

PRUNING SHRUBS

IN THE LOW AND MID-ELEVATION DESERTS IN ARIZONA

URSULA K. SCHUCH
Extension Specialist, School of Plant Sciences

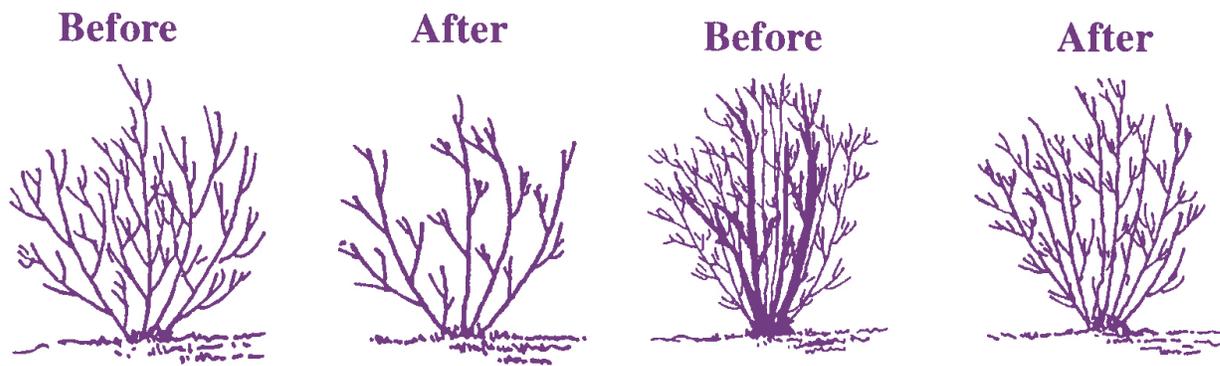


Figure 1. Selective thinning removes the branches back to the point of attachment (left) or to the base of the plant (right) and preserves the natural shape of the plant.

Pruning is the intentional removal of parts of a plant. Pruning needs of shrubs commonly planted in the low and mid-elevation deserts in Arizona vary from no pruning to regular seasonal pruning. Requirements vary by plant species, design intent, and placement in a landscape. Fast growing shrubs generally need frequent pruning from the time of establishment until maturity, while slow growing shrubs require little to none. Pruning should only be done when necessary and at the right time of year. Using the natural growth form of a shrub is a good guide for pruning. Shearing shrubs should be avoided except for maintenance of formal hedges or plant sculptures. All pruning should be done with sharp hand pruners or, for thicker stems, loppers.

Why prune?

Reasons for pruning shrubs include maintenance of plant health, controlling plant size (for preventing obstruction of a view, sidewalk, or driveway), and rejuvenating old plants. Maintaining plant health includes the removal of diseased, dying, injured and dead branches. Stems that rub against each other should be removed. Control of shrub size for visibility and safety concerns is sometimes necessary. These can be minimized by allowing sufficient space for the plant to reach its mature size in the landscape. Renovating or rejuvenating old or overgrown shrubs through pruning generally improves the structure and quality of the plant, and results in improved displays for flowering shrubs. Some shrubs are grown as formal hedges and require continuous pruning to maintain their size and shape.

How to prune?

Selective thinning refers to removing branches back to the point of attachment to another branch, or to the ground. This type of pruning opens the plant canopy, increasing light and air movement (Figure 1). Thinning cuts do not stimulate excessive new growth. They serve to maintain the natural growth habit of the shrub. When light can penetrate the canopy, entire branches can maintain leaves whereas in a dense canopy branches have leaves near the tip but are bare further back. Selective thinning is suitable for all plants and is generally the most desirable type of pruning cut.

Heading cuts remove parts of a stem or branch resulting in multiple new shoots just below the cut (Figure 2). This can create a bushy plant and is sometimes done when plants are very young to stimulate more branches. However, repeated heading is similar to shearing and eventually results in a dense canopy with branches having leaves at the tip and no leaves further back. Heading cuts should only be used for formal hedges, for rejuvenation, or when a cluster of branches is desired. Stubs left by heading cuts will usually die back, unless cut just above a bud.

No pruning or little pruning is required of some slow growing shrubs (Table 1). Such plants are ideal for low maintenance landscapes and include creosote, hop bush, Texas mountain laurel, Arizona rosewood, pomegranate, jojoba, and juniper. These shrubs should be planted where they can reach their natural size without



Figure 2. A heading cut removes part of a branch resulting in multiple new shoots below the cut (left and middle). Leaving stubs should be avoided (right) as they will usually die back.

Table 1. Shrubs for the low and mid-elevation deserts in Arizona that require little or no regular pruning. Light pruning for size control or selective thinning can be done anytime.

Latin Name	Common Name
<i>Buddleja marrubiifolia</i>	Wooly butterfly bush
<i>Dermatophyllum secundiflorum</i>	Texas mountain laurel
<i>Dodonea viscosa</i>	Hop bush
<i>Fallugia paradoxa</i>	Apache plume
<i>Juniperus chinensis</i> cultivars	Juniper
<i>Larrea tridentata</i>	Creosote
<i>Ligustrum japonicum</i>	Waxleaf privet
<i>Nandina domestica</i>	Heavenly bamboo
<i>Pittosporum tobira</i>	Japanese mock orange
<i>Rhus microphylla</i>	Little-leaf sumac
<i>Rhus ovata</i>	Sugar bush
<i>Rhus virens</i>	Evergreen sumac
<i>Ruellia peninsularis</i>	Desert ruellia
<i>Simmondsia chinensis</i>	Jojoba
<i>Thuja</i> cultivars	Arbovitae
<i>Vauquelinia californica</i>	California rosewood
<i>Xylosma congestum</i>	Xylosma



Figure 3. Rejuvenating shrubs that are overgrown starts by cutting them at 12-18 inches above the ground in late winter or early spring. By fall the shrub has grown a full new canopy.

interfering with other plants, structures, or lines of visibility. A yearly inspection can determine whether any corrective pruning is necessary, but generally these species will grow for many years with minimal maintenance.

Renovating or rejuvenating older or overly large shrubs extends their life and improves their aesthetic value. One method is to cut all stems about 12-18 inches above the ground. This is a severe measure and changes the appearance drastically (Figure 3). However, when done in spring before bud burst, a great proliferation of stems will grow just below each cut by mid-summer. At that time, about half of the stems should be removed and the remaining ones should be cut back to different heights. Varying the height and cutting just above an outward pointing bud will stimulate growth of new branches out of the canopy. This procedure works well for larger fast growing shrubs like Texas ranger, xylosma, and oleander and for slower growing shrubs like hop bush and creosote. Some shrubs such as cassias, arbovitae and junipers do not respond favorably to this treatment and might die. Rosemary is also not a candidate for this procedure. Thicker stems of older rosemary shrubs without needles should not be cut because they do not initiate new shoots behind the cut. The voids created by cutting woody stems of creeping rosemary will not be filled in by new growth. Several smaller shrubs such as brittle bush, autumn sage, and Mexican honeysuckle benefit from being cut to six inches above the ground annually. They don't require any follow-up thinning of the new growth. Cutting frost-damaged plants back close to the ground after the danger of frost has passed in spring rejuvenates lantana and red bird of paradise. A less severe approach to rejuvenating shrubs is to remove half or more of the older unproductive branches at the base of the plant or those growing into the canopy. This thins out the plant to a much greater extent than regular maintenance pruning. Follow-up care requires removing a portion of the new shoots a couple of weeks later, which might be too numerous and result in an overly dense canopy. The third method of rejuvenation spans three to four years and is less noticeable. About one third to a quarter of the oldest unproductive branches are removed each year. This method requires thinning excess branches and cutting back the remaining new branches as described before.

Shearing shrubs entails cutting back branches to a uniform surface. This should not be done other than for formal hedges or special topiaries (Table 2). Shearing shrubs uses heading cuts and leaves stubs which results in proliferation of new dense growth just behind the cut. There are several reasons why shearing is not recommended other than for formal hedges (Figure 4, 5). Shearing is labor intensive and requires repeat shearing to maintain the shape. It destroys the natural growth habit and gives shrubs an unnatural look. It is difficult to control the plant height since the new dense growth shades the inside of the canopy which can defoliate for lack of light. Subsequent cuts into the new growth will shear close to the surface, but over time the dimensions of the canopy will increase. Cutting into the older, bare wood by shearing results in a leafless shrub, limits the plants ability to produce their own food, and depletes their reserves to grow new leaves. This stresses the plant and can result in decline or death. Regular shearing of shrubs removes flower buds, flowers, and destroys their natural form.

When to prune?

The general guideline for pruning is after flowering shrubs have completed flowering (Table 3). Therefore, spring flowering shrubs like cassia or rosemary should be pruned in late spring. Summer or fall flowering shrubs like oleander, dalea, or Texas ranger should be pruned after flowering or in late winter to early spring. Spring flowering plants complete flower bud formation the previous year, therefore pruning in early spring will remove the current season's flowers. Summer and fall flowering shrubs usually generate flowers on the current season's new growth. They should be pruned either after flowering or before new growth resumes in spring. Selective pruning of a few branches can be done on most plants throughout the year. Some very vigorous growing shrubs like bougainvillea or firethorn need light pruning throughout the growing season, unless they are given ample space to grow naturally.

Frost-damaged plants such as bougainvillea and yellow trumpet flower should be cut back to living wood after all danger of frost has passed or when regrowth resumes. Red bird of paradise is generally cut back to six to ten inches above the ground. Lantana is cut back to just above the ground after frost danger has passed.



Figure 4. Oleander is not well suited for shearing (left). Repeated shearing removes flower buds and flowers, leads to loss of leaves in the canopy and a thin layer of leaves on top. Kept in its natural shape an oleander shrub will flower from spring to fall (right).



Figure 5. Repeat shearing of Texas ranger stresses the plant and results in a thin layer of leaves on the outer part of the canopy, giving the shrub a transparent appearance.



Figure 6. Japanese or waxleaf privet (left) and xylosma (right) tolerate shearing and are appropriate for formal hedges.

Hedges

Hedges are used as a screen or in place of a fence. A formal hedge is sheared into a geometric shape by cutting the sides and top. Informal hedges use shrubs in their natural growth habit and maintain the general shape through selective thinning or heading back of individual branches. Plants with small internodes (short distance between leaves) are most suited for hedges which should have

a dense canopy (Table 2). Myrtle, Japanese or waxleaf privet and xylosma tolerate frequent shearing and are good candidates for formal hedges (Figure 6). Oleander, hop bush, heavenly bamboo, pomegranate, and arbovitae cultivars are examples of plants suitable for informal hedges (Table 2, Figure 7). Keeping the mature plant size in mind is an important consideration when choosing a species for an informal hedge. Some oleander cultivars can grow as tall as 20 feet while

Table 2. List of plants suitable for formal and informal hedges in the low or mid-elevation deserts in Arizona.

Latin Name	Common Name	Informal hedges	Formal hedges
<i>Buxus microphylla japonica</i>	Japanese boxwood	+	+
<i>Ligustrum japonicum</i>	Waxleaf privet	+	+
<i>Myrtus communis</i>	Myrtle	+	+
<i>Simmondsia chinensis</i>	Jojoba	+	+
<i>Xylosma congestum</i>	Xylosma	+	+
<i>Juniperus chinensis</i> cultivars	Juniper	+	+
<i>Carissa grandiflora</i>	Natal plum	+	+
<i>Dodonea viscosa</i>	Hop bush	+	
<i>Leucophyllum frutescens</i>	Texas ranger	+	
<i>Leucophyllum laevigatum</i>	Chihuahuan sage	+	
<i>Nandina domestica</i>	Heavenly bamboo	+	
<i>Nerium oleander</i>	Oleander	+	
<i>Punica granatum</i>	Pomegranate	+	
<i>Thuja</i> cultivars	Arbovitae	+	
<i>Vauquelinia californica</i>	California rosewood	+	



Figure 7. Myrtle (top left), emu bush (top right), hop bush (middle left), jojoba (middle right), heavenly bamboo (lower left) and juniper (lower right) form informal hedges with little maintenance when given enough room to grow to their mature size. Myrtle and jojoba can also be sheared.

the petite varieties will grow only two to three feet tall.

Formal hedges are trained soon after planting. At this time they require cutting off the top third of the plant to induce more branches. The next year half of the new growth is sheared to induce more branching and a full canopy. By the third year hedges are often shaped into the desired form, however this depends on the final size and growth rate of the shrubs used. This might be earlier for low hedges or later for taller ones. The base of a hedge should be slightly wider than the top to allow light to reach the lower branches. Hedges that are kept incorrectly narrower at the bottom than the top will often lose their leaves on the lower branches (Figure 8). The top half of hedges can be rounded, peaked or flat. New shoots that grow out of a formal hedge require follow-up trimming (Figure 9). Formal hedges should be cut only a few inches at a time, otherwise leafless branches may become visible. Maintenance of established hedges usually starts after spring growth is completed. Follow up depends on the species and the level of formality desired. Old, overgrown hedges can be rejuvenated, as discussed before, provided the shrubs respond well to severe cutback. Formal hedges are time consuming to maintain compared to informal hedges, which are allowed to grow in their natural form and need very little maintenance.

Training large shrubs into small trees

Some shrubs can be trained into small trees. Shrubs that naturally grow to a larger size are suitable for this manipulation. They include Arizona rosewood, Texas olive, Texas mountain laurel, oleander, waxleaf privet, and xylosma (Figure 10, 11). This process should be initiated when shrubs are small and at this time they are trained as either a single trunk or a multi-stem tree. Multi-stem trees are best to accommodate the natural form of large shrubs. For a single trunk tree a straight central leader needs to be selected early. Training is complete when the plant reaches mature size. Regular follow-up maintenance is usually required to keep the trunks free of new adventitious shoots and the base free of suckers. Plants vary in their requirements for selective maintenance. Single stem oleanders demand very frequent removal of sucker growth from the base.

Table 3. Pruning recommendations for flowering shrubs commonly planted in the low and mid-elevation deserts in Arizona.

Blooming season	Scientific name	Common name	Pruning	
Winter to spring	<i>Eremophila maculata</i>	Emu bush	Prune lightly after flowering as needed.	
Spring	<i>Feijoa sellowiana</i>	Pineapple guava	Prune or shape in late spring.	
	<i>Encelia farinosa</i>	Brittle bush	From second year on cut back to six inches after flowering.	
	<i>Euphorbia rigida</i>	Gopher plant	Remove stems with flowers after fruit have set.	
	<i>Jasminum mesnyi</i>	Primrose jasmine	Prune lightly after flowering as needed.	
	<i>Pyracantha</i> sp.	Firethorn	Prune after flowering in spring, during the growing season as needed, and in late fall.	
	<i>Rhaphiolepis indica</i>	Indian hawthorn	Light pruning after flowering	
	<i>Rosemarinus officinalis</i>	Rosemary	Frequent light pruning as necessary. Plants grow only back from leafy shoots, not from cuts in bare wood.	
		<i>Senna artemisioides</i> <i>Senna nemophila</i> <i>Senna phyllodenia</i>	Feathery senna Green senna Silvery Senna	Little pruning required; remove seedpods after they are set, if desired.
Spring and summer	<i>Carissa grandiflora</i>	Natal plum	Remove frost damaged wood in early spring and vertical sprouts as needed.	
	<i>Dalea greggii</i>	Trailing indigo bush	Cut back by half during winter dormancy first couple of years.	
	<i>Punica granatum</i>	Pomegranate	Prune in late winter as needed to shape.	
	<i>Salvia clevelandii</i> <i>Salvia chamaedryoides</i> <i>Salvia greggii</i> <i>Salvia leucantha</i>	Chaparral sage Blue sage Autumn sage Mexican bush sage	Cut back old stems in winter or early spring. Deadhead spent flower stems. For vigorous species cut back again after flowering in summer.	
		<i>Aloysia gratissima</i>	Beebrush	Shape when dormant, otherwise light pruning as needed.
		<i>Bougainvillea</i> sp.	Bougainvillea	Prune dead wood or frost damage in early spring. Remove vigorous shoots as needed.
Spring to fall	<i>Calliandra californica</i> <i>Calliandra eriophylla</i>	Baja fairy duster Pink fairy duster	Light, natural pruning in late spring after first flowering.	
	<i>Cordia boissieri</i> <i>Cordia parvifolia</i>	Texas olive Little-leaf cordia	Light pruning as needed to shape.	
	<i>Justicia spicigera</i> <i>Justicia californica</i>	Mexican honeysuckle Chuparosa	Little pruning needed. Remove old woody stems to rejuvenate in late fall, and remove frost damage in spring.	
	<i>Lantana</i> sp.	Lantana	Cut to ground after frost danger has passed. Prune anytime to control growth, if necessary.	
	<i>Nerium oleander</i>	Oleander	Thin in spring or early summer or after bloom, remove old wood, but don't shear.	
		<i>Tecoma stans</i>	Yellow trumpet flower	Prune dead wood in early spring, otherwise light selective thinning as needed.
	Summer to fall	<i>Caesalpinia gilliesii</i> <i>Caesalpinia mexicana</i>	Desert bird of paradise Mexican bird of paradise	Major pruning in late winter or early spring; cut stems of <i>C. pulcherrima</i> six inches above ground. Light midsummer pruning to control size, if needed.
<i>Caesalpinia pulcherrima</i>		Red bird of paradise		
<i>Leucophyllum candidum</i> <i>Leucophyllum frutescens</i> <i>Leucophyllum laevigatum</i>		Violet silverleaf Texas ranger Chihuahuan sage	No pruning needed if planted in appropriate space. Selective pruning in early spring.	
<i>Thevetia peruviana</i>		Yellow oleander	Prune in early spring, remove frost damaged branches.	
Fall	<i>Dalea bicolor</i> <i>Dalea lutea</i>	Indigo bush	Prune those vigorous species by one third to half during winter dormant period.	
Fall to spring	<i>Dalea frutescens</i>	Black dalea	Prune in late winter.	



Figure 8. The top of hedges should not be wider than the bottom, which will result in defoliation (left).

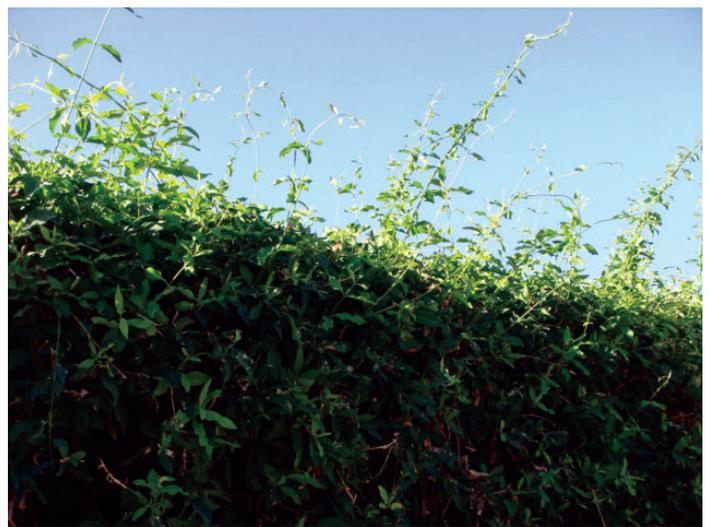


Figure 9. Branches extending the top of a formal hedge are ready to be cut when they extend up to one foot above the desired shape of the hedge.



Figure 10. Texas mountain laurel is a slow growing shrub that can be trained into a small multi-trunk tree.



Figure 11. Texas olive can be grown as a shrub or trained into a tree.

Literature

- Brenzel, K.N. 2012. *The New Sunset Western Garden Book*, 9th Ed., Time Home Entertainment Inc., New York, New York.
- Duffield, M.R. and W. Jones. 2001. *Plants for Dry Climates*. Perseus Publishing, Cambridge, MA.
- Johnson, E.A. 1997. *Pruning, Planting, and Care*. Ironwood Press, Tucson, AZ.

Acknowledgements

Photos for Figure 3 were taken by Jack Kelly.