

Pruning your trees and shrubs is a relatively simple operation, which when done properly will add beauty, productivity and overall health to your trees shrubs and perennials. Proper pruning is a simple procedure once the principles behind the process are understood.

The Art of Pruning is dictated by the growth habits of the particular plant to be pruned. The need for pruning is for the following reasons:

1. **To control a plants growth or direction:** when a branch is pruned at the end of a stem the growth on this branch stops encouraging new growth in other directions.
2. **To promote the health of the plant:** some plants produce vigorous growth for one or two years after this, hard pruning out 2-year wood helps encourage strong new growth. **Example: Forsythia.**
3. **To encourage flower and fruit production:** proper pruning will help to encourage and enlarge the production of both flowers and fruit. **Examples – fruit and nut trees, roses**
4. **To rejuvenate and repair:** older plants and those adversely affected by the weather (wind, ice & snow) can all benefit from proper pruning to regain their proper form. Overgrown plants can be thinned out and retrained with the removal of weak, crossed and broken branches. In severe cases the plant may have to be cut back to a main frame of limbs. Some plants are quite brittle and will suffer damage quite easily in the wind and weather and should be regularly thinned back each spring. **Examples - Weeping Willows and Robinias**
5. **Pruning to achieve an effect:** This involves pruning a plant to a desired shape for both beauty and functionality. **Examples - hedges, topiary, espalier, pleaching and pollarding.**

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## A few examples of Proper Pruning Tools:

Starting with the proper tools needed for the type of pruning you are doing is essential. When shopping for tools look for good quality, design, comfort and a weight that suits your needs. A good pair of shears may seem expensive but they will not only make your job easier but will last a lifetime with proper care.

### SAWS:

**Folding saws** - this is the most popular saw, having blades 7-16" long. Small saws with fine teeth (8-10 per in.) are good for roses and small shrub pruning **Larger saws**, (6 teeth per in.) will handle larger branches up to 1" in diameter.

Curved saw with rigid handle - this saw will not fold during use (no painful consequences). These blades vary from 12-16" and can handle larger cutting of limbs up to 2" in diameter.



### LOPERS (ANVILS):

Two-handed shears have long handles giving you added leverage and extra cutting power for those larger branches. The longer handles also extend your pruning reach. There are two basic design choices; the hook and blade style and the anvil style. The hook and blade style is preferred by most gardeners (anvil style are not used much anymore) and also the lever action is easier to use.



### HEDGE SHEARS:

These two-handed, long bladed shears are a must for maintaining informal hedges and shrubs. The better quality shears can be used longer without having to be sharpened. The standard blade length is 8" and handles come in several different materials so look at the different styles and find one that is comfortable for you.



### HAND SHEARS:

Again these tools come in two basic designs: the hook and blade style and the anvil style. The hook and blade we feel are best for pruning, giving an easy, smooth clean cut. The most popular varieties are FELCO and CORONA. All hand tools should have their blades sharpened with a stone and cleaned with rubbing alcohol, then lightly oiled. This is especially important when you go to store your tools for the winter.



**NOTE:** You must keep your pruning tools sharp for optimum performance, dull pruning instruments can result in frayed cuts that will be slow to heal and can lead to an increased chance of infection from fungal/bacterial pathogens. ***Just Remember: Expensive pruners which are dull are not as good as inexpensive pruners which are sharp.***

### POLE SAW AND PRUNERS:

These tools are useful in giving you extra reach for cutting those high branches (without having to get the ladder out). Most have blades that cut on the pull stroke. The poles come in wood, aluminum and fiberglass; some are extendable and lock into the desired length. Most have saws that can be attached to the pole top for those thicker branches.



# Pruning Ornamental Trees and Shrubs

## Key Principles for Effective Pruning – What You Need to Know

1. Why should I prune? – Know why you are Pruning.
2. When should I prune? – Prune at the optimal time for best results.
3. How should I prune? – Use proper tools and techniques for healthy growth.

Neglecting pruning for several years can result in weak, overgrown trees and shrubs. In such cases, significant pruning is needed to restore their structure, health, or fit within their space. Consistent pruning helps keep plants controlled and promotes vigorous growth. Make it a habit to inspect your trees and shrubs each year to see if pruning is necessary.

## Why should I prune?

While selecting the right plant for the right location minimizes the need for frequent pruning, trimming serves several key purposes:

- **Control Size & Shape** – Prevents overcrowding, maintains space for other plants, and balances root loss in newly transplanted trees.
- **Improve Plant Health** – Removes weak, overcrowded, or damaged branches, promoting a strong structure.
- **Encourage Flowers & Fruit** – Pruning spent blooms and old fruit clusters boosts next season's growth.
- **Rejuvenate Older Plants** – Helps overgrown shrubs regain a healthy, natural form.
- **Enhance Safety** – Clears branches from power lines, structures, and walkways, reducing hazards.
- **Aesthetic Shaping** – Allows for decorative pruning, such as hedges, topiaries, or espaliers.

Proper pruning supports plant health, longevity, and visual appeal in any landscape.

## When Should I Prune?

### Best Time to Prune: Key Considerations

Pruning at the right time enhances plant health, growth, and flowering. While most plants tolerate pruning year-round, timing it correctly maximizes benefits.

### Pruning by Bloom Season

- **Spring-Blooming Plants (Before Late June):** Prune immediately after flowering to preserve next season's blooms, as these plants set buds the previous year.
- **Summer-Blooming Plants (After June):** Prune in late winter or early spring before new growth begins, as they form buds in the same season they bloom.

## Pruning for Fruit Display

If you value ornamental fruit, wait until after the fruit drops or is consumed by wildlife before pruning. This applies to plants like viburnums and hawthorns.

## Encouraging Healthy Growth

- Major pruning is best just before spring regrowth for fast healing and to help new growth conceal cuts.
- Avoid late-summer pruning, as it encourages tender growth that may not harden before winter.
- Storm-damaged branches should be removed immediately.

## Pruning Coniferous Evergreens

- To maintain compact shape, prune in late spring while new growth is still soft.
- Conifers don't regrow from old wood, so avoid cutting beyond living foliage to prevent stress and pest issues.
- Broadleaf and coniferous evergreens can be pruned anytime the wood isn't frozen.

Pruning at the right time ensures healthier plants, better blooms, and stronger growth.

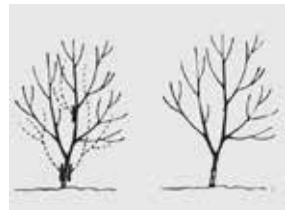
## Three Basic Pruning Techniques

**There are three relatively simple techniques basic to all pruning situations:**

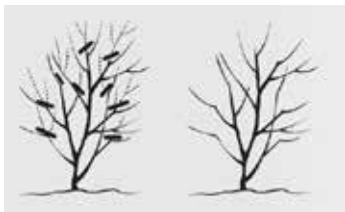
1. Pinching
2. Removal (thinning) cuts
3. Reduction cuts (heading back)



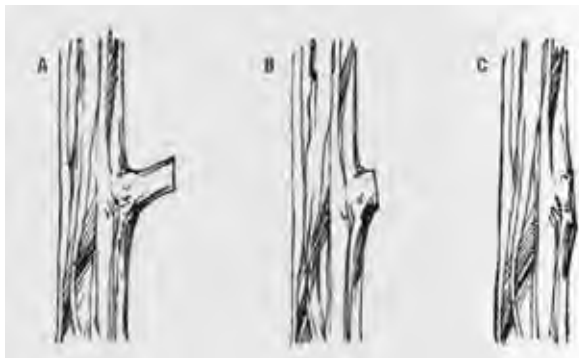
Pinching involves removing the growing tip of a stem, which is responsible for upward or outward growth. This is typically done by hand and is an effective way to control plant size. Pinching also encourages branching, influencing the plant's overall shape—unpinched plants grow taller and narrower, while pinched ones become shorter and broader.



Thinning cuts involve completely removing branches back to a main branch, trunk, or soil line. However, avoid cutting too close to the trunk; never remove the branch collar—the swollen area at the base of a limb—since this can increase the risk of infection spreading into the main plant. Instead, make thinning cuts  $\frac{1}{2}$  to 2 inches from the trunk, depending on the tree's age.



Reduction cuts (also called heading cuts) shorten branches by cutting back to a healthy bud or lateral branch. To avoid leaving a stub, make the cut about  $\frac{1}{4}$  inch above an active bud or lateral branch.

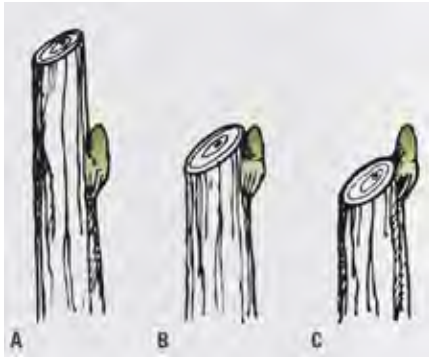


When you prune, do not cut too close to the branch collar — the area at the base of the limb adjacent to the main trunk.

(A) This cut leaves too much of a stub

(B) This is a correct cut

(C) This cut is too close to the trunk



When heading back to a bud, make your cut about 1/4 inch from the bud.

(A) Too much branch left as a stub

(B) Correct location of cut

(C) Cut too close to bud

## Procedures for Specific Trees and Shrubs



**This section describes things you should consider for specific types of plants, including:**

- Deciduous trees and shrubs
- Evergreen trees and shrubs
- Newly transplanted trees
- Large trees
- Old, overgrown shrubs
- Hedges, espaliers, and topiary

### Deciduous Trees and Shrubs

Unless you're aiming for a specific effect, such as a hedge or a formal garden, allow trees and shrubs to grow naturally. Avoid topping (also known as "rounding" or "heading" pruning), which involves cutting back large branches in mature trees, as this can be harmful.

Instead of shaping trees into perfect globes or squares, use thinning cuts to maintain their natural form. Vary branch lengths when pruning, but always cut about ¼ inch above an active bud. If a plant is overcrowded, selectively remove twigs or branches,

including some stems at ground level. Reduce new shoots by one-third to one-half of their length to encourage side shoots.

Pruning just above a bud prevents dieback and promotes new growth from that bud. However, excessive trimming—like giving the plant a “haircut”—causes dense growth at the tips, which can shade lower branches and lead to a leggy, weak structure. If a shrub becomes overly dense and weak, thin out smaller branches and twigs to encourage stronger growth in the remaining limbs. Also, remove any branches that rub against each other, as this can create wounds and increase disease risk.

You can remove dead, damaged, or diseased branches at any time of the year. Additionally, prune dead flower stems, spent blooms, and old fruit stalks as soon as flowers fade or fruit drops. This promotes healthy growth and strengthens the plant while encouraging repeat blooming in species like rhododendrons.

### Pruning Myths:

Myth: Topping Trees Prevents Damage to the Home

Topping a tree is drastically removing or cutting back large branches in a mature tree. After a tree has been topped, the shoots that grow are weaker than the original limbs. This new, weaker growth is more likely to split off and cause damage unless you remove them every few years. Also, topped trees are more susceptible to wood rots, which results in poorer tree health and a greater likelihood that limbs will break due to poor branch attachments.



## Evergreen Trees and Shrubs

Avoid shaping evergreen shrubs into artificial shapes, unless it's for a topiary. If a shrub has a soft, feathery appearance, don't trim it into a square or round shape. Instead, use thinning cuts to maintain its natural look.

Most needle-leaved evergreens won't regrow from old wood, so avoid cutting branches back too far. Trim new growth each year, and when removing larger branches, cut close to the trunk without leaving stubs. Heavy thinning is only needed every few years.

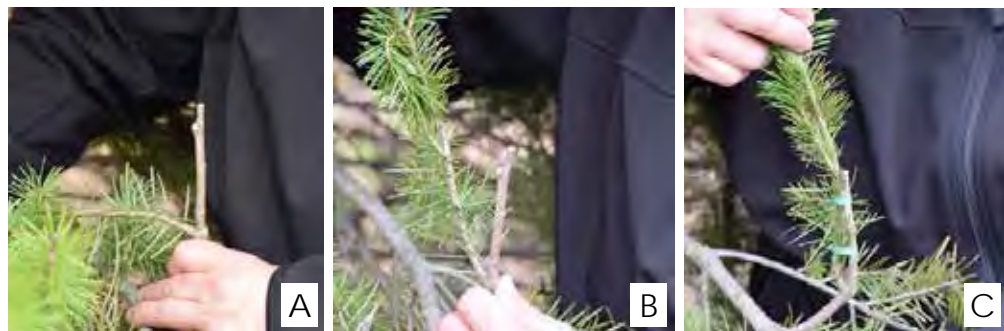
Some evergreens, like yews (\*Taxus\* spp.), have a growth spurt in early fall. Trim these long shoots to keep their shape. Broadleaf and narrow-leaf evergreen shrubs should also be pruned through thinning and heading back. Light annual pruning is best.

Rhododendrons should have their spent flowers removed right after blooming. Many evergreen shrubs, like Hollies, Pyracantha, Azaleas, and Euonymus, can handle heavy pruning, but avoid cutting them down to the ground.

For dense growth in pines, spruces, and firs, pinch back half of their new spring shoots (called “candles”) when they reach about 2 inches long. Don't use shears, as they can damage nearby needles, causing brown tips and an unattractive look. Never top a conifer

or remove its central leader.

If the top shoot of a pine or spruce is lost, the tree may grow multiple competing leaders. To correct this, choose a young side branch near the lost leader and bend it upright. Secure it to the remaining stub or a stake for support. After a season, it will take over as the new leader. Once it's established, remove the stub or stake, and the tree will grow normally again.



Replace a lost terminal leader (A) by tying a lateral branch in a vertical position (B) and securing it to the stub of the dead terminal (C). You also can secure the lateral branch with a stake.

#### Pruning Myths:

Myth: Removing a Tree Is a Crime Against Nature.

If a plant is in the wrong place, from a functional or aesthetic viewpoint, it is by definition a weed and you can remove it with a clear conscience. This is especially true if you must mutilate a tree beyond recognition to eliminate the problem it is causing.

## Pruning Newly Transplanted Trees

Pruning at the time of planting isn't just acceptable—it's encouraged! While past recommendations advised against pruning newly planted trees, recent research supports light to moderate pruning for a healthier, well-structured tree. Focus on removing dead or damaged branches while **minimizing the removal of green tissue** until the tree has fully established itself, typically after one year.

### Why Prune Early?

Early pruning helps trees heal faster, reducing the risk of disease. Since young trees have smaller branches, pruning at this stage creates smaller wounds that close more quickly. Structural pruning at an early age also prevents future issues that might require extensive correction when the tree matures. By selectively shaping the tree's structure early on, you ensure a safer, stronger, and more visually appealing tree. However, it's essential to understand the tree's natural growth habit before pruning. Some trees, such as clump-form varieties or those trained for specialized forms like pollarding or topiary, may require different approaches.

Nurseries routinely prune young trees to encourage proper structure and strength.

# Key Pruning Steps for Newly Planted Trees

## Select a Strong Central Leader

- Identify the main trunk (leader) at the top of the tree.
- If there's a competing codominant stem, remove the weaker one to promote a single, dominant trunk.
- Allowing a codominant stem to remain can lead to structural weakness and increased risk of splitting in high winds as the tree grows.

## Choose Permanent Lower Branches

- Select strong lateral branches with good radial placement around the trunk.
- These branches will remain part of the tree's structure for its lifetime, so consider sightlines, clearance, and nearby structures.
- Ensure permanent branches are no more than half the diameter of the main trunk.

## Be Patient with Small Trees

- If the tree is too young or small to establish permanent lower branches, wait until it grows taller.
- Over-pruning small trees can lead to poor trunk development and structural weakness.
- Aim for a balanced proportion of two-thirds canopy to one-third trunk to maintain a healthy tree structure.

By following these guidelines, you'll help your newly transplanted tree establish a strong foundation for long-term growth and stability.



Replace a lost terminal leader (A) by tying a lateral branch in a vertical position (B) and securing it to the stub of the dead terminal (C). You also can secure the lateral branch with a stake.

## Pruning Large Trees for Safety and Health

Proper pruning is essential for preventing injuries and property damage. Large, weak, or defective branches can pose risks to people and structures, so removing them promptly is crucial.

### Key Reasons to Prune Large Trees

- Safety: Low-hanging branches can be hazardous to pedestrians and those mowing the lawn.
- Structural Protection: Branches rubbing against your house or roof can cause damage and should be removed.

### The Tertiary Cut Method for Large Branches

For branches over 3 cm in diameter, use the tertiary cut method to prevent tearing or splintering the trunk. This

technique involves three precise cuts:

- Undercut: Make the first cut about 30 cm from the trunk, cutting one-third of the way through from the underside.
- Top Cut: Move 5 to 7 cm farther out from the first cut and saw downward from the top

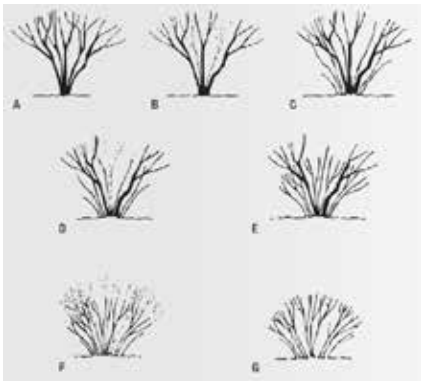
until the branch falls.

- **Final Cut:** Remove the remaining stub by cutting from the top, ensuring you do not cut into the branch collar—this helps with proper healing.

## Avoid Harmful Pruning Practices

Beware of aggressive pruning techniques marketed as “rejuvenation” for large trees. Topping—removing the entire upper portion of a tree, leaving only stubs—creates a structurally weak and misshapen tree that is likely to fail. Instead, opt for thinning, which allows wind to pass through the canopy and reduces the risk of breakage.

By following proper pruning techniques, you’ll help maintain your tree’s strength, stability, and longevity.



First year — (From left) (A) A large old shrub. (B) Remove one-third of the old branches at ground level. (C) Growth at the end of the first season.

Second year — (From left) (D) Use thinning technique to remove one-third of old branches and to cut back new growth. (E) Growth at the end of the second season.

Third year — (From left) (F) Use thinning technique to remove remaining old branches and to cut back new growth. (G) Growth at the end of the third season (rejuvenated shrub).

## Pruning Old, Overgrown Shrubs

To restore aging shrubs, use renewal pruning, which gradually removes one-third of the oldest stems each year over three seasons. Cut old, thick branches at ground level, leaving younger, more vigorous growth. In the second and third years, thin out water sprouts or suckers, trimming them at varying lengths to encourage strong, healthy branches.

For lilacs, since they bloom on wood older than three years, avoid removing all old flowering branches at once. Instead, prune gradually to ensure consistent blooming.

If a shrub needs immediate size reduction, some species can tolerate rejuvenation pruning, where the entire plant is cut back to ground level. This method stimulates fresh growth, which must be thinned—removing up to three-quarters of the new shoots, depending on the species.



Rejuvenation pruning involves cutting back the top of a shrub to the ground. Thin the new shoots as they begin to grow to prevent excessive crowding.

## Landscape plants suitable for rejuvenation pruning

SCIENTIFIC NAME	COMMON NAME
<i>Buddleia davidii</i>	butterflybush
<i>Cornus sericea</i>	Shrub Dogwood
<i>Forsythia</i> spp.	forsythia
<i>Hibiscus syriacus</i>	shrub-althea, rose of Sharon
<i>Hydrangea arborescens</i>	smooth hydrangea
<i>Hydrangea quercifolia</i>	oakleaf hydrangea
<i>Ligustrum vulgare</i>	privet
<i>Spiraea</i> spp.	spirea
<i>Syringa</i> spp.	lilac

### Pruning for Hedges, Espaliers, and Topiary Hedges

Properly shaped hedges are essential for maintaining density and function. Avoid trimming hedges with a flat top and inward-sloping sides, as this shades the lower branches, making them sparse and leggy. Instead, keep the base wider than the top to allow light penetration and ensure even growth from top to bottom.

#### Espalier

Espalier is the art of training trees or shrubs to grow flat against a structure by selectively pruning unwanted growth. Any tree or shrub can be shaped this way with consistent maintenance. When placing an espaliered plant against a house, install a support structure a few inches away to prevent wall damage and allow for easy removal.

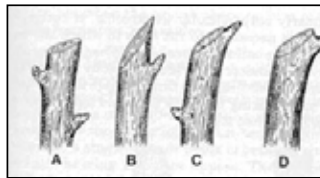
#### Topiary

Topiary involves shaping plants into decorative forms through precise, repeated shearing. This technique is commonly used on species like boxwood, juniper, firethorn, cedar, and yew. Achieving and maintaining these designs requires dedication and frequent trimming over multiple seasons.

## Pruning Fruit Trees

Why is it important to prune your fruit trees?

- It encourages fruit production
- Repairs storm damage from Winter
- To thin dense growth
- For a spiral effect or renewal



- a) Pruned too high above bud.
- b) Too long a cut - pruned too far above bud.
- c) Pruning too close to bud.
- d) Proper pruning.

### Pruning Fruit Trees: Understanding Growth

Before pruning fruit trees, it's essential to understand how they grow. Pruning redirects energy, shaping the tree by encouraging growth in specific directions.

- **Terminal Bud** – Found at the tip of a branch, it promotes lengthwise growth. Removing it encourages denser branching by redirecting energy to lateral buds.

- **Lateral Buds** – Located along the sides of branches, these can develop into new branches. Removing them focuses growth on the terminal bud. Some remain dormant under the bark and only sprout when the upper growth is pruned or damaged.

By strategically pruning, you can control the tree's structure, ensuring better fruit production and overall health.

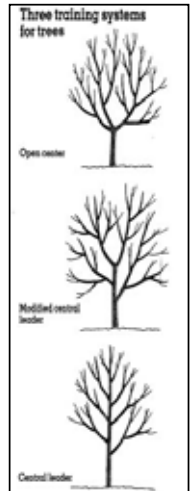
## There are four main training styles to pruning fruit trees:

**1. Open central system:** Select two strong laterals on each of the main branches to become part of the main framework of the tree. Prune back each of the main branches to the outer lateral that you want to direct the growth into. Then prune the lateral branches back to 2-3 feet if they are long enough.

**2. Modified central leader:** For this type of pruning style you must allow four to six limbs to develop on the trunk before stopping the central leader. After choosing the six branches you can then bend the leader over to one side to make it the top branch of the tree structure. Now you can continue to prune back the young branches to encourage a strong framework.

**3. Central leader:** This style of pruning produces a straight-trunked tree. As you prune back the lateral, as well as the leader make sure that the top shoot of the pruned leader grows vertical again. Prune back your main and lateral branches always keeping the lower limbs longer than the ones above it so you maintain a pyramidal-shaped tree.

**4. Espaliers:** The training of trees or shrubs to grow predominately against walls, trellis or fences. Plants trained to grow on espaliers are often trained on wires fastened to an appropriate structure.

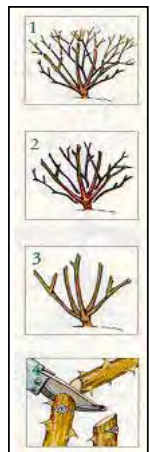


Espaliers are often used for fruit trees to save space and to increase fruit production. But it is also used to create a more interesting plant or attractive patterns for walls and fences.

## Pruning Roses

Prune to help promote vigor and to give them direction. Pruning roses gives the plants shape, style, removes old weak wood and promotes good air circulation, helping in the prevention of black spot.

**When to prune:** Prune before new growth begins in spring, after the last killing frost. Prune in fall only if plants are extremely tall to prevent damage during the winter.



**What to prune:** prune out weak or diseased canes and those canes that have been winter damaged. Winter damaged canes, which look light brown on the outside are light brown and dry inside. These branches should be cut back 1 to 2" below the base of the damaged branch. Any crossed or weak branches should also be removed.

### **How to Prune:**

- 1) Trim out twiggy top growth by about a third so you can properly see the branch structure.
- 2) Take out any dead wood, canes that cross the center of the bush and all growth found below the bud union (graft) of the rose. Any growth, which originates from below the bud union, is the rootstock of the plant. Allowing this growth to remain will cause the grafted portion of the rose to die off due to lack of nutrients leaving only the inferior flowering under stalk.
- 3) Shape the plant by removing weak growth and gradually reduce the size of the rose to about 5-10 strong healthy canes.
- 4) When pruning the individual branches cut  $\frac{1}{4}$ " above an out-facing bud. New growth will originate from this bud and will grow outward from this point thus allowing light and air movement into the center of the rose. This will result in stronger flowers and less disease problems.

### **Shrub Roses:**

Cut back a few of the oldest stems to the base, this will encourage the plant to produce vigorous new shoots in their place. Prune any overly aggressive shoots by 50% and reduce the rest of the growth by one third. Lightly trim throughout the summer to encourage re blooming.

### **Climbing Roses:**

Climbing roses usually bloom best on two-year-old wood so prune lightly on these plants. It is best to take out any spindly or new wood, any older wood that is no longer blooming at its peak and any damaged or diseased wood.

### **Tree Roses:**

Prune these back by about half each year (top growth not main trunk) to help encourage new strong growth in a compact form.

### **English Roses:**

Over the first two planting seasons trim back only light inferior twiggy growth allowing a strong basic framework to develop. After the second year prune by one half to produce a smaller shrub with larger flowers or by one third to produce a larger shrub with smaller flowers.



## Review of General Pruning Procedures

1. Start pruning while plants are young to maintain their natural form and avoid the need for corrective pruning later.
2. Know why you want to prune the plant and know your final goal before you start.
3. Time your pruning properly for aesthetic and functional reasons.
4. Immediately remove any dead, broken, injured, diseased, or insect-infested branches. When removing diseased wood, clean your tools after each cut by immersing cutting blades in rubbing alcohol or household bleach.
5. Prune out undesirable branches such as those that cross over each other, upright sprouts from the trunk (watersprouts) or roots (suckers), or those branches that are too long or too low.
6. Make proper cuts without leaving stubs, but don't cut into the collar.
7. Clean and oil metal parts of pruning tools when finished.



Arborist-friendly nursery stock with one leader to the top of the tree



Good crown architecture with most branches considerable smaller than the dominant lead on a 30 year old tree



Poor tree architecture with two codominant stems borne low on a 30 year old tree.

## NOTES FOR PRUNING

1. **Pruning cuts** should always be made on a 45 degree angle directly after an outward facing bud to avoid die back and allow for proper branching development.
2. **Flowering Plants:** Flowering plants, especially those that produce flower buds on old wood, are best pruned only after flowering, this is to avoid removing flower buds that have already been developed on the plant.
3. **Ornamental Grasses:** Perennial grasses can be cut back in either fall or early spring once when dormant. Evergreen grasses that have begun to look weathered can be pruned back hard in early spring which will cause the plant to regenerate with new growth.
4. **Raspberries:** In late winter, cut back any two year old canes to the ground, you



# COMMON PLANTS AND THEIR CORRECT PRUNING TIMES

Plant	Pruning Time
Abelia	Early Autumn to Early Spring
Akebia	Spring or Summer
Azalea	After Flowering
Bamboo	Anytime of Year
Blueberries	Late Winter/ Early Spring
Boxwood	Spring to Early Summer
Camellia	After Flowering
Cedrus (Cedars)	Spring
Cotoneaster	Winter to Early Spring
Current	Late Winter
Daphne	During Bloom
Erica (Heather)	After Flowering
Fagus (Beech)	Late Winter
Fatsia	Early Spring or Summer
Fig	Winter
Forsythia	After Flowering
Hamamelis	After Flowering
Jasmine	After Flowering
Japanese Maples	Later Summer
Lavender	After Flowering
Ligustrum (Privet)	Late Winter through Summer
Lilacs	After Flowering
Liquidambar (Sweetgum)	Late Winter or Summer
Mahonia	After Flowering
Malus (Apple or Crabapple)	Winter or After Flowering
Magnolia	Summer
Nandina (Heavenly Bamboo)	Winter or Early Spring
Picea (Spruce)	Spring
Pieris	After Flowering
Photinia	Late Winter, Early Spring
Prunus (Laurels)	Early Spring
Pyracantha	Winter After Berries Drop
Sarcococca (Sweet Box)	Anytime
Skimmia	Spring or Summer
Spiraea	Late Winter to Early Spring
Thuja (Arborvitae)	Early Summer/Early Fall
Viburnum (summer flowering)	Winter
Viburnum (spring flowering)	After Flowering

