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Native Cottonwood	Cottonwood Native	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
Hybrid Cottonwood	Drought Tolerant	70-100 ft	> 3 ft	Ideal N-P-K ratios are 10-10-10 or 12-6-6	2x the water of an oak	full 6 plus hrs	prefer	70-100yr	20-30 feet apart	allergies from pollen
male selection of our native cottonwood	yes	Spread	Soil Type	Soil PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	hybrid is a male only tree
		50-70 ft	rich and moist/well drained	4.5-8.0	10-15 ft deep	80%/50ft tree to tree	2-9 zone	yes		it is the female that produces the cotton seeds
American Sycamore	American Sycamore	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
	Drought Tolerant	75-100	> 3 ft	a general purpose fertilizer with a balanced NPK ratio like 10-10-10 or 20-20-20	deep water 2x per month	full	resistant/tannins	50-200 plus yr	30 feet	ice wind damage
	NO	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	susceptible
		75-100	wet sandy soil	no tolerance to salinity	invasive/top 2 ft	15 ft plus	4-9 zone	NO		and sidewalks
Plum	American Plum	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
	Drought Tolerant	10-20 feet	2-5 ft	10-10-10 fert.	weekly	full	food source	12-24 feet		3-5 years bear fruit
	yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	flower March to May
		15-25 feet	sandy/well drained	6-8 PH	Rapid		3-7 zone	yes	16 ft	
Sumac	Sumac	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
Smooth Sumac	Drought Tolerant	9-15 ft	3-5 ft	10-10-10 fertilizer	minimal watering	full	somewhat deer resistan	20 to 30 year	4-8 feet apart	
	yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		9-15 ft	well drained	6.5-7.0 ph	quick-growing shrub that spreads through root suckers and rhizomes, forming dense thickets. Its root system is characterized by both a taproot and a network of shallow lateral roots	at least three feet away from the foundation	3-9 zone	yes	4-8 feet	
Black Walnut	Black Walnut	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
	Drought Tolerant	50-75 ft	36-48 inches per year	10/10/10 N P K	watered every week with 3-5 gallons of water	full		150yr	15-30 feet	deer do not like the nuts
	yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		50-75 ft	well drained/fertile soil	6-8 PH	tap root/horizontal past DL	50 ft	4a - 9a	yes	25-30 feet	
Austrian Pine	Austrian Pine	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
Potted Austrian	Drought Tolerant	40-60ft	12-28 inches	slow release 10-10-10 or 14-14-14	every 2-4 days to start 6 weeks, at least 1 week after that	full	problem	80 yr	15-30 feet	for a wind break a zig-zagged row
	yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	10 feet between trunks
		20-40 feet	sandy to clay/well drained	6-7.5 range	deep lateral roots	15 ft	4-7 zone	yes	30-40 feet	
Jack Pine	Jack Pines	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
	Drought Tolerant	50 ft	> 3 ft	10-10-10 or 10-8-15	seedlings moist but not soggy	full	Deer/Rabbit	80-100	10-15 feet	1 to 2 inches of water per caliber
	Yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	inch per week
		20-30 feet	Dry/Sandy	5-7.5 sweet spot	can develop a taproot, can reach 8.9 feet deep majority within top 18 inches		2 to 8	Yes	16 feet	adapted to infrequent rainfall
										Jack pines, like other pine species rely heavily on ectomycorrhizal (ECM) fungi This symbiotic relationship is crucial for the tree's growth and survival in nutrient-poor soils

Elderberry	Elderberry Bush	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
	Drought Tolerant	5-6ft	2 ft	high levels of organic matter beneficial	5-10 gallon per week	full	not a preferred food choice	10-20 years	6-8 feet	wind resistant
	yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	https://youtu.be/QY6Lhpgd9M
		5-12 ft	Loamy to sandy/good drainage	5.5-6.5 ph	shallow / invasive	4-5 ft	3-9 zones	yes	10-12 feet	
										
Red Cedar	Red Cedar trees	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
Potted Red Cedar	Drought Tolerant	30-40 ft	12-24 inch	spring 10-10-10 slow release 14 per 100 sq ft of root zone	deep water once a week/mulch 2-4 inch layer	full	limited	600-800 mature 10-20 years	8-10 feet	tolerant of salt spray/clay
	yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	soil testing recommended to determine tree's needs
		10-20 ft	loam/sandy/clay well drained	can grow in each	aggressive root sys	40ft	3 to 9	yes	8-12 feet	
										
Potted Pinyon Pine	Pinyon Pine	Height	Grow Rate	Fertilizer	Water	Sun	Deer Resistant	Life Span	Plant Spacing	notes
	Drought Tolerant	15-60 ft	1-2 ft	pure stand or with Junipers	less than 20" of precipitation per yr.	min 6 hrs/full	not a preferred food source	600 yrs	10-20 feet	locate in dry locations on hills not lowlands where water collects
	yes	Spread	Soil Type	PH	Root Growth	Distance Away	Zone	Drought Tolerant	Row Spacing	temp. -10 to over 100 degrees
	20-40 yr maturity	15 ft	well drained soil	5.0-7.0 ph	tap root 11" per year, rapid	20 feet	4-8 zone	yes with limits		Mortality happens when hydraulic failure in transporting water and carbon starvation due to stomatal closure to save water
										
Hazelnut	Hazelnut American	Height	Grow Rate	Fertilizer	Water - deep	Sun	Deer resistant	Life Span	Plant spacing	notes
	Drought Tolerant	6-15 ft	13-24 inches	10-10-10	young trees 1-2 weeks established trees 2-4 weeks	full	no	30-50 years	15-20 feet	4 years to yield nuts spread by Rhizones
	yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		8-15 ft	dry or moist /clay/sandy/loam	6.2 - 7.2 range CaCO3 tolerance	2 ft shallow	15 feet	4-9 zone	yes	15 feet	
										
Hackberry	Hackberry	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
Potted Hackberry	Drought Tolerant	80 ft	2 ft	balanced 10-10-10 or 20-20-20	deep watering once per week/ check soil	full	No	150-200yr	30-50 feet	causes high allergies
	yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	messy berries and leaves withstand wind
		60 ft	clay cut growth rate root shallow	6-8 ph	10-20 ft/40ft wide / deep	15 feet buildings / underground utilities	2 to 9	yes	30 feet	Hackberry trees generally tolerate both alkaline and acidic conditions
										
Red Splendor Crabapple	Crabapple	Height	Grow Rate	Fertilizer	Water	Sun	Deer	Life Span	Plant spacing	notes
Manchurian Crabapple	Drought Tolerant	15-25 ft/ 10-15 yrs	12-24 ft	balanced 10-10-10 / 1-2 pounds per 100 sq ft of drip area	1-2 inches per week	full	on the menu 1st	40-60 years	10-15 feet	3-5 years to flower attracts hummingbirds
	yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		15-25 ft	rich, loamy, well drained	5.5-7.0 range	Fibrous root system not good for high winds	10-15 feet	4-8 zone	yes	10-20 feet	PH adjustment - add Sulfur to alkaline soil and Lime to acidic soils Mulch 2-4 inch retain moisture suppress weeds and protect roots from cold
										
Black Hills Spruce	Black Hills Spruce	Height	Grow Rate	Fertilizer	Water	Sun	Deer	Life Span	Plant spacing	notes
Potted Black Hills Spruce	Drought Tolerant	30-60 feet	6 to 15 inches / 10 feet in 10 years	ratio 10-10-10/12-4-8 likes acidic soil best	1-2 inches per cal. inch	Full	Deer/Rabbit	90 years	15-20 feet	
	Yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		15 to 25 ft	well drained	5.5 - 7.0 PH	10-15 feet from trunk/ tap root 3-6 feet	at least 25 ft	2-6 zones	Yes	12-24 feet	
										
Bur Oak	Bur Oak	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
Potted Bur Oak	Drought Tolerant	50-100 ft	21 inches	12-6-6 or 12-4-4 are ideal	deep watering decrease in the fall and winter	full	considered resistant	200-300 years	40-50 feet	Deer damage by rubbing and browsing
	yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		75 ft	fertile soil/dry rocky	5.5-8.0 PH / 7-7.5 preferred	tap 14 ft 8 yrs/Lat 11 ft	at least 90 feet	3-8 zone	very yes	40 feet	
										

Golden Current Bush 	Golden Current Bush	Height	Grow Rate	Fertilizer	Water	Sun	Deer	Life Span	Plant spacing	notes does best when surrounded by mulch grows well under oaks fruit in 1 to 2 years Not self pollinating, requires 2 genetically different plants to produce fruit. Hummingbirds adore.
	Drought Tolerant	3-7 ft	12-18 inches	10-10-10 / 10-6-4	regularly, keep evenly moist	Full	not resistant	10-20 years	3-5 ft	
	yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		3-5 ft	Sandy, loamy and even clay	6.0 to 7.5 neutral to alkaline	tap root 3-4 ft lateral roots 3-4 ft	Airflow	5-8 zones	yes	6-8 ft	
Chokecherry 	Canada Red Chokeberry	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes During drought conditions may need to water more frequently Rhizomes up to 35 ft, taproot 3-6 feet Lateral roots up to 10 feet
	Drought Tolerant	less 30 ft	12-18 inches	10-10-10/16-16-16 applied at a rate of 4 oz per plant in spring	water deeply every 1-2 weeks in growing season	Full	NO	20-40 yr	5-8 feet	
	yes	Spread	Soil Type	PH	Root Growth	Distance away from buildings	Zone	Drought Tolerant	Row Spacing	
		10-20 ft	moist/well drained/sandy/loamy/clay	5.0 to 8.0 PH / ideal 6.0 to 8.0 PH	Develops a taproot and Lateral root system	10-15 feet	3-8 zone	yes	10-15 feet	
Sumac Skunkbush 	Sumac Skunkbush	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
	Drought Tolerant	2-8 ft	10-20 inches	general purpose	once established 1-2 weeks deep watering	Full	some	10-20 years	2-3-5 feet apart	
	yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		8 feet	tolerates poor rocky soils/well drained	5.5 to 8.0 PH	rhizomes root zones	10-20 feet	3-8 zone	yes	10-20 feet	
Villosa Lilac 	Lilac Villosa	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
	Drought Tolerant	10 ft	moderate	fertilize balance slow release	once to twice a week deep 1-2 years to establish	full	generally considered	100 years	4-6 feet	
	yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		6-10 ft	sandy, dry, poorly drain	5.5-6.0 soil	non suckering shallow root system	3 ft	3-7 zone	yes	5-10 feet	
Potted Rocky Mtn. Juniper Rocky Mountain Juniper 	Rocky Mountain Juniper	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes Problems Ice 6 wk establish
	Drought Tolerant	33 to 66 ft	1 ft	10/10/2010	1-2 wk/2-3 wk establish	full	generally considered	70 or more years	3 to 6 ft	
	yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		8-12 feet	dry/rocky/sandy	6.0 to 7.5 PH	3-5 feet deep and laterally 2-3 times height	no data available at least mature height	3-7 zones	yes/CaCo3 tol.	8 to 15 ft	
South Western White Pine 	Southwestern White Pine	Heig+87-1124ht	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
	Drought Tolerant	40 to 90 ft	12 to 24 inches	a balanced, slow-release fertilizer 10-10-10	Low to Moderate	full	Deer/Rabbit	90 years	8 to 12 ft	
	Yes	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		40 ft	Well Drained	5 to 7.5	1st year 8" growth in depth	20-30 feet away	4 to 9	Yes	12 to 18 ft	
Northern Catalpa 	Catopia Tree	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	deep water every week or 2 attract hummingbirds needs Boron/copper/zinc if over fertilized flush with water
	Drought Tolerant	60 ft	1-2 ft	10/10/2010	10 gal per dia inch at 6" above ground	full	Deer resistant	60 yr	16-20 feet	
	Moderately	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		40 ft	moist well drained	5.5-7.0 ph	taproot 3-6 feet deep / 20-30 feet from trunk	20 feet	4-8 zone	Moderately	16-24 feet	
Red Oak 	Northern Red Oak	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
	Drought Tolerant	60-80 ft	24" per year	slow release 10-10-10 spring	2-3 times per week 1st year/ 1 week 2nd yr	minimum 6-8 hrs	generally considered	200-300 years	8-18 feet	
	moderately	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		40-60 feet	loam, sandy loam, sandy clay	5.0 to 6.5 ph prefer slightly acidic	taproot several feet deep/1.5 to 3 x width canopy	50 feet away	3-8 zone	moderately	20-30 feet	











































Potted Co. Blue Spruce	Drought Tolerant	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
Colorado Blue Spruce	yes after established	50-75 feet	12-24 inches per year	Spring 10-10-10 or 12-4-8 micronutrients-iron/magnesium	moderate water needs	Full	generally deer resistant			
		Spreed	Soil type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		10-20 feet	Clay and Sandy soils / loamy soil	6.0-6.5 PH	shallow wide-spreading root system	20-30 feet away	2-7 zones	yes after established		
										

Apricot  	Drought Tolerant once established	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
		10-20 feet	young 10-20 inches older 8-10 inches	balanced 10-10-10 or 12-12-12 early spring drip line	consistent 1-2 times a week young/decreases with age	full/ at least 6-8 hours	No	20-30 years produce fruit	12-15 feet	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		10-15 feet	well drained loamy soil slightly acidic	6.5-8.0 PH	taproot 3-6 feet deep 10-20 feet lateral	20-25 feet away from structure	5-8 zones some 3-4 even	once established	12-25 feet	
 										
Black Chokeberry										
	Drought Tolerant generally considered	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
		3-10 feet	12-24 inches per year	balanced 10-10-10 or 5-10-10 over application foliage less fruit	moderate water needs 1-2 inches per week newly planted do not over water	full to at least 6 hrs per day	yes	20 years	4-6 feet apart	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		3-10 feet	well drained crucial loam/sandy/clay	5.1-6.5 PH	taproot 2-3 feet spreads by root suckers	not specified consider sun/air flow	3-8 zones	generally considered	12-14 feet	
  										
Boxelder										
	Drought Tolerant yes	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
		30-50 feet	2 feet or more per year	balanced 10-10-10 in spring at drip line	medium water requirements	full require 6-8 hrs direct sun	No	60-70 years	10-15 feet	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		30-40 feet	sandy, loamy and clay soils	5.0-8.0 PH max 6.5-7.5 preferred	shallow fibrous root system 3-5 feet deep 10-25 lateral	at least 15-20 feet roots reach 25/40 feet in dia.	3-9 zone	yes	15-20 feet	
     										
Buffaloberry										
Potted Buffaloberry	Drought Tolerant highly Tolerant	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
		8-16 feet	12-24 inches	Balanced NPK early spring and after flowering	every 2-3 weeks when established	full	Yes	25 years	4-6 feet apart	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		8-14 feet	can adapt to a variety of soils	5.5-8.0 PH	Sucker root system forms a thicket	10 feet from buildings	3-7 zones	highly Tolerant	15 feet	
    										
Caragana										
	Drought Tolerant Yes	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
		12-20 feet	1-3 feet	Balanced - slow release early spring	After established deep watering allowing for some drying	full, at least 6 hrs direct sunlight per day	Yes	80-140 years	1-10 feet	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		8-18 feet	sandy, loamy and even nutritionally poor soils	5.0-8.0 PH	3 ft depth suckering root system and seed dispersal	8-10 feet should be reasonable	2-7 Zones	Yes	4-6 feet	
    										
Woods Rose										
	Drought Tolerant Yes	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
		2-10 feet	moderate to fast	balance 10-10-10 every 4-6 weeks in growing season	planting 3-4 days, growing 5-7 days, winter 10-14 days	Full - 6-8 hours direct sun at least	Yes	10-15 years	3-5 feet	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		suckering	best in moist loamy soils	5.0-8.0 PH best moderately acidic to slightly base	shallow, suckering root system	at least 2-3 feet	3-8 zones	Yes	3-8 feet	
  										
Cotoneaster										
	Drought Tolerant Yes	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
		5-7 feet	12-18 inches per year	Balanced slow release 10-10-10 in spring	Water deeply 1-2 a week when established	Full	Yes	10-50 years	4-5 feet	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		4-6 feet	clay, loam and sand well drained key	5.0-7.5 PH slightly acidic to neutral	12-24 depth, 2-3 width of canopy slow growing	at least 18 inches	5-8 Zones	Yes	5-10 feet	
   										
Green Ash										
	Drought Tolerant Yes	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
		50-80 feet	4-6 feet per year	slow release balanced 10-10-10/young trees + phosphorus root	consistently moist well drained soil -	Full at least 6 hours direct	Yes	100 years	10-18 feet	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		35-50 feet	loam, sand, clay and alkaline soils	6.0-8.0 PH at 8.1-8.2 chlorosis yellowing of leaves	tap root 3-6 feet lateral roots in upper 24 inches	at least 20 feet	3-9 zones	Yes	20 feet	
    										
need 1 inch rain per week or watering is needed. They can be over watered watch for sign of over and underwatering										

3-5 years reach full maturity
thrives in dry alkaline and even saline soils

can handle most other types of soil

need 1 inch rain per week or watering is needed. They can be over water watch for sign of over and underwatering

Honeylocust     	Drought Tolerant	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes For optimal growth, a fertilizer with a 3-1-2 ratio (nitrogen, phosphorus, potassium) can be used
	Yes	30-70 feet	2-3 feet per year 30-40 years reach full height	balanced 10-10-10 early spring, drip line, slow-release	deeply once a week watch for signs of under and over	Full at least 6 hrs direct daily	Yes	60-125 years	10-15, 30 feet	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		30-30 feet	well drained, loamy soil best/sandy, clay also	6.0-8.0 PH thrive best in slightly acidic to slightly alkaline	taproot 10-20 feet and lateral root system	at least 15 feet to 20 feet	3-9 zones	Yes	10-15 feet	
Limber Pine      	Drought Tolerant	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes drought conditions make them susceptible to pine beetles white pine blister rust
	Yes		slow-growing can take several hundred years	slow release balanced 10-10-10 or 16-8-8 at drip line	1-2 days- 3 weeks/reduce frequency deeply 8-10" moist	Full -6-8 hrs direct	Yes	over 1000 years	8-14' windbreak	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
			well drained sandy, or loamy	6.0-7.0 PH	taproot 3-5 feet with lateral root system 2-3 X canopy width	15 feet	4-7A zones	Yes	15-20 feet	
Nanking Cherry    	Drought Tolerant	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
	Yes when established	6-10 feet	12-24 inches per year	Balanced slow release in spring / 4-6 weeks through season	approx. 1 gallon per weekonce established	8 hours full sun heavier fruit load	No	20-30 years	6-10 feet	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		10-15 feet/5-7 years	loamy soil best / sandy, clay soils w/drainage	slightly acidic to neutral 6.0-7.0	shallow root system good for areas with only 8" top soil	15-20 feet	2-7 zone	Yes when established	12-16 feet	
Ponderosa Pine Potted Ponderosa      	Drought Tolerant	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes pine needles absorb nitrogen from the air fertilize early spring or late summer avoid heat of summer and cold of winter Deep watering, at or beyond the drip line, is generally recommended over frequent shallow watering Mycorrhizal Associations:Ponderosa pine roots form both ecto- and endo-mycorrhizae, which are beneficial fungi that help the tree absorb nutrients and water.
	yes but long droughts no	60-130 feet		slow release balanced avoid excessive nitrogen	1st 2 years deep water regularly	Full	Yes	300-500 years	20-30 feet	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		25-30 feet	sandy, loamy, rocky and clay	6.0-7.0 PH with well drainage	Taproot 36 ft and lateral 100 ft root system	15-30 feet minimum	3-7 zone	yes but long droughts no	20-30 feet	
Potted Juneberry    	Drought Tolerant	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
	yes when established	10-20 feet	12-24 inches per year 6-10 yr mature height	slow-released, balance 10-10-10 or 16-16-16 early spring		full	moderately	30-60 years/6-10 maturity	12-15 feet	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		6-20 feet	well drained loamy or sandy loam	5.0-7.0 PH	some varieties have taproot/ other deep seeking lateral roots	15-20 feet variety dependent	2-9 zone	yes when established	20-25 feet	
Potted Mtn. Mahogany      	Drought Tolerant	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes cult-leaf mountain mahogany 700 years
	yes	3-30 feet	slow 8 feet in 6-8 years	slow release balanced early spring 10-10-10 or 20-20-20	deep watering 3-4 weeks after established	6-8 hour direct sun	some what	50-150 years	5-15 feet	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		4-12 feet	well drained rocky or gravelly soils loam, sand, clay	5.0-8.0 PH different varieties different requirements	taproot3-15 feet lateral roots 30-50 feet from trunk	data not available based on lateral roots approx 25	4-8 zones	yes	15-16 feet	
Potted Quaking Aspen      	Drought Tolerant	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes
	moderate once established	40-60 feet	3-5.5 feet per year	Slow release, balanced 20-20-20, early spring	prefers consistently moist soil well drained deep watering	full sun at least 6-8 hours	No	50-150 years	10-12 feet	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
					spreading root system hundreds of feet/ shallow 3-6 feet deep	roots can damage foundations several hundred feet	2-7 zones	moderate once established	10-20 feet	
Prairie Sky Poplar     	Drought Tolerant	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes 20-30 years maturity
	Yes	40-60 feet	3-5.5 feet per year	Slow release, balanced 20-20-20, early spring	deep watering and regularly first few years	full 6-8 hours direct sun light	No	30-50 years	8 feet	
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing	
		10-20 feet	well-drained clay and sandy soils	6.0-7.5 PH prefer slightly acidic	Taproot 3-6 feet deep lateral roots beyond canopy	25 feet to 50 feet species vary	zone 3	Yes	10-20 feet	

Redosier Dogwood	Drought Tolerant	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes	
	No	7-9 feet	10-15 inches per year	slow release balanced in early spring	thrives in consistently moist soil	Full	seldom severely damaged	10-30 years	2-5 feet		
	Spread	Soil Type		PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing		
		up to 12 feet	organic rich, medium to wet soils/ both sandy and clay	6.1-8.5 PH salt sensitive	spreads by stolons shallow 12-24 inches	3-5 feet	2-7 zones	No	20 feet	from evergreens in wind breaks	
											
Sandcherry	Drought Tolerant	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes	
	Yes	2-10 feet	Medium reach full height in 3-5 years	Balanced slow release in early spring	consistent water first year/ moderate to low water conditions	Full	Yes	10-20 years	4-5 feet		
	Western Sandcherry variety	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing		
	Purple Leaf Sand Cherry variety	4-8 Feet	sany loam or loam	6.0-7.0 PH best in slightly acidic to neutral	spreading root system/ generally 9-10 inches /some 8-12 feet	4-5 feet more is better with spreading root system	3-8 zones	Yes	5-8 feet	Mulching around the base of the plant can help conserve moisture and regulate soil temperature.	
											
Service Berry	Drought Tolerant	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes	
	yes once established	15-25 feet	8-24 inches per year	balanced slow release early spring 10-10-10 or 5-10-5 not after August	newly planted 1st year soil moist not soggy/then deep 1-2 wks	Full	somewhat to No	30-60 years	10-15 feet		
	some species can reach 30-40 feet	Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing		
		15-Oct	well drained loamy or sandy loam	5.5-7.0 PH slightly acidic to neutral	taproot 2-3 feet and lateral spread 3-4 feet	15 feet 4-5 feet questionable	4-9 zones	yes once established	15 feet	Autumn Brilliance Serviceberry: 20-25 feet	
											
Siberian Elm	Drought Tolerant	Height	Grow Rate	Fertilizer	Water	Sun	Deer resistant	Life Span	Plant spacing	notes	
	yes	50-70 feet	2-3 feet/ maturity 10-15 years		moist to establish 1st year then twice per week	Full	yes but not deer proof	30-50 years	16-22 feet		
		Spread	Soil Type	PH	Root Growth	Distance away	Zone	Drought Tolerant	Row Spacing		
		35-50 feet	well drained loamy tolerante clay, sand	5.5 - 8.0 PH slightly acidic to alkaline preferred	shallow wide spreading root 2 to 3 times canopy width / 6-10 feet depth	60-90 feet	3-9 zone	yes	16-24 feet		
											