known, but merit attention in the trade. In addition to adding unique trees to your landscape, you help to preserve diversity and the unusual characteristics of these fruits by planting these trees. The majority of these apple trees are grafted on M7, EMLA 7 and EMLA 111 rootstocks. These provide long lived semi-dwarf trees that are well anchored and perform well in most sites. EMLA 7 and M7 will generally produce 12'-15' trees and EMLA 111 will be 15'-20'. We have a few varieties on Standard rootstock. Please enquire as they change from year to year. Mature tree size is a combination of the characteristics of the rootstock and the variety, as well as the quality of the soil and care given to the tree.

 Baking  Fresh eating  Processing  Cider  Storing

Albemarle Pippin(Newton Pippin) Apple

Does not owe its success to good looks. Medium sized, squat, yellowish green fruit, usually russeted around the stem. Ripens yellow, unless over fertilized. Rich aromatic, crisp, coarse, creamy yellow flesh; refreshing piney tartness. High quality; dessert and processing. Excellent for cider. Great keeper; develops full sugar and rich flavor in March. Large, vigorous, early bearing, self fruitful tree. Tends to bear biennially. Susceptible to scab, notably on clay soil. Heat resistant. Requires good soil and full sun. Ripens during October. 700 hours chilling. Zone 5. Originated in Newtown, Long Island in early 1700's.

Almata Apple

Beautiful Arcade x Fluke 38 Crab. Small to medium size, solid pale red fruit covered with grayish bloom. Striking watermelon-red flesh throughout. Tart flavor. Makes excellent cranberry red applesauce. Good for pickling and coloring cider. Susceptible to fire blight and scab. Ripens in July or August depending on location. Hardy to -50 degrees F. Russian and Canadian parentage. Bred in 1942 by Dr. Nels Hansen at the South Dakota Agricultural Experiment Station.

Ashmead's Kernel Apple

Medium size, greenish yellow fruit with brown flush, usually covered with a heavy russet. Flattish round shape, sometimes slightly conical. Crisp, yellowish flesh, sugary, juicy and aromatic. Tart when tree-ripe. Peak flavor quality in early November. Makes excellent tasting cider. Will keep 3-4 months. Large precocious tree. Ripens in late October. Hardy to -40 degrees F. Raised by Dr. Ashmead, an eminent physician in Gloucester, England in the 18th century. Introduced in the early 1700s.

Baldwin Apple

Large winter apple. Tough, smooth, bright red skin with white stars. Crisp, solid, juicy, somewhat aromatic, yellowish flesh. Good for fresh eating and all culinary purposes. Adds body, spiciness and aroma to cider. Triploid. Excellent keeper. Vigorous, long lived tree. Hardy to Zone 4. Originated in Lowell, Massachusetts in about 1740.

Beacon Apple

Malinda x Wealthy. Medium to large fruit with tough, yellow skin that is splashed and striped orange-red. Juicy, mildly subacid flesh. Excellent early eating apple; good for cooking. Does not store well. Vigorous, productive, heavy bearing tree. Hardy to -50 degrees F. with occasional winter injury. Developed in Minnesota. Introduced in 1936.

Black Oxford **& drying**

Rare heirloom of unknown parentage, medium size, round fruit is deep-purple with a black bloom. Excellent eating and cooking qualities, makes great cider; dries well. Biennial bearer, resistant to insects and disease. Ripens in late October or November, hardy in Zone 3. Originated in Oxford County, Maine in the 1860's. Susceptible to Fire Blight.

Blenheim Orange Apple

Large, somewhat flattened fruit with yellow and red skin color. Aromatic, creamy, coarse white flesh with slight subacid flavor. Vigorous tree resists mildew, is immune to fire blight but is susceptible to scab. Triploid. Requires a pollinator. Ripens early October. Hardy to Zone 4. Fruit production improves over time. Found near Old Woodstock near Blenheim, Oxfordshire in England in 1740.

Bramley Apple

Traditional cooking apple of the British Isles. Large flat greenish yellow fruit with broad, broken brown and red stripes, firm skin. Firm, juicy, sharply acid flesh. Cooks to perfection with rich juice and no hard pieces. Good cider apple, extremely high Vitamin C content. Large, vigorous, spreading tree. Heavy, regular bearer. Blooms late; will survive in a frost pocket when some would be killed. Triploid, requires a pollinator, scab and mildew resistant, ripens early October to early November, depending on location. Zone 5, originated between 1809 and 1813.

Brown Snout Apple

Cider variety that produces a sweet, slightly astringent juice and a mild to medium bittersweet cider. Small fruit with green to yellow skin color with patches of russet and a brown russet eye at the calyx end of the fruit. This distinctive brown eye is how the fruit got its name. Self fertile. Susceptible to fire blight. Ripens October to November depending on location. Discovered in 1850 in England.

Burgundy Apple

Monroe x NY18491 (Macoun x Antanovka) Large, round, blackish red fruit with solid blush, but without stripes. Skin is smooth and glossy. Crisp, subacid flesh with red coloration. Very good eating quality. Annual bearer. Fruit hangs well for three weeks after ripe enough to harvest. Storage life is short, no more than a month. Susceptible to scab and mildew. Ripens in mid-September. Hardy to Zone 3. Introduced in 1974.

Campfield Apple

Medium to large fruit is yellow blushed and striped with red. Sweet flesh. Ripens late. Good keeper. Hardy. Zone 4. Recommended by Cox for cider. Originated in New Jersey 1817.

Canadian Strawberry Apple

Unknown parentage. Originally planted about 100 years ago in Solon, Maine. The only known trees are living and producing. Medium to large fruit is round to conic. Skin color is buttery yellow with some green background covered about 50% with stripes and spots of vibrant red-orange. Juicy, slightly tart flesh has a distinct flavor. Ripens early fall. Keeps one month. Hardy to Zone 4. Susceptible to Fire Blight.

Champlain Apple

Round-conic fruit with pale yellow skin. Fine, tender, juicy flesh. Excellent sprightly flavor. Ripens in August. Zones 3-6. Old American apple of unknown origin dating back to 1850.

Charette Apple & drying

Also known as the Donut Apple. Unknown parentage. The only known mature tree is on Charette Hill in Fort Kent, Aroostook County, ME. Thought to be about 200 years old. The oblate apples are also huge and almost always seedless. The blossom end of each fruit is sunken in toward the stem so much so that when sliced perpendicular to the core, the slices look like donuts. It is excellent for fresh eating and drying. Ripens about the end of September. Light yellow skin with splotches of dark yellow and covered with maroon streaks and a bright red blush. May have been brought to Fort Kent as a seed, scion, or seedling by French missionaries in the 18th century. Extremely hardy. Zone 3.

Chestnut Crabapple

Malinda x Siberian Crabapple. Large cooking and dessert crabapple. Attractive, reddish bronze fruit. Crisp, juicy, sweet flesh with a pleasing nutlike flavor. Excellent fresh. Vigorous tree is upright but a little weeping. Large white blossoms with good shape and aroma; medium pollen producer. Fruit hangs well and ripens over a long period. Annual bearer. Cedar apple rust resistant. Hardy to -50 degrees F.

Claygate Pearmain Apple

Good size, brown russeted fruit with beautiful splash of crimson in the sun. Crisp, juicy, yellowish flesh. Rich sugary flavor like the Ribston Pippin. Good keeper; excellent bearer. Ripens late. Zone 6. Fine old English apple found growing in a hedge in the hamlet of Claygate in Surrey before 1820.

Connell Red Apple

Red sport of Fireside. Macintosh x Longfield. Large, round, solid red fruit. Sweet, mild, perfumed flesh retains its parent's distinctive flavor; better color. Smaller percentage of small apples. Excellent for eating fresh or cooking. Remarkable keeper, holding its juice and crisp texture into April. Tree is a heavy annual bearer. Ripens in October. Hardy to Zone 4. Discovered in Dunn County, Wisconsin. Introduced in 1957. Susceptible to Fire Blight.

Cortland Apple

Mcintosh x Ben Davis. Widely grown, all-purpose, late McIntosh type; one of the standards. Larger fruit with dark red skin underlaid with stripes. Crisp, pure white flesh resists browning when cut. Tart, tangy flavor. Dessert quality. Excellent for eating, cooking and cider. Vigorous, long-lived tree is annually productive and starts bearing early. Excellent pollinator. Ripens 2-3 weeks before McIntosh; does not drop as readily. Ripens from mid-September to early October depending on location. Hardy to -40 degrees F in zones 4-8. Developed in 1915.

Court Pendu Plat Apple

Very flat fruit with a barely perceptible stem, causing it to lay tight against the branch like a peach. Bright yellow or orange flushed with rose over a fawn russet skin. Antique appearance like Italian marble. Firm, yellow flesh. Rich flavor. Hardy, upright tree. Scab resistant. Self-fertile. Ripens Nov. or Dec. depending on location. Zones 5-9. Known by some as the Wise Apple as it flowers very late, escaping some spring frosts. Ancient apple known in the 16th century.

Crimson Beauty Apple

Fameuse family. Red striped fruit. Juicy, white flesh. Nice tart flavor. Good for sauce and cooking. Productive, early bearing tree. Ripens very early, about 8-10 days ahead of Lodi. Hardy to -50 degrees F with occasional winter injury.

Deacon Jones Apple

Possible seedling of Yellow Belleflower. Yellow skin with red. Yellow, firm, juicy flesh with mild flavor. Stores well. Late season ripening. Zones 3-6. Originated in PA around 1892.

Dolgo Crabapple

Siberian crab. Juicy, 1.5 inch olive-shaped, crimson fruits. Name means "long" in Russian, referring to fruit shape. Highly flavored. Rich in pectin. Makes ruby red jelly. Ideal for canning and preserving whole. Fair keeper. Sturdy, vigorous, upright, spreading, open tree can grow 40' tall by 30' wide. Dependable, abundant crops. Large, white flowers. Resistant to cedar apple rust, mildew, scab, sun scald and fire blight. Ripens late August or September. 400 chill hours. Zones 2-8. Imported from Russia by Professor Hansen of South Dakota, 1897.

Dudley Winter Apple

Open pollinated seedling of Duchess of Oldenburg. Medium-large uniform fruit. Bright greenish yellow skin splashed and striped with red. Yellow-tinged flesh is firm, crisp and very juicy. Briskly subacid flavor becoming mild in storage. Excellent for sauce and baking. Reasonable keeper. Natural semi-dwarf tree. Moderately vigorous. Very hard and productive. Scab resistant. Hardy to Zones 3-4. Developed in Maine, introduced in 1891.

Egremont Russet

Prized as the most delicious of the English russets. Small, round, golden brown russet fruit often with black spots or markings. Greenish yellow, richly flavored flesh resembles Gravenstein. Very high quality. Like all russets, a good keeper. Upright growing tree is a heavy spur bearer and regular cropper. Fruit size decreases as the tree ages and the quality will vary from year to year. Resists scab. Ripens in October. Hardy to -40 F. Originated in England. Introduced in 1880.

Esopus Spitzenburg Apple

Thomas Jefferson's favorite; dessert apple for connoisseurs. Medium to large, round conical, orangeish fruit with tough skin, russet dots and inconspicuous stripes. Crisp, fine grained, spicy, juicy, yellowish flesh. Rich, aromatic flavor. Ripens unevenly; hangs well into November. Average to good when tree ripe; radically improves in storage. Keeps until May. Tends to bear biennially. Pollinator required. Susceptible to fireblight, scab and canker. Hardy to Zone 4. Requires 800 chilling hours. Originated in Esopus, NY. Introduced in 1790.

Fall Harvey Apple

Midseason. Originated in Massachusetts. Introduced in 1836. Large somewhat oblate(flattened), slightly ribbed, pale straw to deep yellow fruit with an occasional deep sunny-side blush. Crisp juicy rich white flesh. Nineteenth century style rich tart flavor. Best for fresh eating in October and November. Zones 4-6.

Garden Royal Apple

Small to medium sized fruit, generally round in shape. Thin, green-yellow skin is nearly flushed red with stripes and splashes of carmine. Russet dots cover the surface. The juicy, yellow flesh almost melts with tenderness. Tends to biennial bearing but begins to bear early. Vigorous tree produces heavily. Ripens in August. Originated in Massachusetts. Recorded in 1847.

Gloster Apple

Weusser /winterglockenapfel x Richard Delicious. Conic shape, fully red fruit with calyx-end shoulder bumps. Larger, mostly 3" diameter; tarter flavor than Delicious. Extremely productive tree. Ripens late in season. Originated in Germany. Introduced in 1969.

Golden Noble Apple

Large, round, clear bright yellow fruit, sometimes with a few red spots. Of great culinary value, the creamy white flesh cooks into a richly flavored frothy puree. Recently discovered to exceed most other edible apples in vitamin C. Upright, spreading tree with moderate vigor. Partial tip bearer. Ripens in September. Zones 5-9. Originated in England. Introduced to the US in 1820.

Golden Russet Apple & drying

Seedling of English Russet. The champagne of old-time cider apples. Medium sized fruit. Gray-green to golden bronze with a coppery orange cheek; heavily spotted with light brown russet. Crisp, highly flavored, fine textured, yellow flesh. Very sugary juice. Used for cider, dried apples, fresh eating and cooking. Excellent keeper; vigorous, medium to large tree; often a tip bearer. Requires cross pollination. Scab resistant; suffers little from pests. Ripens late in October. Hardy to Zone 4. Originated in New York, described by Downing in 1845.

Granite Beauty Apple

Winter. Unknown parentage. Zephaniah Breed intro, Weare, NH, before 1850. Also called **Aunt Dorcas**, **Grandmother**, **Clothesyard Apple** and maybe a few more. Very large roundish-oblate red fruit ripens in late October and keeps until spring. Most years will keep until early May. Moderately juicy, firm but not crisp, slightly subacid, surprisingly good. Writer and Chelsea Green editor Ben Watson of New Hampshire is leading the effort to revive the variety and loves the “cardamom, coriander, warm spice” flavor. Cooks down quickly into a loose pink delicious sauce. The skins mostly dissolve. An old source adds that “it abounds in a rich, refreshing, and well flavored juice. The story goes that Dorcas Dow yanked up a young apple tree to use as a whip on a long horse ride. When she arrived home, the little tree still looked pretty good so she planted it. Once well known throughout New Hampshire and midcoast Maine. Probably blooms midseason. Z4-6.

Gravenstein Apple

Large, round to slightly flattened, orangeish yellow fruit with red stripes. Thin skin. Crisp, juicy, fine grained, yellowish white flesh. Known for fine flavor. Unexcelled for cooking. Makes wonderful pies, desserts, sauces and cider. Keeps until early November. Large, vigorous tree. Pick frequently, because of uneven ripening and tendency to drop. Tendency to biennial bearing can be somewhat controlled by heavy pruning. Triploid. Ripens July to August. Zones 2-9. Originated in Italy in the early 1600s. Introduced into the US by Russian settlers moving into California in the 1820s.

Green Sweet Apple

Skin color is yellow with occasional red-orange blush. Delicious, sprightly flavor is sweet and unusual. Medium sized, open, upright tree. Scab resistant. Keeps until late spring. Hardy to Zone 4. Uncertain origin; possibly from Northern Massachusetts in early 1800's.

Harrison Apple

Cider variety. Medium size fruit with round to oblong shape. Yellow skin with black dots. Coarse, dry yellow flesh. Ripens in October. Originated in New Jersey in the early 19th century.

Hudson's Golden Gem Apple

Large, high quality russet. Conical, elongated fruit. Smooth, uniformly dull yellow russet skin. Very long stem. Sugary, juicy, crisp flesh. Flavor is somewhat nutty. Excellent dessert apple. Keeps in storage for three months. Fruit sometimes cracks when ripe. Hangs on tree well into winter. Large, vigorous, spreading, productive tree. Tendency to biennial production. Noted disease resistance, especially to scab. Requires cross-pollination. Ripens in late October. Hardy to Zone 3. Introduced in 1931.

James Grieve Apple

Speculated to be a seedling of either Potts Seedling or Cox's Orange Pippin. Medium to large, conical fruit. Almost solid crimson over yellow. Very juicy yellowish flesh. Excellent flavor. Poor keeper. Excellent cropper. Ripens in early September. Originated around 1890 from a seed planted by James Grieve of Edinburgh, Scotland.

Kerry Pippin Apple

Also called Old Irish apple, Yellow flushed bright orange fruit with red blush, often sprinkled with russet webbing at base and apex. Classic dessert apple. Hard, crisp, fine grained, extremely sugary flesh. Not attractive but fine, rich flavor and a pleasant aroma. One of the best for eating, cooking and cider. Fair storage ability. Medium sized tree. Ripens late August to mid-September depending on location. Hardy. Introduced in 1802.

Knobbed Russet Apple

Green and yellow fruit, sometimes scarlet streaked in the sun. Uneven surface is overlaid with rough gray and black russet, welts and knobs; worthy of its name. Crisp, rich, sugary, highly flavored flesh of the highest quality. Ripens September to October. Hardy to Zone 4. Originated in Sussex, England in 1819. Rescued from oblivion when the National Fruit Trials collection was put together after WWII.

Liberty Apple

Most disease resistant apple ever developed. Medium to large, bright, shiny, McIntosh type fruit with 90% red blush. Crisp, juicy, light yellow flesh. Sprightly flavor. Good for eating fresh, cooking, canning, or desserts. Stores until February. Flavor intensifies in storage. Hardy, spreading, vigorous, heavily spurred, productive tree; annual bearer. Sets heavy fruit loads, resulting in small fruit; requires thinning. Resistant to scab, fire blight, mildew and cedar-apple rust. No spraying needed. Ripens early October. Requires 800 hours of chilling. Hardy in Zones 4-8. Released from the New York Station in 1978.

Lyman's Large Summer

Large, smooth, green, sometimes yellow fruit. Crisp, juicy, breaking flesh. Refreshing, rich, clean, sweet-tart flavor. Good for table use or cooking. A tip bearer. Ripens in early August. Hardy to Zone 4. First introduced in Detroit in 1847 and rediscovered in 1941.

Macoun Apple

McIntosh x Jersey Black. Size and shape like McIntosh; more striped with deeper red coloring. Dark purplish red blush over green background. Firm, aromatic, white flesh. High quality, all purpose, dessert apple. Good for local markets, not for shipping. Medium size, vigorous, hardy, spur type, productive tree. Upright habit; needs training to develop a spreading top. Must thin to maintain fruit size and annual bearing. Very resistant to fire blight. Blooms late. Ripens several weeks after McIntosh. Requires 600 hours of chilling. Hardy to zone 4. Developed at the Geneva Station. Introduced in 1923.

Melrose Apple

Official Ohio state apple. Red Delicious x Jonathan. Large, flattened fruit. Yellowish green skin flushed and streaked dark red with russet spots. Firm, coarse, juicy, creamy white flesh. Slightly acid flavor. Very good cooking and dessert quality. Best for eating after Christmas when it develops its fruity aroma. Growth habit is spreading and moderate. Midseason bloom. Good pollinator. Ripens from mid to late October. Good apple for roadside market and local sales. Zones 5-9. Planted extensively in Ohio. Introduced in 1944.

MN 1734. Also known as Minnesota Russet Apple

Round medium-sized fruit is entirely golden russeted with red stripes and a peach-like surface. A very pretty apple with dry flesh and an unusual flavor. Not a dessert apple but a good addition to sweet or fermented ciders. Keeps reasonably well. Healthy, vigorous globe-shaped spreading tree. Blooms midseason. Ripens late. Zones 3-6.

Nodhead (Jewett Red) Apple

Old New Hampshire and Maine apple. Deep crimson fruit covered with dark red stripes, heavy blue bloom and yellow specks. Very short stem. Ripens in late October. Reaches perfection by late December. Keeps until January. Natural semi-dwarf. Zone 4. Originated in Hollis, NH in the early 1800s.

Northern Spy Apple

Large, round, often flattened greenish yellow fruit flushed and striped pinkish red with a delicate bloom and occasional russet patches. Fine grained, rather firm, very tender, crisp, juicy yellowish flesh. Tart, aromatic sub-acid flavor. Excellent all purpose apple, good keeper. Very large, vigorous, productive, upright tree; tends to bear biennially. Blooms late. Requires pollination. Ripens late October. Zone 3-9. Seedling discovered about 1800 in East Bloomfield, New York.

Northwest Greening

Golden Russet x Alexander. Popular old winter variety. Large to very large, handsome fruit; up to 5" across. Waxy, smooth, pale green skin with a hint of yellow; turns to yellow when mature. Juicy, mild sub acid flavor. Excellent cooking apple, especially for pies. Keeps well into winter. Often used as a late-season pollinator. Ripens in October. Hardy to -50 F. Originated in Wisconsin. Introduced in 1872.

Orleans Reinette Apple

Round, flattened, green-yellow fruit, somewhat netted with slight russet, usually reddish in the sun. Fine, crisp, yellow flesh. Rich, nutty flavor. Ripens in October. Zones 6-9 but is doing fine in our orchard in Truchas (zone 5b). Originated in France. Introduced prior to 1776. Susceptible to Fire Blight.

Redfield

Highly unusual cross between Wolf River and Niedzwetzskayana red crab. Medium to large, waxy pink to red fruit. The deep red flesh is slightly dry, making it a superb baking apple. Produces an exceptional jelly or blood red cider or vinegar. High in pectin. Not a fresh eating apple. Short storage life. Extremely hardy tree is disease and pest free. Heavy annual bearer. Highly ornamental with bronze leaves and red blossoms. Ripens in October. Zones 3-4. Developed at the New York Station, 1938.

Ribston Pippin

Parent of Cox's Orange Pippin. Classic dessert apple of England. Yellow flushed bright orange fruit with red blush, often sprinkled with russet webbing at base and apex. Hard, crisp, fine grained, extremely sugary flesh. Not attractive but fine, rich flavor and a

pleasant aroma. One of the best for eating, cooking and cider. Fair storage ability. Medium size tree. Triploid. Ripens mid-September depending on location. Hardy. Zones 4-9. Originated in Yorkshire, England around 1700.

Roxbury Russet Apple

Excellent old American cider apple. Large fruit. Greenish, sometimes bronze tinged skin almost covered with yellowish brown russet. Firm, slightly coarse, fairly tender, yellowish white flesh. Remarkable for its amount of sugar. Good for eating fresh or cooking; excellent for cider. Notable keeper, until April or May. Medium to large tree; tends to be biennial. Blooms late. Requires cross pollination. Resistant to scab and mildew. Good cropper on rich soils. Ripens mid-October. Hardy to Zone 4. Originated in Roxbury, Massachusetts in early 1600's. Introduced in 1649.

Russell's Russet Apple

Chance seedling of unknown parentage. Excellent early fall dessert apple. Originated in Mt. Vernon, Maine. Discovered by Russell Libby. Brownish russet skin. Not a late keeper. Hardy to Zone 4.

Scott Winter Apple

Vermont seedling with red fruit. Flesh is tinged with yellow, sometimes stained with red. Very juicy. The slightly tart flavor in the early part of the season becomes more mellow later. Tree bears at a young age. Ripens November to December. Keeps until April. Hardy to -50 degrees F with occasional winter injury. Originated in Vermont in 1864.

Snapp Red Stayman Apple

Sport of Red Stayman. Solid bright red fruit, fine grained crisp flesh, rich spicy flavor, ripens in October. Discovered in the orchards of Alfred Snapp, Winchester, VA. All of the qualities of a fine Winesap. Best for baking and cider, good keeper, tart rich wine like flavor. Sterile pollen. Ripens September into October. Hardy Zones 5-8.

Sops of Wine Apple

Old English cider and culinary apple. Medium to large fruit. Greenish yellow skin overspread with purplish red, mottled and splashed and sometimes striped with dark carmine. Soft, fine grained, juicy, yellowish flesh is often stained with pink or flecked with red. Aromatic, mild, subacid flavor. Highly regarded for cooking, cider and apple wine. Good dessert apple as well Fair storage ability. Medium to large tree bears early and reliably. Requires cross-pollination. Mid-season bloom. Ripens August -September depending on location. Introduced 1832. Hardy zones 5-9.

Starkey Apple

Thought to be a seedling of Ribston Pippin. Not to be confused with Stark. Large fruit striped and splashed with bright red over a yellow background. White flesh. Among the best for winter storage. Hardy, regular bearer. Ripens in early October. Reaches its best flavor near Christmas. Zones 4-5. Originated in Vassalboro, Maine on the farm of Moses Starkey around 1820.

Stayman Winesap Apple

Seedling of Winesap. Medium to large, roundish to cone-shaped fruit. Dull red bloom over greenish base. Firm, tender, juicy, yellowish flesh. Tart, rich, wine-like flavor. Excellent firm cooking apple with spicy taste. Best for baking and cider. Good keeper. Medium to large, moderately vigorous tree. Blooms late. Pollen sterile- triploid. Fire blight, scab and cedar apple rust resistant. Ripens September into October. Zones 5-8. Introduced in 1895.

Summer Sweet Apple

Round –conic, yellow-green fruit with beautiful golden apricot-orange blush and occasional russet splash at the stem end. Yellow, firm flesh. Sweet distinctive flavor. Vigorous, upright, productive tree. Zones 4-6. Rare. Originated in Sidney, Maine about 1800.

Sweet 16 Apple

Malinda x Northern Spy. Red striped, conic fruit up to three inches. Aromatic, moderately acid, firm, crisp, cream colored flesh with high sugar content. Unique, pleasing, faintly nutty flavored cooking apple. Rates high as a pie and sauce apple; also an excellent dessert apple. Handles and stores well. Early bearing, late blooming tree with moderately spreading, vigorous habit. Dependable, annual bearer. Resistant to scab and fire blight. Extremely cold hardy variety. Can withstand -50 degrees.

Thornberry Apple

Unusual apple found growing in an abandoned orchard near Whitethorn, California. Translucent yellow skin reveals the raspberry pink flesh inside. Unique berry-like flavor; sprightly and refreshing. Hangs well on the tree. Ripens during October. . Susceptible to Fire Blight.

Tolman Sweet Apple

Round, medium to large fruit. Pale yellow skin, sometimes a little flushed with russet lines and often marked with a slightly rough suture line running from top to bottom. Firm, rather hard, moderately fine white flesh. Excellent sweet flavor. Highly esteemed for baking, stewing and making cider. Large, hardy, healthy, productive long lived tree. Bears early and reliably almost anywhere, blooms late, moderately biennial. Ripens during October, hardy to –50F. Developed in Massachusetts, described in 1822.

Tompkins County King Apple & drying

Large to very large fruit. Smooth, yellow skin washed with orangeish red; sometimes striped. Coarse, tender, yellowish flesh. Rich, sub acid, balanced flavor. Excellent for dessert, pies, sauce and cider. Once grown commercially as a drying apple. Tends to water core which creates translucent, very sweet patches in the flesh; shortens storage life, but many find it enhances flavor. Natural semi dwarf tree; precocious and vigorous. Tip bearer. Pollen sterile triploid. Ripens during September. Originated in New Jersey around 1750 and gained its fame in New York State. Introduced in 1804.

Tydeman's Late

Great dessert apple for winter use develops full flavor in November or December. Yellow and crimson skin color develops in storage. Yellow flesh similar to Cox's Orange but distinctively its own. Introduced 1949. Zones 6-9.

Whitney Crabapple

Round to conic crabapple is often larger than a golf ball. Uniform in size and shape. Light greenish yellow with red blush or stripes. Sweet, juicy, yellowish flesh. Mildly subacid with slight crabapple flavor. Favorite for home canning, preserving, pickling and spicing. Fair keeper. Narrow, upright trees bear heavily, even when young. Pink and white blossoms. Ripens late July to late August depending on location. 600 chill hours. Zones 2-9. Described by Warder in 1869.

Wickson Crabapple

Newtown(Albemarle Pippin) x Esopus Spitzenburg. Excellent cider apple. Small yellow and red fruit up to 2 in. diameter. Very sweet, up to 25% sugar, but a pronounced acid tang. Highly flavored juice. More crab than apple. Hardy to Zone 3. Albert Etter named this fruit after E.J. Wickson, distinguished California pomologist. Introduced in 1944.

Winekist Crabapple

Unknown parentage. Medium size fruit is wine-red with areas and stripes of darker red and very small white dots. Red flesh is extremely tart and coarse. Great addition to cider or sauce. Tree grows to 15 ft. Zone 4. Rare. Originated in Winthrop, Maine.

Winthrop Greening Apple

Late summer-fall apple that was popular throughout central Maine as late as 1920; now all but unknown. Flat-oblate fruit measures 3-1/4 " across. Light green skin is washed with red-orange and small greenish dots and ribs of russetting, usually with a patch of russet radiating from the stem. Interesting sweet flavor. Crunchy flesh with medium-low acidity. Shy bearer. Hardy to Zone 4. Originated on the Ichabod Howe farm, Winthrop, Maine before 1800.

Yellow Newtown Apple & drying

Late season variety. Yellow-green skin at maturity. Good keeper. Used for fresh eating, cooking and dried. Self-fruitful. 700 chill hours. Known since the early 1700s.

GRAFTED APRICOTS

Our apricots will generally be 13' tall and wide.

Moorpark or Wenatchee Moorpark Apricot & drying

Smooth, fuzzless, deep yellow skin with an orange-red blush. Juicy, sweet, deep orange flesh. Excellent quality. Good for fresh eating, canning and drying. Good shipper. Vigorous dwarf tree grows 8'-10' tall. Early, dependable producer. Profusion of showy, pinkish white blossoms in late April. Self-fertile, but fruit set is increased by planting two or more. Long ripening period extends from early July to late August depending on location. 600-700 chill hours. Zones 4-8. Originated in 1760 as a seedling of Nancy from Admiral Anson at his estate in Hartford, England.

Perfection Apricot & drying

One of the largest fruited apricots. Oval to oblong. Clear, yellowish orange to deep orange skin and flesh at full maturity. Good quality, texture and flavor. Very hardy, productive tree. Requires a pollinator but do not pollinate with Goldrich. Ripens moderately early. One of the finest commercial varieties. Hardy to Zone 4. Originated in Washington, Introduced in 1937.

GRAFTED CHERRIES

Tart cherries are natural dwarves and can be planted on 10' centers. Sweet cherries will be quite large and should be planted on 15' to 20' centers.

Evans Bali – Pie or Tart Cherry

Zone 3. Self fertile. Deep, dark red fruit. 1" dia. Excellent for baking, sauces, jams and fresh eating. Fruit is much sweeter than other sour cherries. Extremely hardy buds. Natural dwarf tree to 7'. Discovered near Edmonton, Alberta, Canada.

Mesabi – Pie or Tart Cherry

Zone 4. Self fertile. Long stemmed, red fleshed fruits with sugar content half way between pie cherries and Bing. Pyramidal tree grows to 12'. Fruit resembles Meteor but pit is smaller. Blooms early May.

Meteor – Pie or Tart Cherry

Montmorency x Russian variety. Large, oblong, bright red fruit resembles Montmorency. Tart, juicy, meaty flesh, colorless juice and a small, free pit. Natural genetic dwarf grows 8' to 12' tall. Moderately spreading with large, heavy, dark green foliage that shields fruit from sun scald and birds. Leaf spot resistant. Spur-type. Self-fruitful. Bears quite early. Blooms and ripens a week later than Montmorency in late June. Hardy to -50 degrees F.

GRAPES (not grafted)

Himrod Grape **& drying**

Vitis vinifera cross. Ontario x Thompson Seedless. Large, long, loose clusters. Medium size, oval, seedless golden yellow fruit. Crisp but tender skin. Sweet, delicious, juicy flesh. Fine quality table variety. Pure, sweet juice of delicate flavor. Makes excellent raisins. Self-fruitful. Moderate disease resistance. Keeps until Christmas if picked at full maturity and then refrigerated. Hardest white seedless. 100 chill hours. Hardy to -15 degrees F. Zones 4-9. Introduced in 1952.

St. Theresa Grape

Zone 4-9. Vigorous woody vine produces clusters of purple grapes which are mostly seedless. St. Theresa is an early season table grape with excellent flavor that will tolerate alkaline soils and can be used for juice or jellies. Well suited to arbors. Bred by Elmer Swenson of Wisconsin.

GRAFTED NECTARINES

Arctic Glo Nectarine

Large, firm, white flesh. Semi-cling. Well balanced, acid flavor. Vigorous, productive tree. Self-fertile. Ripens in late June or early July. 400-500 chill hours. Hardy to -20 degrees F. Zaiger Genetics introduction.

Fantasia Nectarine

Gold King x Red King seedling. Large, egg-shaped, freestone fruit with very smooth skin. Bright red overlaid on brilliant yellow. Firm, smooth textured, yellow flesh of excellent quality. Can be harvested firm-ripe and tangy or soft-ripe and sweet. Fairly small, vigorous, productive tree is a reliable producer. Self-fertile. 400-600 chill hours. Zones 5-9. Introduced from CA in 1969.

GRAFTED PEACHES

Contender Peach

Firm, sweet, yellow freestone flesh resists browning. Blooms late. Consistent cropper. Self-fertile. Tolerates late spring frosts. Ripens mid-August, a few days before Elberta. 1050 chill hours. Developed at North Carolina State University. Introduced in 1988. Zones 4-8.

Cresthaven Peach

Medium to large, nearly round, golden yellow fruit with bright red blush. Very smooth, tough skin. Firm, juicy, clear, bright yellow, freestone flesh with considerable red around the pit. Resists browning. Hangs well on tree. Good canner and freezer, and shipper. Vigorous, medium large, productive tree. Tends to over set. Fair tolerance to bacterial spot. Ripens in August. Requires 850 hours of chilling. Above average bud hardiness. Zones 5-8

Raritan Rose Peach

J. H. Hale x Cumberland. Large, round, freestone fruit is bright red over very light creamy white background. White flesh is melting, tender, juicy and aromatic with rich honeysweet fruit. Extremely high quality. Tree is very vigorous, strong and productive with hardy blossom buds. Excellent bacterial spot resistance. Ripens 22 days before Elberta. 950 chill hours. Developed by the New Jersey AES. Introduced in 1936.

Red Haven Peach

Early, medium sized peach. Bright red, nearly fuzzless skin. Firm, yellow flesh becomes freestone as it ripens. Excellent for dessert, canning and freezing. Vigorous, self-fertile tree bears young. Abundant fruit set, requires thinning. Dislikes warm winters. Zones 4-9.

Reliance Peach

Medium sized fruit has dull red blush over yellow background. Bright yellow, medium soft, juicy, sweet flesh. Freestone even in the coldest, driest season; small pit. Good for canning, freezing and fresh market. Vigorous, fast growing tree; self-fruitful and bears when young. Showy blossoms. Very bud hardy. Best choice for severely cold winters and springs. Requires 950 to 1000 hours of chilling. Hardy throughout zones 5-8; withstands temperatures of -25 degrees F. From the New Hampshire Agricultural Experiment Station. 1964.

Sugar Giant Peach

Large, very firm fruit with nearly full, solid red color. White freestone flesh. Requires 800 to 900 hours of chilling. Trees are vigorous and very productive. One of the largest fruited varieties of the sub-acid white fleshed selections.

Veteran Peach

Round, good quality, medium to large, golden yellow fruit with slight red blush. Freestone when fully ripe. Firm yellow flesh with coarse grain, easy to peel. Excellent fresh canned or frozen. Self-fruitful tree is a vigorous grower and bears early consistent yields. Reliable in cold, wet weather, One of the most cold hardy varieties. Ripens mid to late August. Zones 5-8. Originated in Canada 1928.

GRAFTED PEARS

Allow for at least 15'-20' diameter for mature Pear trees. These pears are on either OHxF 333 or OHxF 87 rootstock -12' to 18' at maturity or OHxF 97- @20' at maturity.

Bella di Guigno Pear

Early ripening. Red blushed 3 inch fruit with excellent flavor. Originated in Italy. This is the first year we have had the opportunity to try the fruit here in Truchas. It ripened in late July and was very sweet and mild.

Blake's Pride Pear

Midseason pear ripening about 2 weeks after Bartlett. Fruit is medium in size with an attractive yellow color and excellent aromatic flavor. Produces annual crops and has a high degree of resistance to fire blight.

Clapp's Favorite Pear

Very large, elongated, long necked, lemon-yellow fruit with dull red cheek and russet specks. White flesh is high quality, fine grained, very sweet and highly flavored. Dessert and fresh eating pear that is also good for canning. Not a keeper. Should be picked when full size but still green; do not leave on the tree. Fruit will break down at the core if picked too late. Strong, sturdy, very hardy, vigorous tree. Susceptible to fire blight. Ripens early August. Annual bearer. Hardy to Zone 4.

Clara Frijs Pear

Also known as Comtesse Clara Frijs. 19th century German pear. Medium-large Bartlett- type pear. Excellent dessert quality. Does not store well. Hardy tree. Annual bearer. Fungus resistant. Zone 4. Popular in Denmark and throughout Western Europe and Nova Scotia.

Colette Pear

Rich, waxy, yellow skin with pink cheeks. Sweet, juicy, fine, firm, white flesh is smooth textured and entirely free of grit. Rich, aromatic, spicy flavor. Short, broad, shapely tree that is very hardy. Everbearing. Keeps blooming and setting fruit from August until frost. Bartlett size. Zones 4-8.

Columbia Red Anjou Pear

D'Anjou parentage. Medium sized fruit with exceptional internal quality. Deep red skin color. Good storage life. Originally discovered as a mutation in the Eugene Euwer Orchard in Hood River, Oregon. Oblong-ovate fruit, red with golden-white flesh, smooth texture. The fruit matures in late August to mid-September and stores well. Vigorous tree that requires cross-pollination.

Kaspar's Winter Pear

Tough skin. Coarse flesh. Good flavor. Storage pear. Too hard to eat off the tree. Edible a month after picking. Late keeper. Precocious. Originally from Frankendorf, Germany.

Magness Pear

Seckel x Comice. Medium sized pear ripening about a week after Bartlett. Skin is greenish brown, covered with light russet. Flesh is soft, juicy, and almost free of grit cells. Flavor is sweet and of excellent quality. Tree is vigorous, spreading, and very resistant to fire blight. Magness does not produce good pollen.

Patten Pear

Orel 15 x Anjou. Medium to large, good quality, yellow fruit that resembles Bartlett. Very tender and juicy. Good for eating, fair for canning. Should be picked one week before ripe and then allowed to ripen. Good pollinator. Ripens in mid September. Hardy to -50F. Developed in Minnesota. Originated in Charles City, Iowa. Introduced in 1922.

Seckel Pear

Commonly called sugar pear. Not very pretty, but a connoisseur's delight. Small, yellowish brown fruit with pale russet and russet red cheek. Fine grained, smooth, extremely sweet, very juicy flesh. Distinctive, spicy, rich, aromatic flavor, mostly in the skin. Excellent dessert pear; ideal for pickling, spicing and canning whole. Productive, slow growing, naturally semi dwarf, 15'-20' tree; widely adaptable, reliable and heavy setting. Self fertile, but benefits from cross pollination. Some fire blight resistance. Ripens during September. Introduced from Europe in 1790.

Shenandoah Pear

Bartlett type. Large fruit with rich flavor which mellows after harvest. Excellent storage. Very blight resistant. Ripens late September. Zones 4-8. Released by the USDA-ARS in 2002.

Staceyville Pear

Round, teardrop-shaped fruit is light yellow with a beautiful orange to solid gray-red blush. Delicious citrus aftertaste. Self-pollinating. Disease resistant. Extremely hardy. Zone 3. Rare.

Summercrisp Pear

Recognized for many years as the hardiest in the collection at the University of Minnesota Research Station. Free of fire blight. An annual bearer. Fruit is pyriform in shape, 2 1/2 to 3" in diameter and 3 to 3 1/2" long. Blooms early in May. The fruit should be

harvested in mid-August when crisp and still green with a red blush. Fruit harvested at that time is sweet and crisp and may be stored up to two months. Zone 4.

Sunrise Pear  

A disease-resistant pear introduced by USDA-ARS and OSU, Sunrise has shown impressive resistance to fire blight. The fruit color is yellow, often finishing with a slight blush and very little russet. Sunrise harvests two weeks before Bartlett and will store for two to three months.

Tyson Pear 

Known as Early Sugar Pear. Medium size, yellow fruit with juicy, spicy-sweet flavor. Excellent for early eating and local market. Short storage. Hardy tree is a heavy producer and fire blight resistant. Ripens in early August. Zones 4-8. Known since 1794.

GRAFTED PLUMS

Early Italian (Prune) Plum    & drying

European plum. Large, oblong, purple fruit. Greenish yellow, freestone flesh. Used for canning, drying or fresh eating. Excellent commercial variety. Good shipper. Self-fertile, but more productive when pollinated by another European variety. Resembles Italian Prune in shape and color, but ripens 10-14 days earlier. Zones 4-9.

Green Gage Plum  

European Plum. Famous "Reine Claude" named after the wife of Francis I of France. Imported into England in the 18th Century by Sir Thomas Gage whence its English name. An American favorite since the time of Jefferson. Small to medium, oval, yellowish green fruit. Juicy, smooth textured, amber flesh. Rich, confectionary flavor. Considered the ideal dessert plum in Europe. Also good cooked, canned, or preserved. Typically a rather small, low branched, round headed tree with attractive blossoms and deep green foliage. Productive, self-fertile. Ripens late Summer. Susceptible to brown rot. Requires 500-800 hours of chilling. Hardy to central Iowa.

Italian (Prune) Plum    & drying

European prune plum. Medium to large, oval, purplish black fruit. Juicy, greenish yellow, freestone flesh turns red when cooked. Distinctive, rich, sweet flavor. Good for both canning and drying. Vigorous, cold hardy tree. Early, reliable producer. Sometimes overbears and needs to be thinned. Self-fruitful, but production is improved with pollination from another European variety. Excellent shipper. Ripens from August to September. 800 chill hours. Zones 4-9.

Pembina Plum  

Red June x Manitoba wild plum. Red fruit with yellow, freestone flesh. Thick skin. Excellent eating quality and good for preserves. Ripens mid to late August. Hardy in Zone 3. Introduced by N. E. Hansen, South Dakota Station in 1923.

PRICES AND DELIVERY

Everything described in the catalog but not listed here, including fruit trees, is priced by caliper. All the grafted fruit trees listed in the catalog are available at this printing, although some quantities are very limited. We try to keep our website www.tooleystrees.com, up to date. Delivery is \$3.00 per loaded mile at this printing. Prices and availability subject to change. Wholesale prices are reserved for nursery and landscape professionals. All plants are in fabric root bags or 3 gal. Rootmaker pots.

WE DO NOT ACCEPT CREDIT CARDS. PAYMENT IN CASH OR CHECK ONLY PLEASE

Wholesale Caliper prices:

Under 1/2" One year whip . \$35.
 1/2" -3/4" \$47.
 1" \$64.
 1 1/4" \$84.
 1 1/2" \$112
 1-3/4" \$131

Retail Caliper prices:

Under 1/2" One year whip . \$35
 1/2" -3/4" \$47.
 1" \$78.
 1 1/4" \$98.
 1 1/2" \$129
 1-3/4" \$150

Latin Name/Common Name

Acer ginnala/Amur Maple
 Acer tataricum/Tatarian Maple
 Amelanchier alnifolia/Smokey Serviceberry
 Cercocarpus ledifolius/Curlleaf Mt.Mahogany
 Crataegus douglasii/Douglas Hawthorn
 Crataegus monogyna/Singleseed Hawthorn
 Juniperus scopulorum/Rocky Mtn Juniper

Wholesale Retail

\$20 \$24
 \$20 \$24
 \$20 \$24
 \$20 \$24
 \$20 \$24
 \$20 \$24
 \$28 \$40

Morus alba tataricum/Russian Mulberry	\$20	\$24
Picea engelmannii/Engelmann Spruce	\$75 or \$80(in grnd.)	
Picea pungens/Blue Spruce or CO Spruce 7 gal	\$50	
Picea pungens/Blue Spruce or CO Spruce 15 gal	\$75	
Picea schrenkiana'tianshanica'/Schrenk Spruce	\$80	
Pinus flexilis/ Limber Pine	\$75 or \$80(in grnd.)	
Pinus flexilis/ Limber Pine 7 gal.	\$40	SALE
Pinus leucodermis/Bosnian pine	\$75.	
Populus x acuminata/Lanceleaf Cottonwood	by caliper	
Populus tremuloides/Quaking Aspen	\$45	\$55
Pr. americana/Wild Plum smaller	\$20	\$24
Pr. americana/Wild Plum larger	\$28	\$40
Pr. armeniaca mandshurica/Manchurian Apricot	\$20	\$24
Pr. besseyi/Western Sand Cherry	\$20	\$24
Pr. tomentosa/Nanking Cherry	\$20	\$24
Pr. virginiana/Chokecherry	\$28	\$40
Rhus trilobata/Skunkbush,3 leaf Sumac	\$20	\$24
Ribes rubrum/ Currants smaller	\$20	\$24
Ribes rubrum/ Red Lake Currants larger	\$28	\$40
Rosa glauca(rubrifolia)/Redleaf Rose	\$20	\$24
Rubus sp./Blackberries, Raspberries	\$20	\$24
Sambucus nigra/ Samdal,Samyl	\$20	\$24
Vitis/ Himrod or St. Theresa Grapes	\$23	\$28

The Basics of Keyline Planning

The keyline design is unique to each property and will be formulated from evaluation of water movements over the land, with the idea of controlling and making use of this resource in the management of the land.

The keypoint occurs at the base of the steepest part of the slope in the center line of a valley. This is the fall line path that water currently follows.

The keyline of a valley is a contour line that runs through the keypoint. The ends of the keyline are where the contour changes direction from the valley to the ridge.

Water movement over the land and the land's features are directly related to each other, and water resources can only be used if they can be controlled.

Other factors such as climate, geology and rainfall patterns historically determined the land's topography. Controlling water is the main focus in keyline planning as this is one variable which can be manipulated.

Keyline Cultivation

Once the keypoints and keylines have been identified, the control of water movement over the land can be achieved through a keyline pattern of cultivation.

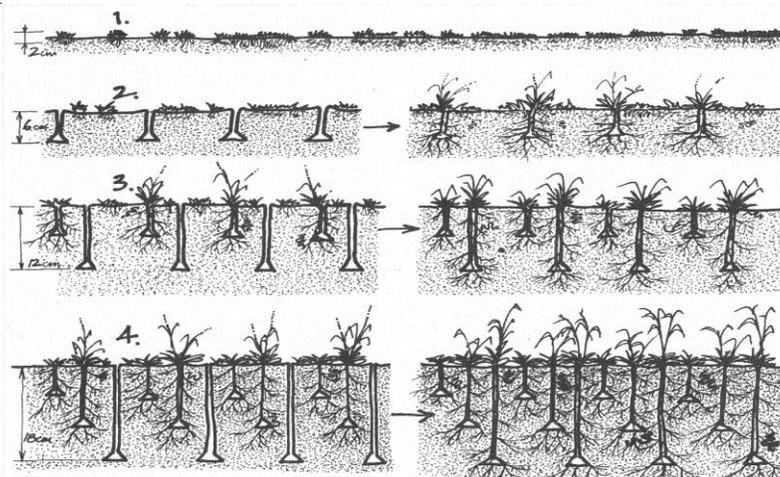


Figure 1. Soil development — mechanical method (Illustration adapted from the Permaculture; A Designers' Manual).

By cultivating parallel to identified keylines, both above and below the line, a cultivation pattern is developed which spreads the runoff evenly across the uplands and does not allow the water to follow its natural path and concentrate in the valleys. This aids in the stabilization of the valley and increases its ability to resist erosion.

The Long Term Benefits of Keyline Design

- Build resiliency into permanent landscapes
- Improve infiltration of precipitation
- Increase moisture retention

- Support habitat by increasing diversity
- Improve perimeters
- Break up hard pan and compaction
- Improve root zone and capillary activity
- Encourage soil building and reduce loss through wind and water erosion
- Reduce salinity problems
- Increase soil productivity by increasing soil biology. Biologically fertile soil has better structure and reduces runoff
- Stabilize soils and perimeters

Description of Tools Used

New Holland TM 175 Tractor and Yeomans plow with 5 26” shanks, coulters, crumble roller and 5 shank pot seeders for cover crops. A laser level will be used to locate keypoints and keylines.

Truax No Till Drill with 3 seed boxes to meter fluffy seed, large or heavy seed and tiny seed. 18 coulters incise the soil before the seed drops into 18 planter wheels. 18 packer wheels close the seeded openings making for good contact between seed and soil. The seed is effectively and efficiently metered with this tool which can also be used for interseeding to increase diversity in established grasslands.

Dixon Imprinter and V Ditcher also available.