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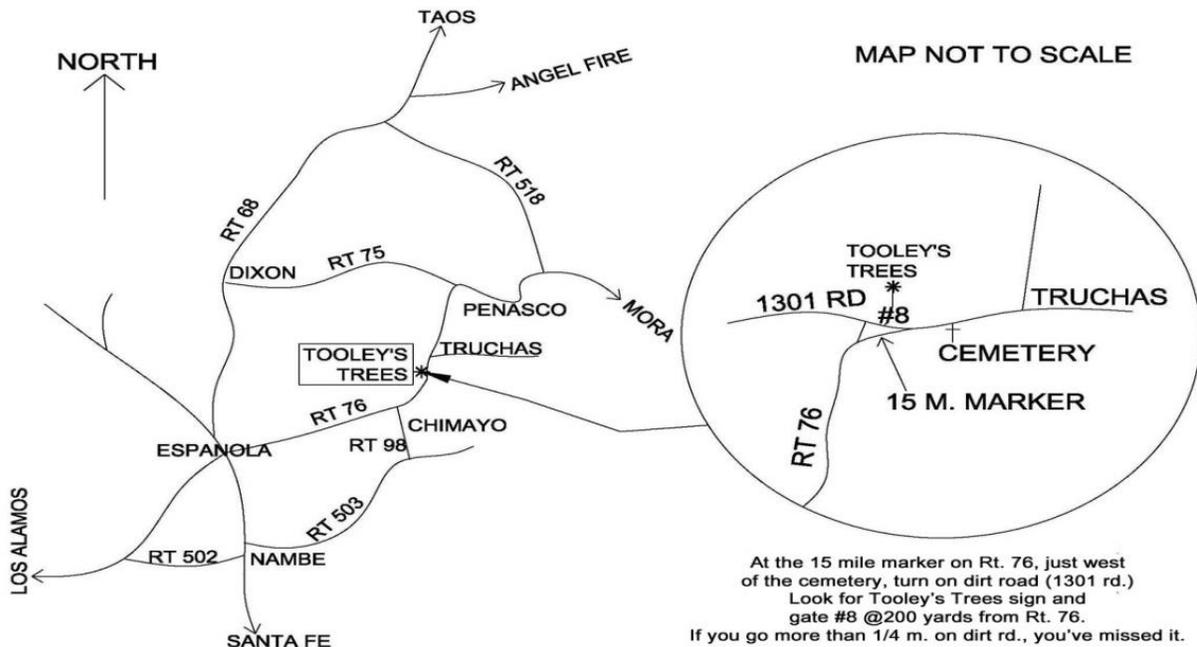
www.tooleystrees.com

2019 SPRING 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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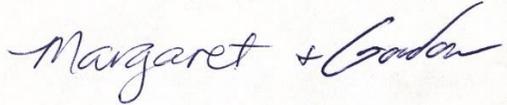
Tooley's Trees is a retail and wholesale nursery in Truchas, NM, on the highroad between Santa Fe and Taos, at 7,960'. Focusing on varieties that are drought tolerant and adapted to high pH, we grow species trees, shrubs, and grafted fruits. We grow our trees and shrubs in native soil contained in fabric 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 last pages 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-dominant 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 Orchard' - 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/plantingatree.aspx>

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

SPECIES TREES & SHRUBS

***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.

***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.

***Pinus flexilis*/Limber Pine 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 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.

***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* '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 1/2" 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' Currant**

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. Zones 3-7. 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.

***Rosa rubiginosa* (also known as *eglanteria*)/Sweetbrier Rose.**

6', Zone 4. Erect with unequal hooked prickles. Rose pink single flowers. Sweet spicy apple scented foliage. A pleasant vigorous informal hedge.

***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.

Annie Elizabeth Apple

Deep maroon blooms. Green-gold skin flushed orange-red with many short red stripes. White flesh has sharp flavor with an underlying sweetness. Excellent for stewing and baking. Highly vigorous. Ripens early to mid-October. Originated in England around 1857.

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.

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.

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.

Crimson King Apple

English Cider apple which is also excellent for fresh eating. Bright crimson skin. Tart flavor. A light fruity cider is produced from the acidic, non-astringent juice. Triploid. Ripens November. First propagated by John Toucher of Bewley Down, Somerset, England, late in the 19th century.

Duchess of Oldenburg Apple

Grandparent of Northern Spy and McIntosh. Commonly called Duchess. Known for winter hardiness. Medium sized, flat rectangular fruit. Thick, glossy, greenish to pale yellow skin almost covered with crimson stripes and splashes. Almost too tart to eat fresh. Makes excellent pies and sauces. Becomes mealy if over ripe. Poor keeper. Tree is medium sized, spreading, extremely hardy, long lived, heat resistant. Annual producer. Bears when young. Resistant to apple scab, cedar apple rust and fire blight. Tolerates moist or heavy soils. Ripens August to September. Zone 3-7. Originated in the Upper Volga region of Russia. Introduced to England around 1817. Imported to the US in 1835.

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.

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.

Gravenstein Apple

Large, round to slightly flattened, orange-ish 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.

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.

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.

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.

Muscat de Bernay Apple

Bittersweet type hard cider apple from Normandy, France. Zone 5-9. Requires cross pollination, ripens midseason. Fair storage.

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. Can take about 12 years to bear but worth the wait!. Requires pollination. Ripens late October. Zone 3-9. Seedling discovered about 1800 in East Bloomfield, New York.

Pound Sweet Apple

Very large, amber to golden fruit when fully ripe. Fine eating, the very best when baked. Hardy, vigorous tree. Ripens from late September to early October. Developed in Connecticut. Introduced in 1834.

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.

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.

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.

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.

Winter Red Flesh Crabapple

Red fleshed fruit, excellent for red applesauce, jelly and coloring cider. Abundant purple flowers, bronze red leaves, ripens mid October, hardy to -50F.

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 russeting, 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.

CHECK BACK AFTER LABOR DAY WHEN WE SHOULD HAVE SOME READY TO GO

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)

CHECK BACK AFTER LABOR DAY WHEN WE SHOULD HAVE SOME READY TO GO

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. We have not had the opportunity to try the fruit yet here in Truchas.

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.

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.

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.

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.

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: Retail Caliper prices:

1/2" One year whip \$35. 1/2", One year whip \$35.

3/4" \$47. 3/4" \$47.

1" \$64. 1" \$78.

1 1/4" \$84. 1 1/4" \$98.

<u>Latin Name/Common Name</u>	<u>Size/Height</u>	<u>Wholesale</u>	<u>Retail</u>
Cercocarpus ledifolius/Curlleaf Mt.Mahogany	.....	\$20	\$24
Crataegus douglasii/Douglas Hawthorn	.....	\$20	\$24
Juniperus scopulorum/Rocky Mtn Juniper	.....2'	\$28	\$40
Pinus flexilis/ Limber Pine	.....2'-3.5'	.....	\$75
Pinus flexilis/ Limber Pine	.....7 gal.	\$40	SALE
Pinus leucodermis/Bosnian pine	.....2'-3'	.....	\$75.
Populus x acuminata/Lanceleaf Cottonwood	.....3/4"-1"	.....	by caliper
Populus tremuloides/Quaking Aspen	.....clumps, singles	\$45	\$55
Pr. americana/Wild Plum	.....multi-stem	\$20	\$24
Pr. virginiana/Chokecherry	.....multi-stem	\$20	\$24
Rhus trilobata/Skunkbush,3 leaf Sumac	.....multi-stem	\$20	\$24
Ribes rubrum/ Red Lake or Rovada Currant	.....	\$20	\$24
Rosa glauca(rubrifolia)/Redleaf Rose	.....	\$20	\$24
Rosa rubiginosa/Sweetbrier Rose	.....	\$20	\$24
Sambucus nigra/ Samdal,Samyl	.....	\$20	\$24
Vitis/ Grapes	.....vines	\$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.

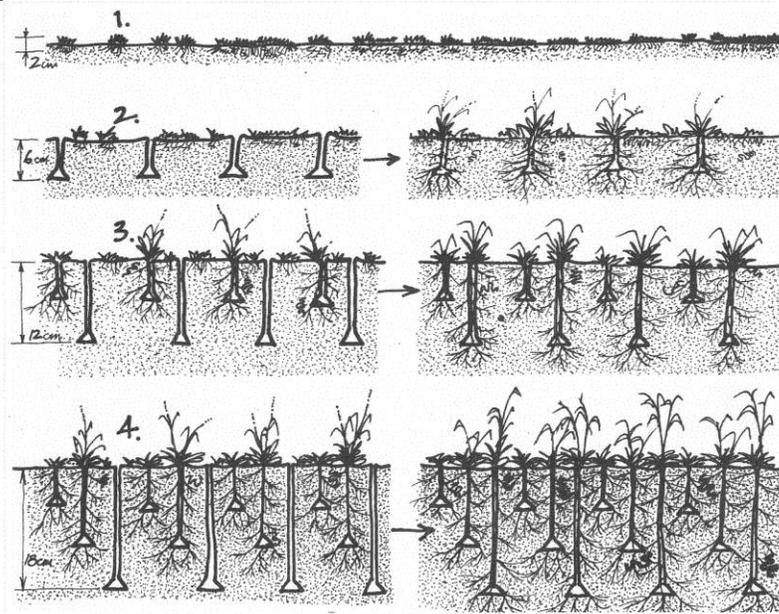


Figure 1. Soil development – mechanical method (Illustration adapted from the Permaculture; A Designers' Manual).

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.