

Terrestrial Species Guide

Techniques

Identification – Use of apps like iNaturalist are quite helpful for identification. Please avoid collecting from plants that have been placed in human landscaped areas as they may not be from the original region you are collecting from. IE Live oaks are not native to this area, but have been introduced as a common tree here. For more info on collecting and propagation another excellent source of information is *How To Grow Native Plants of Texas and the Southwest* by Jill Nokes. The USDA will also send you a free hard copy of their Woody Plant Seed Manual, all you need to do is request a copy at <https://rngr.net/hard-copies?pubs%3Alist=c3459489e522dac1812fffc1e86d17>

Heat treatment -Most tree nuts are susceptible to damage from grubs. A grub infestation can ruin the infested seeds or nuts in storage or stratification. To combat this, we can kill the grubs with soaking the nuts in hot water.

- 1) Fill a tray up with your desired species after collection
- 2) Heat water up 10 120 degrees F
- 3) Fill The tray with hot water so that all nuts/seeds are submersed (You may have to do this in batches if you have many seeds)
- 4) Let the nuts/seeds soak for 20 min. Use a container or cooler that insulates well to retain the heat for best results.

Float test (for Acorns) - A good benchmark for viability for tree nuts is the float test. Nuts that float are no longer viable, while nuts that stay submerged should still be good.

- 1) After completing heat treatment, observe which nuts have stayed submerged and which have floated to the top
- 2) During drier periods, it may take 30 min or even overnight for all of the good seeds to sink.
- 3) Skim off the floaters and chuck throw them out outside so critters and bugs aren't attracted to the trash
- 4) Spread seeds out on paper towels, allowing them to dry before further processing or storage

Storage – Generally most species will be ok with a cool dry storage after processing. Please consult individual species descriptions for further details.

Collection

The following tables are approximate guidelines for when to collect certain species. Please consult individual species description for more information on collecting.

Early Winter	Mid Winter	Late Winter
<i>Celtis laevigata</i> Sugarberry	<i>Eysenhardtia texana</i> Texas Kidneywood	<i>Caesalpinia mexicana</i> Mexican poinciana
<i>Celtis pallida</i> Desert Hackberry	<i>Leucophyllum frutescens</i> Texas sage	<i>Eysenhardtia texana</i> Texas kidneywood
<i>Cornus drummondii</i> Rough leaf dogwood	<i>Platanus occidentalis</i> American sycamore	<i>Leucophyllum frutescens</i> Texas sage
<i>Eysenhardtia texana</i> Texas kidneywood	<i>Symphoricarpos orbiculatus</i> Coral berry	<i>Platanus occidentalis</i> American sycamore
<i>Juglans nigra</i> Black walnut		<i>Salix nigra</i> Black willow
<i>Leucophyllum frutescens</i> Texas sage		<i>Symphoricarpos orbiculatus</i> Coral berry
<i>Platanus occidentalis</i> American sycamore		
<i>Rhus</i> Sumac		
<i>Sapindus saponaria</i> Western soapberry		
<i>Smilax bona-nox</i> Greenbriar		
<i>Symphoricarpos orbiculatus</i> Coral berry		

Early Spring	Mid Spring	Late Spring
<i>Caesalpinia mexicana</i> Mexican poinciana	<i>Caesalpinia mexicana</i> Mexican poinciana	<i>Caesalpinia mexicana</i> Mexican poinciana
<i>Eysenhardtia texana</i> Texas kidneywood	<i>Condalia hookeri</i> Brazillian bluewood	<i>Condalia hookeri</i> Brazillian bluewood
<i>Leucophyllum frutescens</i> Texas sage	<i>Eysenhardtia texana</i> Texas kidneywood	<i>Eysenhardtia texana</i> Texas kidneywood
<i>Platanus occidentalis</i> American sycamore	<i>Leucophyllum frutescens</i> Texas sage	<i>Leucophyllum frutescens</i> Texas sage
<i>Salix nigra</i> Black willow		<i>Phyla nodiflora</i> Texas frogfruit
<i>Ulmus americana</i> American elm		<i>Rivina humulis</i> Pigeon berry
<i>Ulmus crassifolia</i> Cedar elm		

Early Summer	Mid Summer	Late Summer
<i>Acer negundo</i> Boxelder	<i>Acer negundo</i> Boxelder	<i>Condalia hookeri</i> Brazillion bluewood
<i>Aloysia gratissima</i> Whitebrush	<i>Aloysia gratissima</i> Whitebrush	<i>Phyla nodiflora</i> Texas frogfruit
<i>Caesalpinia mexicana</i> Mexican poinciana	<i>Condalia hookeri</i> Brazillion bluewood	<i>Acer negundo</i> Boxelder
<i>Condalia hookeri</i> Brazillion bluewood	<i>Ebenopsis ebano</i> Texas ebony	<i>Aesculus pavia</i> Scarlet buckeye
<i>Eysenhardtia texana</i> Texas kidneywood	<i>Ehretia anacua</i> Knockaway	<i>Aloysia gratissima</i> Whitebrush
<i>Forestiera acuminata</i> Eastern swamp privet	<i>Eysenhardtia texana</i> Texas kidneywood	<i>Ampelopsis arborea</i> L. Peppervine
<i>Leucophyllum frutescens</i> Texas sage	<i>Forestiera acuminata</i> Eastern swamp privet	<i>Ampelopsis cordata</i> Michx Heartleaf peppervine
<i>Morus rubra</i> Red mulberry	<i>Leucophyllum frutescens</i> Texas sage	<i>Callicarpa americana</i> American beautyberry
<i>Phyla nodiflora</i> Texas frogfruit	<i>Morus rubra</i> Red mulberry	<i>Campsis radicans</i> Trumpet creeper
<i>Prunus mexicana</i> Mexican plum	<i>Passiflora incarnata</i> Purple passion flower	<i>Celtis laevigata</i> Sugarberry
<i>Prunus rivularis</i> River plum	<i>Phyla nodiflora</i> Texas frogfruit	<i>Celtis pallida</i> Desert hackberry
<i>Rivina humulis</i> Pigeon berry	<i>Prunus mexicana</i> Mexican plum	<i>Cephalanthus occidentalis</i> L. Buttonbush
<i>Sambucus nigra</i> subsp. <i>canadensis</i> Am. Black elderberry	<i>Rivina humulis</i> Pigeon berry	<i>Cercis canadensis</i> Eastern redbud
<i>Viguiera Stenoloba</i> Skeleton goldeneye	<i>Sambucus nigra</i> subsp. <i>canadensis</i> Am. Black elderberry	<i>Cornus drummondii</i> Rough leaf dogwood
<i>Vitis mustangensis</i> Mustang grape	<i>Senegalia berlandieri</i> Guajillo	<i>Cordia boissierii</i> Mexican olive
<i>Zanthoxylum clava-herculis</i> Hercules club	<i>Senegalia greggi</i> Catclaw acaia	<i>Desmanthus illinoensis</i> Illinois bundleflower
<i>Zanthoxylum fagara</i> Lime-prickly ash	<i>Viguiera Stenoloba</i> Skeleton goldeneye	<i>Diospyros texana</i> Texas persimmon
	<i>Vitis mustangensis</i> Mustang grape	<i>Ehretia anacua</i> Knockaway
	<i>Zanthoxylum clava-herculis</i> Am. Black elderberry	<i>Forestiera acuminata</i> Eastern swamp privet
	<i>Zanthoxylum fagara</i> Lime-prickly ash	<i>Fraxinus berlandieriana</i> Mexican ash
		<i>Guaiacum angustifolium</i> Texas lignum-vitae
		<i>Leucaena retusa</i> Golden-ball lead tree
		<i>Lonicera sempervirens</i> Trumpet honeysuckle
		<i>Morus rubra</i> Red mulberry
		<i>Passiflora incarnata</i> Purple passionflower
		<i>Leucophyllum frutescens</i> Texas sage
		<i>Eysenhardtia texana</i> Texas kidneywood
		<i>Parthenocissus quinquefolia</i> Virginia creeper
		<i>Sabal palmetto</i> Cabbage palmetto
		<i>Ptelea trifoliata</i> Common hoptree
		<i>Rivina humulis</i> Pigeon berry
		<i>Sambucus nigra</i> subsp. <i>canadensis</i> Am. black elderberry
		<i>Senna lindheimeriana</i> Velvet leaf senna
		<i>Senegalia berlandieri</i> Guajillo
		<i>Senegalia greggi</i> Catclaw acaia
		<i>Sophora affinis</i> Eve's necklace
		<i>Sophora secundiflora</i> Mescal bean
		<i>Ungnadia speciosa</i> Mexican buckeye
		<i>Vachellia rigidula</i> Blackbrush acaia
		<i>Vachellia schaffneri</i> Twisted acaia
		<i>Viburnum rufidulum</i> Rusty blackhaw
		<i>Viguiera Stenoloba</i> Skeleton goldeneye
		<i>Vitis mustangensis</i> Mustang grape
		<i>Zanthoxylum clava-herculis</i> Hercules club
		<i>Zanthoxylum fagara</i> Lime-prickly ash

Early Fall	Mid Fall	Late Fall
<i>Acer negundo</i> Boxelder	<i>Berchemia scandens</i> Alabama supplejack	<i>Platanus occidentalis</i> American sycamore
<i>Aesculus pavia</i> Scarlet buckeye	<i>Carya illinoensis</i> Pecan	<i>Berchemia scandens</i> Alabama supplejack
<i>Ampelopsis arborea</i> L. Peppervine	<i>Carya texana</i> Black hickory	<i>Carya illinoensis</i> Pecans
<i>Ampelopsis cordata</i> Michx Heartleaf peppervine	<i>Celtis laevigata</i> Sugarberry	<i>Carya texana</i> Black hickory
<i>Berchemia scandens</i> Alabama supplejack	<i>Celtis pallida</i> Desert hackberry	<i>Celtis laevigata</i> Sugarberry
<i>Callicarpa americana</i> American beautyberry	<i>Cephalanthus occidentalis</i> L. Buttonbush	<i>Celtis pallida</i> Desert hackberry
<i>Campsis radicans</i> Trumpet creeper	<i>Condalia hookeri</i> Brazillion bluewood	<i>Cocculus carolinus</i> Carolina snailseed
<i>Carya illinoensis</i> Pecan	<i>Cornus drummondii</i> Rough leaf dogwood	<i>Cornus drummondii</i> Rough leaf dogwood
<i>Carya texana</i> Black hickory	<i>Crataegus spathulate</i> Little hip hawthorne	<i>Desmodium candense</i> Showy ticktrefoil
<i>Celtis laevigata</i> Sugarberry	<i>Desmodium candense</i> Showy ticktrefoil	<i>Eysenhardtia texana</i> Texas kidneywood
<i>Celtis pallida</i> Desert hackberry	<i>Diospyros virginiana</i> Common persimmon	<i>Guaiaacum angustifolium</i> Texas lignum-vitae
<i>Cephalanthus occidentalis</i> L. Buttonbush	<i>Diospyros texana</i> Texas persimmon	<i>Hesperaloe parvifolia</i> Red false yucca
<i>Cercis canadensis</i> Eastern redbud	<i>Eysenhardtia texana</i> Texas kidneywood	<i>Juglans nigra</i> Black walnut
<i>Condalia hookeri</i> Brazillion bluewood	<i>Guaiaacum angustifolium</i> Texas lignum-vitae	<i>Leucophyllum frutescens</i> Texas sage
<i>Cordia boissierie</i> Mexican olive	<i>Hesperaloe parvifolia</i> Red false yucca	<i>Maculara pomifera</i> Osage orange
<i>Cornus drummondii</i> Rough leaf dogwood	<i>Ilex decidua</i> Possumhaw	<i>Rhus</i> Sumac
<i>Crataegus spathulate</i> Little hip hawthorne	<i>Ilex vomitoria</i> Yaupon	<i>Sapindus saponaria</i> Western soapberry
<i>Desmanthus illinoensis</i> Illinois bundleflower	<i>Leucophyllum frutescens</i> Texas sage	<i>Smilax bona-nox</i> Greenbriar
<i>Desmodium candense</i> Showy ticktrefoil	<i>Maculara pomifera</i> Osage orange	<i>Sophora affinis</i> Eve's necklace
<i>Diospyros virginiana</i> Common persimmon	<i>Malvaviscus arboreus</i> Turks cap	<i>Sophora secundiflora</i> Mescal bean
<i>Diospyros texana</i> Texas Persimmon	<i>Passiflora incarnata</i> Purple passionflower	<i>Symphoricarpos orbiculatus</i> Coral berry
<i>Ehretia anacua</i> Knockaway	<i>Platanus occidentalis</i> American sycamore	<i>Taxodium distichum</i> Bald cypress
<i>Eysenhardtia texana</i> Texas kidneywood	<i>Quercus</i> oak	<i>Taxodium mucronatum</i> Montezuma cypress
<i>Forestiera acuminata</i> Eastern swamp privet	<i>Rhus</i> Sumac	<i>Viguiera Stenoloba</i> Skeleton golden
<i>Fraxinus berlandieriana</i> Mexican ash	<i>Smilax bona-nox</i> Greenbriar	<i>Ziziphus obtusifolia</i> Lotebush
<i>Guaiaacum angustifolium</i> Texas lignum-vitae	<i>Sophora affinis</i> Eve's necklace	
<i>Hesperaloe parvifolia</i> Red false yucca	<i>Sophora secundiflora</i> Mescal bean	
<i>Ilex decidua</i> Possumhaw	<i>Symphoricarpos orbiculatus</i> Coral berry	
<i>Ilex vomitoria</i> Yaupon	<i>Taxodium distichum</i> Bald cypress	
<i>Leucophyllum frutescens</i> Texas sage	<i>Taxodium mucronatum</i> Montezuma cypress	
<i>Lonicera sempervirens</i> Trumpet honeysuckle	<i>Ungnadia speciosa</i> Mexican cypress	
<i>Maculara pomifera</i> Osage orange	<i>Viguiera Stenoloba</i> Skeleton goldeneye	
<i>Malvaviscus arboreus</i> Turks cap	<i>Ziziphus obtusifolia</i> Lotebush	
<i>Parthenocissus quinquefolia</i> Virginia creeper		
<i>Passiflora incarnata</i> Purple passion flower		
<i>Phyla nodiflora</i> Texas frogfruit		
<i>Platanus occidentalis</i> American sycamore		
<i>Quercus</i> Oak		
<i>Rivina humulis</i> Pigeon berry		
<i>Sabal palmetto</i> Cabbage pametto		
<i>Senegalia berlandieri</i> Guajillo		
<i>Senegalia greggi</i> Catclaw acaia		
<i>Sideroxylon lanuginosum oblongifolium</i> Chittamwood		
<i>Smilax bona-nox</i> Greenbriar		
<i>Sophora affinis</i> Eve's necklace		
<i>Sophora secundiflora</i> Mescal bean		
<i>Symphoricarpos orbiculatus</i> Coral berry		
<i>Taxodium distichum</i> Bald cypress		
<i>Taxodium mucronatum</i> Montezuma cypress		
<i>Ungnadia speciosa</i> Mexican buckeye		
<i>Vachellia rigidula</i> Blackbrush acaia		
<i>Vachellia schaffneri</i> Twisted acaia		
<i>Viguiera Stenoloba</i> Skeleton goldeneye		
<i>Vitis mustangensis</i> Mustang grape		
<i>Ziziphus obtusifolia</i> Lotebush		

Species

Listed in alphabetical order according to their scientific names:

-*Acer negundo* **Boxelder**

Collection

- Collect in late summer or early fall
- Get them as soon as they ripen, delay even a week can impair germination
- Harvest as soon as the samaras turn yellowish brown and the seeds inside are filled out hard and dark brown

Location

- Central Texas

Storage

- Seeds do not fare well in storage, so its recommended to put them in stratification

Propagation

- Cold/moist stratification for 60-90 days
- Sew outdoors in late winter as seedlings do not survive in hot weather



-*Aesculus pavia* **Scarlet Buckeye**

Collection

- Collect seeds from the tree as soon as the leathery capsule turns brown and begins to peel back from the smooth firm golden brown seed. Usually late August through early fall
- Avoid collecting green/soft seeds unless they have very recently dropped

Location

- Central Texas

Storage

- Scarlet buckeye loose viability quickly in storage because they have high fat/lipid content



- Seeds will also rot if left in plastic bags after only a couple days
- If sowing is to be delayed by a couple of days, store in paper bags in a chiller

Propagation

- Seeds should be sowed immediately after collection a mixture of soil and sand
- Protect these from squirrels and rats
- Sow 1” deep
- Careful of overwatering

-*Aloysia gratissima* **Whitebrush**

Collection

- Collect throughout the summer when schizocarps are brown and beginning to dry
- Collect as soon as schizocarps turn because they will split open and release their seeds
- Seeds may be crushed to remove their seeds or dried with fruit on



Location

- South Texas

Storage

- Must be thoroughly air dried
- Will last over winter in warm seed storage

Propagation

-Seeds

- Will germinate from untreated seeds
- Sow the seeds thinly by just pressing them into the container
- Do not bury

-Cuttings

- Softwood cuttings that are slightly woody
- Taken in spring/early summer
- Take the bottom cut just below a node
- Insert into a soil mixture under mist

-Ampelopsis arborea L. **Peppervine**

Collection

- Fruits mature in late summer or early fall
- Collect when the fruit turns dark blue-black
- Wear gloves while processing, the fruit will stain your hands

Location

- North Texas

Storage

- Clean the seeds from the pulp and thoroughly air dry
- Cold storage

Propagation

-Seeds

- Cold/moist stratification for 30-60 days

-Cuttings

- Will root easily from mature semi hardwood cuttings
- Use a stem with at least 2-3 nodes
- Make the cut $\frac{1}{2}$ the distance between the nodes
- Remove leaves from the lower half of the cutting
- Insert cutting into well drained soil



-Ampelopsis cordata Michx. **Heartleaf peppervine**

Collection

- Fruits mature in late summer or early fall
- Collect when the fruit turns dark blue-black
- Wear gloves while processing, the fruit will stain your hands

Location

- North Texas

Storage

- Clean the seeds from the pulp and thoroughly air dry
- Cold storage

Propagation

-Seeds

- Cold/moist stratification for 30-60 days



-Cuttings

- Will root easily from mature semi hardwood cuttings in May – June
- Use a stem with at least 2-3 nodes
- Make the cut $\frac{1}{2}$ the distance between the final nodes
- Remove leaves from the lower half of the cutting
- Under mist in well drained media

-*Berchemia scandens* **Alabama supplejack**

Collection

- Collect the blue-black fruits in the Fall
- Clean the pulp off the fruit

Location

- North Texas



-*Caesalpinia mexicana* **Mexican Poinciana**

Collection

- Gather the seeds through the growing season
- When seeds have filled out and the pods are brown, but before they spill out

Location

- South Texas

Storage

- Heat treatment
- Warm storage

Propagation

- Untreated seeds are easily germinated in warm weather

-or-

- Pour boiling water over the seeds and add “Superthrive” to cooling water to enhance germination



-*Callicarpa americana* **American beauty berry**

Collection

- Collect in late summer to early fall after the fruit has filled out and have turned a deep purple

Location

- North Texas

Storage

- Attempts to grow beauty berry in the past at LAERF, seeds do not store well and have the best chance at germination if sown directly after they have been picked and cleaned
- If storage is necessary, dry seeds with fruit on, and put in cold storage
- Seeds may last for a year

Propagation

-Seeds

- IMMEDIATELY after collecting seeds, soak in warm water, then spray them down in a sieve to remove pulp.
- The difference between success and failure is how quick you get the pulp off
- Perlite/sphagnum mix in oil pan



-Cuttings

- Softwood cuttings taken from May-June that are 4-5" long and treated with 5,000 ppm IBA
- Hardwood cuttings that are 5-8" long treated with 10,000 ppm IBA

Campsis radicans Trumpet creeper

Collection

- Trumpet shaped flowers with bright orange pedals
- Fruit is a woody capsule containing many feathery seeds
- Collect when the capsule turns grayish brown but before they split open late summer to early fall
- Remove seeds and let air dry

Location

- North Texas

Storage

- Cold storage

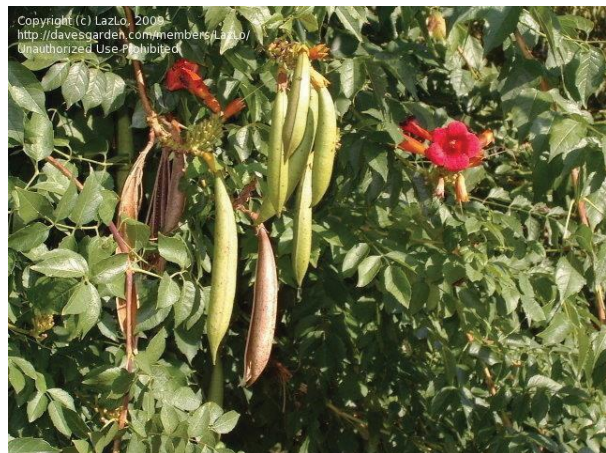
Propagation

-Seeds

- Cold/moist stratification for 30-60 days
- Do not bury seeds too deeply when sowing

-Cuttings

- Semihardwood cuttings taken from May-October
- Take cuttings from the shoots of new growth, woody towards the base
- 3-4" long



- Plant in oil pans containing a 1:2 ration of BACCTO and perlite

-Carya illinoensis **Pecan**

Collection

- Collect nuts from the ground or shake from the branches in September to November
- Mature nuts have a brown husk and have split opened
- Avoid nuts with grub holes
- Float test for this species must be done after soaking them for an extended period of time as the nuts don't immediately sink

Location

- North Texas
- Central Texas
- South Texas

Storage

- Cold/moist storage
- Viable for up to 5 years

Propagation

- Heat treat for 30 min
- Cold stratification 30-60 days
- Sew in tree conetainers or 14" tree pots



-Carya texana **Black Hickory**

Collection

- Collect nuts from the ground or shake from the branches in September to November
- Mature nuts have a brown husk and have split opened
- Avoid nuts with grub holes

Location

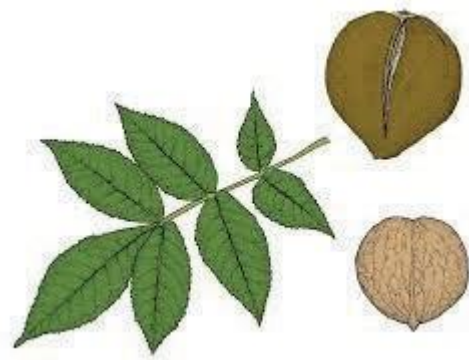
- North Texas

Storage

- Cold/moist storage
- Viable for up to 5 years

Propagation

- Heat treat for 30 min
- Cold/moist stratification 30-60 days
- Sew in tree conetainers or 14" tree pots



-Celtis laevigata **Sugarberry**

Collection

- Pick mature fruits in late summer until early winter.
- Air dry with pulp on or soak overnight and then rub pulp off.

Location

- North Texas
- Central Texas

Storage

- Store in a sealed, refrigerated container

Propagation

- Cold/moist stratification 60-90 days
- Sew in Spring



-Celtis pallida **Desert Hackberry**

Collection

- Pick mature fruits in late summer until early winter.
- Air dry with pulp on or soak overnight and then rub pulp off.

Location

- South Texas

Storage

- Store in a sealed, refrigerated container

Propagation

- Cold/moist stratification 60-90 days
- Sew in Spring



-Cephalanthus occidentalis L. **Button Bush**

Collection

- Tight spherical seed balls that is cinnamon brown
- Collect in late summer or early fall before seed balls dry out
- Crush seed balls to separate

Location

- North Texas

Storage

- Dry seeds for a few days
- Cold storage



Propagation

-Seeds

- Fresh seeds with no pretreatment will germinate within 30-40 days with a low yield
- Another method that has better results is mixing seeds with perlite and placing them into cold storage for 30 days

-Cuttings

- Softwood cuttings
 - Take after the first flush in growth (Late May/June)
 - Treat with 3000 ppm IBA
 - Place under mist
- Hardwood cuttings
 - Take in late July
 - Treat with 5000 ppm IBA

-*Cercis canadensis* **Eastern redbud**

Collection

- Harvest legumes when they turn brown and begin to dry. Collect by the end of August and no later than September
- Collect a large amount to compensate for high % of unsound seed

Location

- North Texas
- Central Texas

Storage

- Air dry seeds and store in sealed refrigerated containers

Propagation

- Scarify for 10-20 min
- Cold/moist stratification for 30-60 days



-*Coccolus carolinus* **Carolina snailseed**

Collection

- Gather bright red berries in late fall
- Clean off pulp of berries

Location

- North Texas

Storage

- Cold storage

Propagation

- 90 days cold/moist stratification



-*Condalia hookeri* **Brazilian bluewood**

Collection

- Long growing season where ripe fruit can be found of April-October
- Collection of large amounts can be difficult
- Gather when fruit is black or purplish
- Remove pulp or dry pulp onto seed

Location

- South Texas

Storage

- Warm storage up to 3 months

Propagation

-Seeds

- Seeds from warmer climates should be sown immediately before they dry
- May be left in warm storage up to 3 months and still germinate with good percentages of success
- For seeds in the colder climates, 30 days cold/moist stratification

-Cuttings

- Semi-hardwood cuttings treated with IBA and placed under intermitted mist



Copyright © Robert O'Brien

-*Cornus drummondii* **Rough leaf dogwood**

Collection

- Fruits ripen in late summer and be collected as late as November-December
- Collect when the seed is soft enough to be squeezed and release the seed

Location

- North Texas
- Central Texas

Storage

- Remove pulp
- Air dry for a couple of days
- Cold storage
- Can be viable up to 3 years

Propagation

-Seeds

- Sow cleaned seeds immediately after collection

-or-

- Scarify for 1-3 hours and then cold moist stratify for 60-120 days

-Cuttings



- will root from softwood or semi-hardwood cuttings taken in summer, hardwood cuttings in winter, and suckers and division and by layering in the early

-Cordia boissierie **Mexican olive or Anacahuita**

Collection

- Collect when fruit turns a muted yellow color to pale brown with seed plump and hard
- Late summer to early fall

Location

- South Texas

Storage

- Seeds are very hardy, but you must remove pulp before storing
- Let the pulp rot for as long as possible to ease removal
- Scrub pulp off with sandpaper or wire brush
- Store in warm storage

Propagation

-Seeds

- Sow seeds fresh or double stratify (cold->warm->cold) 60-90 days per temp period

-Cuttings

- Soft or hardwood cuttings 4-6" long
- Treat with IBA
- Remove leaves from the lower half
- Place under intermittent mist



-Crataegus spathulate **Little Hip Hawthorn**

Collection

- Fruits may be handpicked or shaken from plant Sept-Oct
- Fruit is Red
- Blend fruit to remove seed from fruit

Location

- North Texas

Storage

- Air dry cleaned seed 2-3 days
- Cold storage for 2-3 years

Propagation

- Acid scarification for an undetermined amount of time. Other species of hawthorn are scarified for up to 5 hours. Timings depend on thickness of seed coat



- Warm/moist stratification up to 120 days
- Cold/moist stratification for 100-300 days

-Desmanthus illinoensis **Illinois Bundleflower**

Collection

- Collect seed pods in August

Location

- Central Texas

Storage

- Store seeds in warm/moist storage for up to 4 years.

Propagation

- Stored seeds must be scarified for 15 minutes



-Desmodium candense **Showy ticktrefoil**

Collection

- Collect seed pods in the fall

Location

- North Texas

Propagation

- Scarification required
- Cold/moist stratification for 10 days in moist sand



-Diospyros texana **Texas persimmon**

Collection

- Fruit ripens from August to October and is purple-black when mature
- Clean fruit immediately

Location

- Central Texas

Storage

- Air dry and store in sealed refrigerated containers
- Will be viable for 1 season

Propagation

- Germinates best without any treatment (Vora 1989)
- Sewing fresh seeds has the best chance of germination

-or-

- Aerate seeds for 2-3 days
- Set seeds in pre-germination trays with moist vermiculite



- Check every day and place germinated seeds into pots

Diospyros virginiana **Common persimmon**

Collection

- Collect fruit in late September to November when it is bright orange.
- One strategy for collection is to pick cleaned seeds from piles of scat
- Clean fruit immediately to prevent molding
- Fruit pulp may contain chemical properties that will inhibit germination

Location

- North Texas

Storage

- Store in sealed refrigerated containers

Propagation

-Seeds

- Clipping the radicle end of the seed, then soaking for several days in water can improve germination (Sayyad-Amin et al. 2018)
- 30-60 days of cold/moist stratification



-Cuttings

- Root cuttings 6-12” long
- Bury the cuttings in moist sand over winter

Ebenopsis ebano **Texas Ebony**

Collection

- Pods are produced in great quantities on alternating years with a rest year with little to no pod production every other year
- Early collection (June-July)
- Process large amounts of pods by letting them bake in the sun while periodically hosing them down. Pods should twist and split within 2-3 weeks

Location

- South Texas
- Central Texas



Copyright © Robert O'Brien

Storage

- Seeds should be scarified before storage
- Cold storage
- Viable for several years

Propagation

- Acid scarification for 30-35 min
- 3-5 immersions in boiling water for 20 seconds

Ehretia anacua **Knockaway**

Collection

- Collect in midsummer through early fall
- Fruit is orange/red and contains 2 seeds
- Seeds may either be cleaned or dried with the pulp still on
- A blender is a viable option for pulp removal

Location

- South Texas

Storage

- Cold storage
- Viable for several years

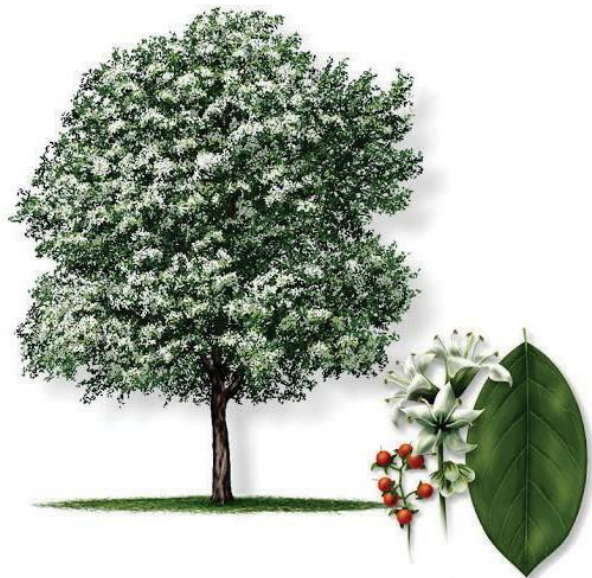
Propagation

-Seeds

- Remove pulp if it is still on the seed
- Let dry seeds dry for a couple of days
- Sow

-Cuttings

- Knockaway can be produced from cuttings, however, trees are irregularly shaped and not strong



Copyright © Robert O'Brien

Euonymus atropurpureus **Burning Bush**

Collection

- Pick seeds by hand just before fleshy capsules begin to split
- Air-dry on screens

Location

- Central Texas

Storage

- Store in cold storage

Propagation



-Seeds

- Cold/moist stratification for 90-120 days
-or-
- Double stratification of 90 days warm/moist stratification and 60 days cold/moist stratification

-Cuttings

- Semi-hardwood cuttings taken in fall root readily with no hormone treatment

Eysenhardtia texana **Texas Kidneywood**

Collection

- Collect when the pods have turned brown and dried
- Blooming is intermittent and over a long period of time, so collection is whenever convenient

Location

- Central Texas

Storage

- Air dry pod for several days
- Fumigate to prevent weevil damage
- Store in warm storage

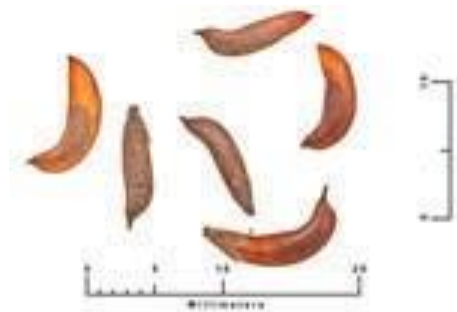
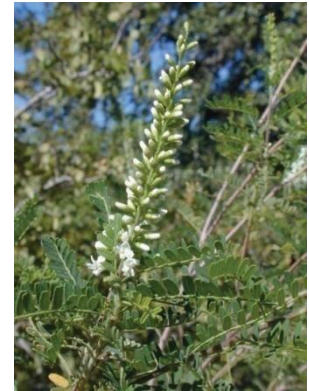
Propagation

-From seed

- Sow in late March or in a greenhouse where temperatures are 68-86°F
- Slightly crush pods
- Sow in containers 6-8" deep

-From Cutting

- 4-6" long softwood or semi-hardwood cutting
- Take in summer or early fall
- Treat with 3000-5000 IBA and place under mist



Forestiera acuminata **Eastern swamp privet**

Collection

- Collect in summer or early fall
- Mature fruit is dark purple or black
- In S TX fruit can be found year round



Storage

- Remove pulp, DO NOT blend
- Wash the pulp off, or let dry and then remove
- Cold storage

Location

- North Texas
- Central Texas
- South Texas

Propagation

-From Seed

- Aerate seed for 1-2 days
- Direct sow into containers
- Germination complete 3-4 weeks

-From Cuttings

- 3-4" semi hardwood cuttings
- Treat with 1500-2500 ppm IBM "quick dip"



-*Fraxinus berlandieriana* Mexican Ash

Collection

- Collect seeds in August-September
- Samara turns brown but hasn't dropped from the trees

Location

- South Texas

Storage

- Cold storage
- Viable for up to 3 years

Propagation

- Aerate the seeds for 1 day
- Sow with the tip of the seed pointed slightly down
- Cover with 1/3" of soil



-*Guaiacum angustifolium* Texas lignum-vitae

Collection

- Late summer through fall
- Capsules should be brown, and seeds should be black

Location

- South Texas

Storage

- Make sure the aril (seed covering) is removed, since it could rot the seed
- Warm storage viable up to 1 year
- Cold storage viable up to 3 years

Propagation

-Seeds

- Seeds collected from STX do not need to be scarified, just aerate for 2-3 days
- Seeds from colder climates will need to be scarified which is timed differently per batch

-Cuttings

Texas Softwood and semi-hardwood cuttings treated with IBA and placed under intermittent mist



Hesperaloe parvifolia **Red False Yuca**

Collection

- Collect seed as soon as the capsule has dried, but before it starts to split
- Fall

Location

- Central Texas

Storage

- Warm storage

Propagation

- Untreated seeds will grow readily



Ilex decidua **Possumhaw**

Collection

- Collect from September to October as seeds fill out and turn ripe
- Can be a wide range of colors from amber to orange to deep red

Location

- Central Texas
- North Texas



Storage

- Thoroughly dried seeds may be kept for a year in cold storage

Propagation

- Seeds germinate best if planted immediately after collection.
- They may be pretreated with double stratification (30-60 days warm/moist, then 60-90 days cold/moist), but the essential element seems to be time.
- Once internal conditions in the seed are right (it may take years), it will germinate in warm moist stratification

Ilex vomitoria **Yaupon**

Collection

- Collect from September to October as seeds fill out and turn ripe

Location

- Central Texas

Storage

- Thoroughly dried seeds may be kept for a year in cold storage

Propagation

- Seeds germinate best if planted immediately after collection.
- They may be pretreated with double stratification (30-60 days warm/moist, then 60-90 days cold/moist), but the essential element seems to be time.
- Once internal conditions in the seed are right (it may take years), it will germinate in warm moist stratification



Juglans nigra **Black walnut**

Collection

- Collection is in late fall through early winter when fruit drops from the tree.
- Let the outer husk rot for a good bit to ease cleaning
- Seeds are quite hardy
- Remove pulp from the nut **WEAR GLOVES**, the pulp **WILL** stain your hands black

Location

- Central Texas
- North Texas

Storage

- Does not store well and loses viability quickly in storage



Propagation

- Cold stratification 60-90 days (if left indefinitely in cold stratification, seeds may germinate), then move to warm stratification till germination
- Sew in 14" tree pots or containers

-*Leucaena retusa* Golden-ball lead tree

Collection

- Gather pods in late summer after they turn brown, but not after they have split open
- Avoid gathering seeds from the ground

Location

- Central Texas

Storage

- Let air dry for 1-2 days
- Heat treatment
- Warm storage

Propagation

From Seed

- Easily grown from first year seed with no pretreatment
- Sew immediately after collection for best results
- Cover seeds with no more than 1/2" of soil

From Cutting

- Semi-hardwood cuttings
- Take in summer
- Treat w/ 8000 ppm IBM



-*Leucophyllum frutescens* Texas Sage

Collection

- Seeds in STX can be collected almost every month of the year
- Seed should be collected right before the capsule splits open

Location

- South Texas

Storage

- Seeds stored in warm storage will be viable for 1 year

Propagation

-Seeds

- Sow seeds immediately after collection into oil pans. Using a mix of vermiculite and BACCTO for best results



-Cuttings

- Will readily root for current seasons semi-hardwood growth

-*Lonicera sempervirens* **Trumpet honeysuckle**

Collection

- Collect in late summer to early fall when berries turn red or bluish green
- Clean immediately to avoid fermentation

Location

- North Texas

Storage

- Cold storage

Propagation

-Seeds

- 2-3 months cold/moist stratification

-Cuttings

- Take internodal cuttings during the winter from new growth
- Take the leaves off the bottom of the cutting and little off of the epidermal layer of bark to encourage rooting
- Insert cutting into a well-drained medium (2 parts perlite, 1 part BACCTO) under intermittent mist



-*Maculara pomifera* **Hedge apple or Osage orange**

Collection

- Collect fruits in fall
- Store fruits in a moist place and let decay over several months
- Seeds then can be collected by putting rotten fruit in water and macerating it

Location

- North Texas

Storage

Propagation

-Seeds

- Cold/moist stratification for 30 days

-Cuttings

- Softwood cutting taken in June, treated with 5000-10000 IBA in sand under intermittent mist
- Hardwood cuttings taken in January and treated with 5000-10000 IBA quick dip



-Malvastrum arboreum **Turk's cap (wax mallow)**

Collection

- Collect as soon as the fruit turns ripe in the fall
- Unless you are immediately sewing, do not soak to remove pulp
- Dry for a couple days until pulp is shriveled and easily removed

Location

- North Texas

Storage

- Temporary storage can be in warm, but for long term storage used refrigerated storage

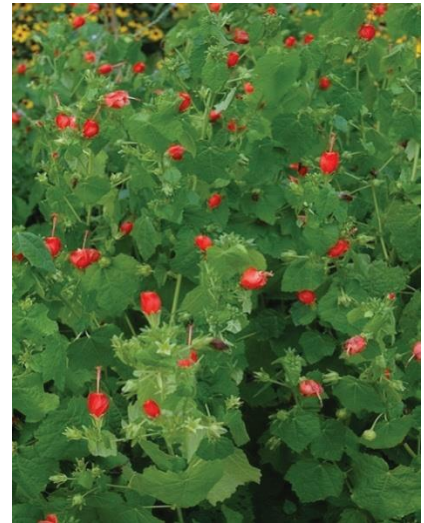
Propagation

-Seeds

- Will germinate promptly from freshly cleaned seeds
- Sew after all danger of frost has passed in the spring

-Cuttings

- Softwood cuttings taken in summer
- 4-6" long
- Prune leaves toward the bottom of the stalk
- Treat with IBA (1500 ppm)



-Morus rubra **Red Mulberry**

Collection

- Collect in summer when fruit has turned red or purple
- Shake directly off tree

Location

- Central Texas
- North Texas
 - Remove pulp from seed before storage or propagation

Storage

- Air dry seeds and store in cold storage

Propagation

-From Seed

- Cold/moist stratification for 90 days
- Keep seedbed moist after sewing
- Optimum temp range 68-86°F



-From cuttings

- Semi hardwood cuttings taken in late summer/early autumn
- Treatment: IBA (100mg/1 IBA for 24hrs or Hormodin 3)

-Parthenocissus quinquefolia **Virginia creeper**

Collection

- Clumps of up to 200 berries, each containing 1-3 seeds
- Collect fruits in September to October after they have turned blueish black
- Seed coat is thin so take care when processing
- Gently rub on screen to remove pulp

Location

- North Texas
- South Texas

Storage

- Dry seeds
- Cold Storage

Propagation

-Seeds

- Cold/moist stratification for 60 days
- Cover seeds with 1/3" of soil
- ~15 days to germination after cold stratification

-Cuttings

- Semi-hardwood cuttings taken from late spring through the summer
- 3000 IBA talc treatment



-Passiflora incarnata **Passion flower**

Collection

- Leathery berries develop 2-3 months after flowering (July-Oct)
- Collect when berry is soft and yellowish
- Mature seeds are brown
- Clean immediately

Location

- North Texas

Storage

- Seeds should be stored in moist cold storage



Propagation

-seeds

- Cold moist stratification to break dormancy 15 days

-Cuttings

- 6-8" cuttings taken early in the season

-Phyla nodiflora **Texas frogfruit**

Collection

- Collect oblong seed cluster May-October

Location

- North Texas
- Central Texas
- South Texas

Propagation

- Seeds grow quickly in warm soil or from cuttings



-Platanus occidentalis **American sycamore**

Collection

- Collect fruit after leaf drop (fall-early spring)
- Dry heads, then crush to separate out seeds

Location

- North Texas

Storage

- Short term storage: place in a well ventilated, in a mesh bag, in warm storage
- Long term storage: Air dry seeds for 2-3 days, place in a sealed bag, then place in cold storage

Propagation

- Cold/moist stratification 30 days
- Seeds which over winter on tree can be directly sowed in the spring



-Prunus mexicana **Mexican plum**

Collection

- Collect when fruit is filled out, firm, and has turned a lustrous blue-purple or dark red
- Collect in late June/July

Location

- North Texas

Storage

- Clean the seeds from the pulp and air dry for only a couple hours to a day
- Long term storage should be cold
- Lose viability rapidly

Propagation

-Seeds

- After cleaning immediately place in warm/moist stratification for 30-60 days
- Move to cold/moist stratification for 60-90 days

-Cuttings

- Semi hardwood cuttings taken in summer taken in summer are the easiest to root
- Take from the tips of branches, from new stems that are flexible at the end and just beginning to turn woody at the base



-*Prunus rivularis* River plum

Collection

- Fruit ripens in June
- Bright red fruit

Location

- North Texas

Storage

- Clean the pulp off the seeds and let air dry for a couple of hours to 1 day
- Cold storage

Propagation

-Seeds

- 14 days of warm/moist stratification
- Cold/moist stratification 60-90 days

-Cuttings

- Semi hardwood cuttings taken in summer taken in summer are the easiest to root
- Take from the tips of branches, from new stems that are flexible at the end and just beginning to turn woody at the base



Ptelea trifoliolata **Common hoptree**

Collection

- Collect ripe samaras in late summer as they turn from yellow to brown

Location

- South Texas

Storage

- Seeds should remain viable for 16 months in cold storage

Propagation

- Cold/moist stratification for 30-60 days



Quercus buckleyi **Buckley oak**

Collection

- September-October
- Best acorns are collected off the tree or recently dropped from tree
- Avoid acorns that have been dropped for a long period of time or have holes in them
- Mature acorns will be turning from green to brown
- Caps should easily be removed
- Heat treatment for 30 min
- Remove floaters

Location

- Central Texas

Storage

- Cold/moist stratification will slow loss in viability due to over drying
- Will last 6 months

Propagation

- 30-60 days of cold/moist stratification followed up by storing in warm/moist stratification until germination
- Sew in 14" tree pots or 20" conetainers
- ~2" below the top of the soil, sown sideways to prevent the taproot from pushing the acorn above the surface.



Quercus falcata **Southern Red Oak**

Collection

- September-October
- Nuts are biennial
- Best acorns are collected off the tree or recently dropped from tree
- Avoid acorns that have been dropped for a long period of time or have holes in them
- Mature acorns will be turning from green to brown
- Caps should easily be removed
- Heat treatment for 30 min
- Remove floaters



Location

- North Texas

Storage

- Cold/moist stratification will slow loss in viability due to over drying
- Will last 6 months

Propagation

- 30-60 days of cold/moist stratification followed up by storing in warm/moist stratification until germination
- Sew in 14" tree pots or 20" conetainers
- ~2" below the top of the soil, sown sideways to prevent the taproot from pushing the acorn above the surface.

Quercus fusiformis **Texas Live Oak**

Collection

- Pick or shake from tree
- Collect when the color has change to brown
- Heat treat for 30 min
- Remove floaters

Location

- Central Texas

Storage

- Acorns lose viability quickly in storage
- Short term storage with moist sphagnum in a shaded place

Treatment

- 30 min heat treatment
- Remove floaters



Propagation

- To be sown immediately in 14" tree pots or large conetainers

Quercus macrocarpa **Bur Oak**

Collection

- September-October
- Best acorns are collected off the tree or recently dropped from tree
- Avoid acorns that have been dropped for a long period of time or have holes in them
- Caps can be difficult to remove from bur oaks, not a good indicator of maturity
- Heat treatment for 30 min
- Remove floaters



Location

- North Texas

Storage

- White oak that loses viability quickly in storage
- Must cold/moist stratify if storage is necessary

Propagation

- White oak that is to be sewn asap into 14" treepots or 20" conetainers
- ~2" below the top of the soil, sown sideways to prevent the taproot from pushing the acorn above the surface

Quercus marilandica **Blackjack Oak**

Collection

- September-October
- Best acorns are collected off the tree or recently dropped from tree
- Avoid acorns that have been dropped for a long period of time or have holes in them
- Mature acorns will be turning from green to brown
- Caps should easily be



- removed
- Heat treatment for 30 min
- Remove floaters

Location

- North Texas

Storage

- Cold/moist stratification will slow loss in viability due to over-drying
- Will last 6 months

Propagation

- 30-60 days of cold/moist stratification followed up by storing in warm/moist stratification until germination
- Sew in 14" tree pots or 20" conetainers
- ~2" below the top of the soil, sown sideways to prevent the taproot from pushing the acorn above the surface

Quercus muehlenbergii **Chinquapin oak**

Collection

- September-October
- Best acorns are collected off the tree or recently dropped from tree
- Avoid acorns that have been dropped for a long period of time or have holes in them
- Caps should be easily removed
- Heat treatment for 30 min
- Remove floaters



Location

- North Texas

Storage

- White oak that loses viability quickly in storage
- Must cold/moist stratify if storage is necessary

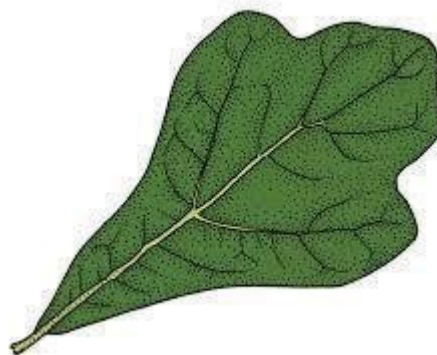
Propagation

- White oak that is to be sewn asap into 14" treepots or 20" conetainers
- ~2" below the top of the soil, sown sideways to prevent the taproot from pushing the acorn above the surface

Quercus nigra **Water Oak**

Collection

- September-October
- Best acorns are collected off the tree or recently dropped from tree



- Avoid acorns that have been dropped for a long period of time or have holes in them
- Mature acorns will be turning from green to brown
- Caps should easily be removed
- Heat treatment for 30 min
- Remove floaters

Location

- North Texas

Storage

- Cold/moist stratification will slow loss in viability due to over drying
- Will last 6 months

Propagation

- 30-60 days of cold/moist stratification followed up by storing in warm/moist stratification until germination
- Sew in 14" tree pots or 20" conetainers
- ~2" below the top of the soil, sown sideways to prevent the taproot from pushing the acorn above the surface

Quercus shumardii **Shumard Red Oak**

Collection

- September-October
- Best acorns are collected off the tree or recently dropped from tree
- Avoid acorns that have been dropped for a long period of time or have holes in them
- Mature acorns will be turning from green to brown
- Caps should easily be removed
- Heat treatment for 30 min



Location

- Central Texas
- North Texas
- South Texas

Storage

- Cold/moist stratification will slow loss in viability due to over drying
- Will last 6 months

Propagation

- 30-60 days of cold/moist stratification followed up by storing in warm/moist stratification until germination
- Sew in 14" tree pots or 20" conetainers

- ~2” below the top of the soil, sown sideways to prevent the taproot from pushing the acorn above the surface

Quercus stellata **Post Oak**

Collection

- Pick or shake from the tree
- Collect when the color of the acorn is brown
- Short term storage in moist sphagnum in a dark place
- Heat treatment for 30 min
- Remove floaters



Location

- North Texas

Storage

- Acorns lose viability quickly in storage
- Short term storage with moist sphagnum in a shaded place (Acorns will still imbibe)

Propagation

- Sew immediately into containers or 14” tree pots
- Sew sideways, 1-2” below soil top

Quercus virginiana **Live oak**

Collection

- Pick or shake from tree
- Collect when the color has change to brown
- Heat treat for 30 min
- Remove floaters

Location

- Central Texas

Storage

- Acorns lose viability quickly in storage
- Short term storage with moist sphagnum in a shaded place

Treatment

- 30 min heat treatment
- Remove floaters

Propagation

- To be sown immediately in 14” tree pots or large containers



Rhus copallinum L. **Winged Sumac**

Collection

- Collect in Late September-December after they have turned a deep red color and the fruit is filled out

Location

- North Texas

Storage

- Clean seeds and place in cold storage for up to 2 years

Propagation

-Seeds

- Scarification for 30-45 min
- Cold stratification for 90 days

-Cuttings

- Harvest in the early spring
- Root cuttings
- ½-1” diameter
- 2-3” long
- Pack roots into boxes of barely damp sand
- After about 3 weeks sow the cuttings



Rhus copallinum **Prairie Flameleaf Sumac**

Collection

- Collect in Late September-December after they have turned a deep red color and the fruit is filled out

Location

- Central Texas

Storage

- Clean seeds and place in cold storage for up to 2 years

Propagation

-Seeds

- Scarify fresh or stored seeds for 30-55 min
- Put in a plastic bag containing moist perlite in cold storage for 50 days

Cuttings

- Harvest in the early spring
- Root cuttings
- ½-1” diameter
- 2-3” long



- Pack roots into boxes of barely damp sand
- After about 3 weeks sow the cuttings

-Rhus glabra **Smooth Sumac**

Collection

- Collect in Late September-December after they have turned a deep red color and the fruit is filled out

Location

- North Texas

Storage

- Clean seeds and place in cold storage for up to 2 years

Propagation

-Seeds

- Acid scarification for 45 min
- Cold/moist stratification 30-60 days
- Move to warm stratification until propagation in spring
- or-
- Pour boiling water over seeds
- Let seeds soak for 2 ½ days
- 90 days cold/moist stratification

-Cuttings

- Harvest in the early spring
- Root cuttings
- ½-1” diameter
- 2-3” long
- Pack roots into boxes of barely damp sand
- After about 3 weeks sow the cuttings



Rhus trilobata **Skunkbush**

Collection

- Collect in Late September-December after they have turned a deep red color and the fruit is filled out

Location

- South Texas

Storage

- Clean seeds and place in cold storage for up to 2 years

Propagation

-Seeds

- Scarify for 30-50 min
- Cold/moist stratification for 60-90 days

-Cuttings

- Harvest in the early spring
- Root cuttings
- 1/2-1" diameter
- 2-3" long
- Pack roots into boxes of barely damp sand
- After about 3 weeks sow the cuttings



Rhus virens **Evergreen Sumac**

Collection

- Gather seeds late fall through December
- Remove pulp with blender fitted with rubber blades before storage or propagation

Location

- Central Texas

Storage

- Cold Storage viable for two years

Propagation

-Seeds

- Acid scarification for 30-45 min
- Cold/moist stratification 30-60 days
- Move to warm stratification until propagation in spring

-Cuttings

- Do not root as easily as the deciduous variety of this species



-Rivina humilis **Pigeonberry**

Collection

- Collect berries when plump and red
- Allow to dry out
- Late spring- late summer

Location

- North Texas

Propagation

- No pretreatment necessary



-Sabal palmetto **Cabbage palmetto**

Collection

- Collect in late summer or early fall when fruit has turned a blue-black color
- Remove pulp to avoid weevil damage

Location

- South Texas

Storage

- Air dry seeds
- Place in cold storage
- Viable for 3 years

Propagation

- Untreated seeds will germinate if sown
-or-
- Cold/moist stratification for 30 days
- Aerate seeds for 3 days



-Salix nigra **Black Willow**

Collection

- Collect as soon as the seed pod turns from green to yellow brown
- Late winter to early spring

Location

- Central Texas

Storage

- Seeds start to lose viability quickly and only last 4-6 weeks under refrigeration



Propagation

-Seeds

- No pretreatment necessary

-Cuttings

- Will root from soft or hardwood cuttings without treatment
- Take cuttings in the spring before the leaf buds out

-Sambucus nigra subsp. canadensis **Am. Black Elderberry**

Collection

- Collect the seeds in summer when the fruit turns a dark blue-black color
- Clean seeds immediately before store to prevent fermentation

Location

- North Texas

Storage

- Air dry for a couple of days
- Cold storage
- Viable for 2 years

Propagation

-Seeds

- Elderberries from southern states do not require acid scarification
- 2 months of warm/moist stratification
- 3-5 months of cold/moist stratification

-Cuttings

- 1-year old juvenile seedlings 10-18" long containing 3 sets of buds can be directly planted
- Semi-hardwood cuttings taken in late summer from mature plants treated with 3000 ppm IBA talc and kept under intermittent mist
- Hardwood cuttings taken in late fall, cut into 6" lengths with basal cut just below the node. Treat with 1000 ppm IBA talc. Treat with fungicide



-Sapindus saponaria **Western soapberry**

Collection

- Collect in late fall or early winter
- Use a blender to remove outer pulp
- Let seeds dry for a few days

Location

- Central Texas
- North Texas



Storage

- Store cleaned seeds in a refrigerated closed container

Propagation

- Acid scarification for 1-3 hrs (trial and error to find exact time)
- Cold/moist stratification 40-60 days

-Senna lindheimeriana **Velvet leaf senna**

Collection

- Collect pods in late summer when they have turned brown and begun to dry

Location

- Central Texas

Storage

- Air dry before storing in warm storage



-Senegalia berlandieri **Guajillo**

Collection

- Collect seeds in the summer to early fall when seeds are filled out
- Abundant seed crop every 3-4 years
- Heat treatment

Location

- South Texas

Storage

- Cold storage
- Will be viable for several years

Propagation

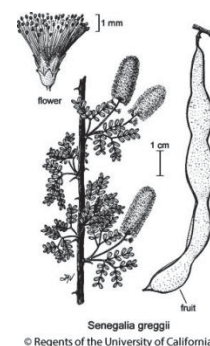
- Aerate seeds for 1 day
- or-
- Scarify seeds for 30 min



-Senegalia greggii **Catclaw Acacia**

Collection

- Collect seeds in the summer to early fall when seeds are filled out
- Has papery seed pod that is easy to get seeds from once it has dried out
- Heat treatment



Location

- South Texas

Storage

- Cold storage
- Will be viable for several years

Propagation

- Scarify seeds for 20 min

-Sideroxylon lanuginosum oblongifolium **Chittamwood (gum bully)**

Collection

- Gather fruits in early fall
- filled out, soft, and blue/black in color

Location

- North Texas

Storage

- Clean the pulp off
-or-
- Let air dry with the pulp on
- Cold storage for up to 1 year

Propagation

-Seeds

- Scarify seeds for 20 min
- Cold/moist stratification for 30-60 days

-Cuttings

- Softwood cuttings



Smilax bona-nox **Greenbriar**

Collection

- Collect fruit in fall or early winter
- Pulp must be filled out and blue-black in color
- Clean the seeds for the pulp and air dry

Location

- North Texas

Storage

- Cold storage

Propagation

-Seeds

- 30-60 days of cold/moist stratification



-Cuttings

- 6" cuttings taken in late spring or early summer
- Treat with IBA and place in a 3:1 mixture of BACCTO and sand

-*Sophora affinis* **Eve's necklace**

Collection

- Fruit is a thick pod containing one or more hard seeds
- Collect seeds in late summer through the fall when the pod begins to dry, and the seed turns red

Location

- North Texas

Storage

- Warm storage
- Viable up to three years

Propagation

- Mechanical scarification
-or-
- Acid scarification 60-90 min immediately before sowing



-*Sophora secundiflora* **Mescal bean (TX Mountain Laurel)**

Collection

- Gather seeds in late summer through the fall when pods begin to dry, and seeds turn red
- Soaking the pods in warm water will make seed removal easier

Location

- Central Texas

Storage

- Warm storage
- Viable for at least 3 years

Propagation

- Acid scarification for 30-90 min
- Immediately sow



Symphoricarpos orbiculatus **Coral berry**

Collection

- Collect fruits during the fall or winter
- If the pulp is still fleshy, clean the seeds by macerating them in water
- Fruits collected later in the winter may be air dried with the pulp still on

Location

- North Texas

Storage

- Cold storage
- Can be viable up to 5 years

Propagation

-Seeds

- Acid scarification for 20-30 min
- Warm/moist stratification for 120 days
- Cold/moist stratification for 180 days
- Seeds will not germinate will in hot weather

-Cuttings

- Midsummer-mid fall
- Softwood/ semi-hardwood cuttings
- 4-6" long that are woody at the base or have a heel of older wood
- Treat with IBA (1000-3000 ppm)
- Keep under intermittent mist
- or-
- Hardwood cuttings taken in winter
- Treat with 3000 ppm IBM talc



Taxodium distichum **Bald Cypress**

Collection

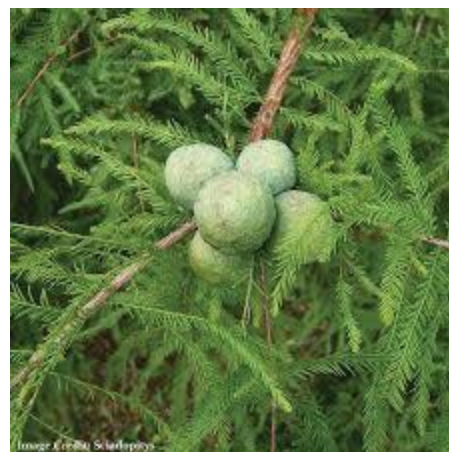
- Collect seed cones starting in late September when they start to turn brown
- Seed cones should be easily broken apart
- If not, let air dry for 1-2 days or until they are easily broken apart

Location

- Central Texas
- North Texas

Storage

- Cold storage, no treatment



- Viable for 1 year

Propagation

-Seeds

- 60 days cold/moist stratification
- If resin is extra thick, heat treat for 30 min

-Taxodium mucronatum **Montezuma Cypress**

Collection

- Collect seed cones starting in late September when they start to turn brown
- Seed cones should be easily broken apart
 - If not, let air dry for 1-2 days or until they are easily broken apart

Location

- South Texas

Storage

- Cold storage, no treatment
- Viable for 3 years

Propagation

- This species of cypress requires no pretreatment
- Grows quickly, will become rootbound if not diligent in transplanting



-Ulmus americana **American Elm**

Collection

- Collect after seeds have just fallen on the ground with a rake
- Seeds off the tree will also be viable
- Ripens a few weeks after flowering
- Early spring

Location

- North Texas

Storage

- Air dry a couple of days before storing
- Cold storage

Propagation

-Seeds

- For uniform germination, cold/moist stratify for 60 days
- Sow by February



-Cuttings

- Soft wood cuttings will root when soaked in IBA (50mg/1 L) for 24 hours

-*Umulus crassifolia* **Cedar elm**

Collection

- Collect after seeds have just fallen on the ground with a rake
- Seeds off the tree will also be viable
- Ripens a few weeks after flowering
- Early spring

Location

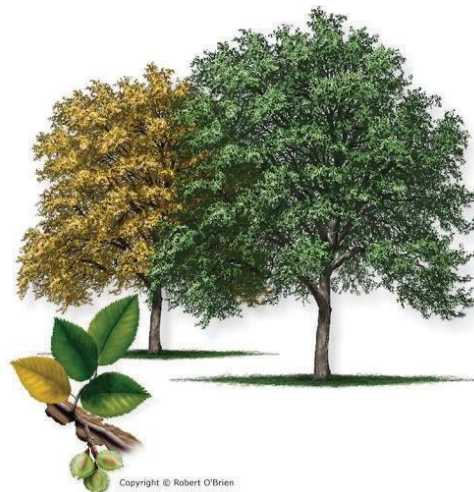
- Central Texas

Storage

- Air dry a couple of days before storing
- Cold storage

Propagation

- For uniform germination, cold/moist stratify for 60 days
- Sow by February



-*Ungnadia speciosa* **Mexican buckeye**

Collection

- Gather seeds in august through October when capsules turn dark reddish brown and begin to open
- Seeds should be shiny, black, hard

Location

- Central Texas

Processing

- Remove seed from pod and air dry a few days
- Short term storage- warm seed storage
- Long term storage- place in paper bags in cold storage
 - Note: Mexican buckeye does not store well for long periods of time

Propagation

- Best sown fresh. Should germinate in 3 weeks
- No pretreatment required



-Vachellia rigidula **Blackbrushacaia**

Collection

- Collect seeds in late summer to early fall when they are filled out and dark brown
- To separate the seeds from the pods, blending is a possibility
- Heat treat before storage

Location

- South Texas

Storage

- Heat treated seeds can last several years in cold storage

Propagation

- Scarify the seeds for 20-25 min
- Sow into 8” pots under strong sunlight for the best results



-Vachellia schaffneri **Twisted acaia**

Collection

- Collect seeds in late summer to early fall when they are filled out and dark brown
- Crush pods to remove seeds
- Heat treatment

Location

- South Texas

Storage

- Heat treated seeds can last several years in cold storage

Propagation

- Scarify the seeds for 30 min
- Sow



-Viburnum rufidulum **Rusty blackhaw**

Collection

- Collect the fruit as soon as it has turned a dark blue/black color, usually around late summer

- Cleaning and drying the seeds may induce dormancy

Location

- North Texas

Storage

- Cold Storage
- Can be viable for up to 10 years

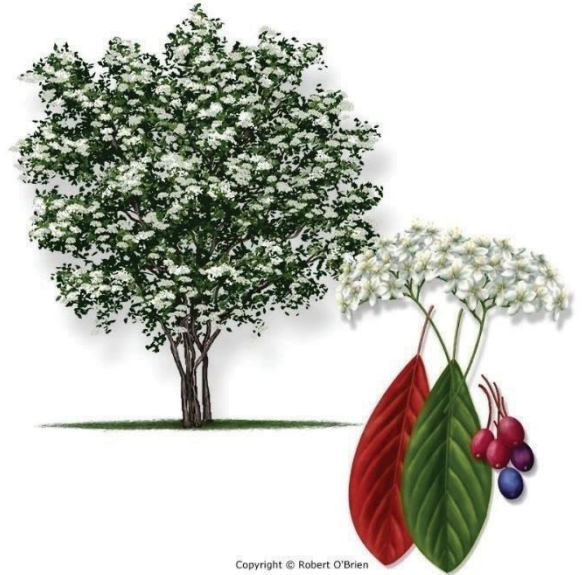
Propagation

-Seeds

- Sow seeds directly after collection in the fall
- May take several seasons to grow due to seed dormancy

-Cuttings

- Semihardwood cuttings
- Late spring to early summer



Copyright © Robert O'Brien

-Viguiera stenoloba **Skeleton Goldeneye**

Collection

- Gather the achenes as they turn brown and begin to shatter
- Air dry for a few days
- Flowers bloom throughout the summer, but most heavily during the fall

Location

- South Texas

Storage

- Dried seeds may be placed in cold storage

Propagation

-Seeds

- Seeds need no pretreatment before sowing

-Cuttings

- Softwood tip cuttings that are 2-3" long
- Take after the first flush of growth in April-June and again in late August-October
- Treat with 5000 ppm IBA/NAA
- Keep under intermittent mist



-Vitis mustangensis **Mustang grape**

Collection

- Collect fruit from the vines in summer through early fall
- Ripeness is indicated by a deep blue-black color and a pulpy filled out texture
- Clean the seeds

Location

- Central Texas

Storage

- Cold storage
- Viable for 26 months

Propagation

-Seeds

- Cold/moist stratification for 12 weeks

-Cuttings

- Select hardwood cuttings from the middle/basal part of the current years shoot. December – February. The cuttings should have the same diameter as a pencil and are 12-16” long.
- Softwood cuttings should be 4-6” long and taken in June. Treat with IBA



-Zanthoxylum clava-berculis **Hercules' club**

Collection

- Gather fruit throughout the summer after the fruit has turned brown and the seed is black and filled out

Location

- North Texas

Storage

- Spread seeds out to dry for a few days and then separate the seeds by gentle flailing
- Cold storage
- Will remain viable 6 months to a year

Propagation

- Warm moist stratification 30-60 days



Copyright © Robert O'Brien

Zanthoxylum fagara **Lime Prickly-ash**

Collection

- Gather fruit throughout the summer after the fruit has turned brown and the seed is black and filled out

Location

- South Texas

Storage

- Spread seeds out to dry for a few days and then separate the seeds by gentle flailing
- Cold storage
- Will remain viable 6 months to a year

Propagation

- Warm/moist stratification 30-60 days
- Aerate for cleaned seeds until imbibition occurs



Ziziphus obtusifolia **Lotebush**

Collection

- Collect fruit in the fall when they turn black
- Remove pulp off the seed

Location

- South Texas

Storage

- Storing lotebush is not recommended since it will put the seed into dormancy and yield low germination rates

Propagation

-Seeds

- Fresh depulped seeds will germinate with good success

-Cuttings

- lotebush will sprout from the root crown or, if that is removed, from the roots

