Barnes

Way to Grow

This collection of maintenance and planting tips answers our most frequently asked questions regarding installing plants and then their care. So whether we have installed your landscape or you are doing the planting, all of us at Barnes hope this will get you off to a great start and show you the…

way to grow!

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Watering tips

Watering correctly is essential to developing a healthy, successful outdoor landscape. It is the most important factor in getting your new planting established.

While watering is not difficult, it is hard to give specific advice because of variations in soil types, grading, humidity, type of plants, weather, wind, mulch and so on. There are, however, some common sense rules that can be followed:

HOW MUCH DO I WATER?

Water the root zone completely, and then allow the soil to dry slightly. Watering too much can cut off air to the roots, growth stops and plants die. Watering too lightly or not frequently enough, the moisture will not move far enough into the soil. Roots grow where moisture, nutrients and air are available. Shallow rooted plants cannot tap deeper water reserves in droughts and heat, thus they cannot survive.

To tell if you are watering thoroughly, using a shovel or trowel, look underground, through the top 4–6 inches of soil to be sure water is moving to the root zone.

Water well, and learn how long it takes your soil type to dry slightly between waterings.

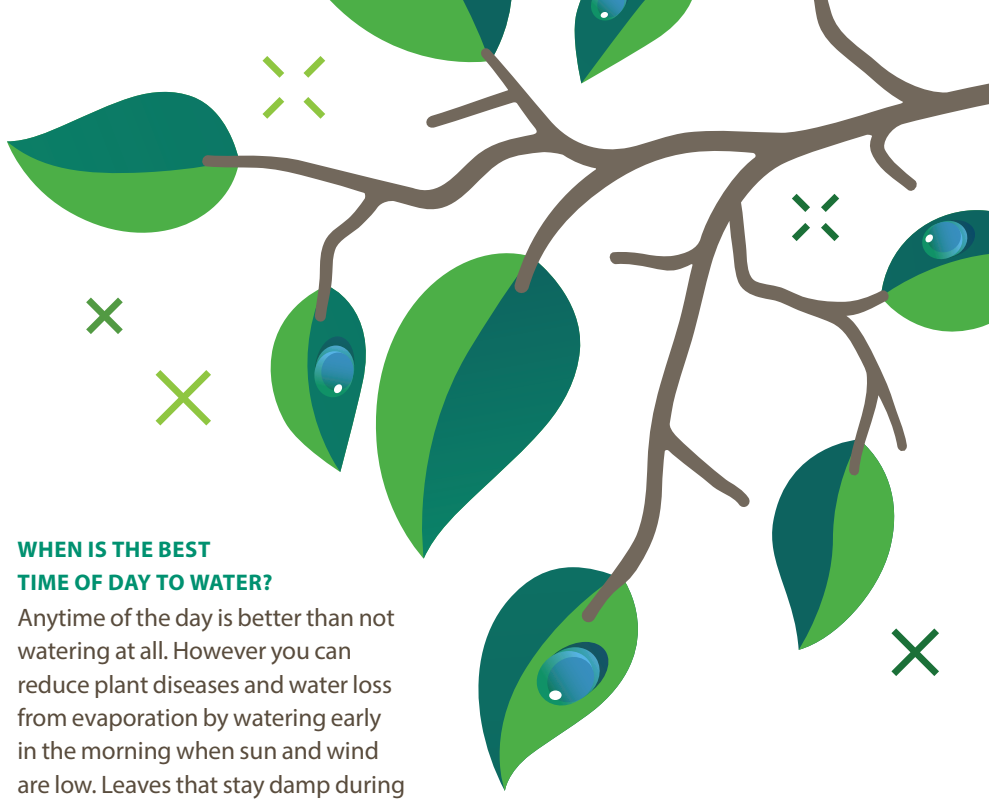
WHAT KIND OF IRRIGATION EQUIPMENT DO I NEED?

Various kinds of irrigation equipment can be used to water plants. At planting time, just a hose with slow running water may be adequate. A water breaker could be used on the end of the hose, resulting in a greater volume of water being applied without too much force, preventing excessive runoff. Sprinkler systems of many kinds are available and are particularly valuable when watering plants after they have been planted.

The main purpose of the sprinkler is to apply water slowly so less is lost and a thorough job of soaking the soil around the plants is accomplished.

For deep watering of shrubs and trees, watering wands or "root feeders" that attach to a garden hose are efficient. The water is placed around the roots so little is wasted through runoff.

Regardless of what is used for watering, the system must provide water in such a way that it soaks into the soil thoroughly from ground level to the bottom of the ball of soil or planting hole.



WHEN IS THE BEST TIME OF DAY TO WATER?

Anytime of the day is better than not watering at all. However you can reduce plant diseases and water loss from evaporation by watering early in the morning when sun and wind are low. Leaves that stay damp during the night are more apt to be attacked by fungus. By watering early, you give plants a chance to dry before night.

Other tips for watering specific soil situations

Shallow topsoil on clay: water lightly and frequently

Clay soils: water by slow soaking.

- **Water 10 minutes, soak 20 minutes**
- **Use a sprinkler that emits water slowly to prevent run-off**

Sandy loams: water in one continuous application, frequently

Slopes: treat as clay soil

WATERING CONTAINER PLANTS

Any plant in a container depends almost totally on **you** for water and nutrients necessary for growth. Potted plants should be watered daily through the hot months, sometimes twice daily depending on location, and as needed during cooler months. To ensure the moisture is even within the pot, apply water until it runs out the drainage hole.

Beware of light soils! If a plant has dried out, water can be applied and run through the soil without being absorbed. Overly dry plants may need many small applications of water in order for the water to thoroughly penetrate the soil.

Fertilizing tips

FERTILIZING YOUR ESTABLISHED LANDSCAPE PLANTS

Soils contain most of the nutrients plants need to grow and prosper, but often **you** must add soil amendments to ensure top soil performance. Good soils mean less reliance on commercial fertilizers.

Commercial fertilizers contain primarily three basic nutrients: N-P-K.

NITROGEN, PHOSPHORUS, POTASSIUM

All fertilizer labels indicate percentages of these nutrients. While percentages may vary, the order in which they appear (N-P-K) never changes. The percentage variations tell us two important facts about the fertilizer.

- **First they tell us how much nutrient is in the fertilizer.** In a ten pound bag of 5-10-10 fertilizer, 5% is nitrogen, 10% is phosphorous, 10% is potassium, or potash.
- **Secondly, the numbers give us the relative proportions of the nutrients.** Ratios of 1-2-2 (such as the 5-10-10 bag), indicate there is twice the phosphorous and potassium as nitrogen.

While plants need all the nutrients for normal, healthy growth, each nutrient stimulates different type growth. Nitrogen (N) develops leafy growth. Phosphorus (P) and Potassium (K) develop root, flower and fruiting. Plants respond to the fertilizer based on the proportional amounts.

Some fertilizers contain trace elements like iron and zinc that your soil may lack. Soil testing is the best way to determine what your soil specifically needs. Without testing, use of an all purpose fertilizer should satisfy the needs of most landscape plants.

WHEN DO I FERTILIZE?

Plants need nitrogen when they are growing most rapidly, thus the most important application should be made in the **spring**. Fertilizer is often applied to trees and shrubs in the fall when top growth slows. Root growth continues through the winter and is aided by this practice.

If we have recently installed your landscape, there is usually no need to fertilize the plants until early the following spring. Too much nitrogen fertilizer applied to a new plant may force growth which the roots cannot support in stressful heat and drought.

If you are installing plants, use a starter or low nitrogen fertilizer when planting. Do not over fertilize. Follow recommendations on your product label. Questions – Call us!

SPECIAL FERTILIZER NOTES

There is a special group of acid loving plants including rhododendron, azalea, dogwood, holly, hydrangea, magnolia, pyracantha, fern, and viburnum. Special fertilizer formulas are designed for these plants that thrive in acid soils. Application should be made as soon as growth begins in the spring (mid-March to early April). Do not fertilize just preceding bloom.

Aluminum sulfate: This is not a fertilizer, but a soil additive that makes soil more acidic, correcting alkaline soil conditions. When soils maintain the correct acid situation, acid loving plants can absorb the nutrients they need more readily. Aluminum sulfate turns pink hydrangea deep blue. Follow application directions on the label.

Iron sulfate: This is a acidifying soil conditioner that gives a deep green color to the foliage of plants. Iron sulfate corrects iron deficiencies in plants. Iron sulfate must be applied to the soil surface. Avoid contact with plant foliage and stems.

Gypsum: Gypsum is applied to soil to improve its physical condition. Generally it is used with heavy clay to loosen and break apart the soil particles. Gypsum treated soils permit greater water infiltration and are less subject to erosion. By loosening the soil structure it allows greater root penetration for subsequent plant uptake of water and air from the subsoil.

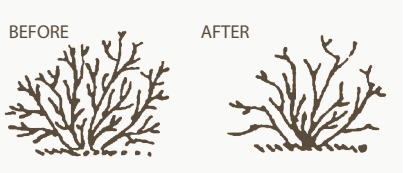
Lime: Where soils are very acid, plant growth can be dramatically improved by liming the soil. Lime is now available in pelletized forms which make the material easier to apply to the soil surface.

Pruning tips

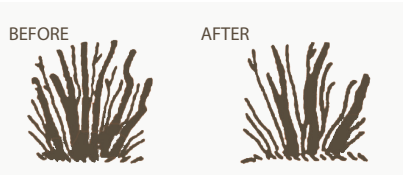
Pruning is a skill that is essential to maintaining healthy growth (and flowering) of landscape plants.

DECIDUOUS SHRUBS

There are three basic methods of pruning used on deciduous shrubs. Each method is best to achieve a specific purpose.



Thinning out: a branch or twig is cut off at its point of origin. This method of pruning results in a more open plant and does not stimulate excessive new growth. Considerable growth can be cut off without changing the plant's natural appearance. This method is best done with hand pruning shears – **not hedge shears.**Thin out the oldest and tallest stems first.



Renewal: by renewal pruning, the oldest branches are gradually removed from an overgrown shrub at the point of origin. It is best to do this over a 3 year or longer period, leaving the younger, more vigorous branches. New shoots that develop can be cut back to various lengths by the thinning method to develop into strong branches.

Headingback or shearing: refers to cutting back a branch anywhere along the length of a stem. The cut may be above a bud or below a bud. The effect of this prunning method is to concentrate vigorous, upright, new growth below the cut. If every branch or twig is headed back, more growth develops than was removed by pruning. This method is frequently done with hedge shears and without regard for the natural form or branching of the plant.

Before you start to prune know what you want to accomplish. Good pruning is the selective removal of branches without changing the plant's natural appearance or habit of growth. Prune to improve the health of the tree or shrub by cutting out dead, diseased, damaged branches. Prune to control the shrub's size and shape. The ideal time to prune most deciduous plants is during the dormant season before the start of new growth.

Flowering shrubs take special note

Flowering shrubs and ornamental flowering trees are to be pruned after flowering, prior to July 4th. Rhododendron, azalea, forsythia, lilac, dogwoods and crabapples should be pruned soon after blooming. Spring flowering shrubs and ornamentals start forming new buds shortly after the fourth of July. For best bud formation, dead blooms should be removed from rhododendron (they snap off).

PRUNING PINE, SPRUCE AND FIR

More care is needed for pruning evergreens than for other shrubs and trees. This is because these trees seldom produce new buds or shoots along existing branches or from cuts made in older wood. New growth is produced from buds already formed. Therefore, a basic rule in pruning conifers is to remove only a part of the new growth after it has formed in the spring. It should be emphasized that once pine and spruce become overgrown, it is too late to start corrective pruning.

Pine: The height and width of pines can be restricted and a more dense growth can be induced by pinching out the new soft growth and side laterals in early spring. Half to two thirds of the candle like terminal growth can be pinched by hand or cut off before needles unfold with pruning shears.

Spruce and fir: New growth in these conifers occurs only once a year from existing buds. New buds generally do not develop from cuts made on older wood. Pruning is done in the same manner as pines, keeping them dense and nicely shaped When in doubt, consult us on pruning, watering, fertilizing, seeding, and planting. We can show you how!

It should be emphasized that once pine and spruce become overgrown, it is too late to start corrective pruning.

DE-CANDLING BY BREAKING OFF

DE-CANDLING BY SELECTIVE CUTS

Tree maintenance

WATERING

Watering balled and burlapped, or container-grown trees is done essentially the same way as for other plant material. It is important to wet the soil in the planting hole as well as the ball of soil around the roots. **Remember,** when watering, water well, slowly soaking the ball and soil around it. **Do not over water!** Allow the ball to dry slightly before watering again.

FERTILIZING

Trees should be fertilized every year in the fall from October through early December, or in the Spring from February to May. Moisture conditions are usually most satisfactory at these times. (Do not fertilize when hot and dry.) Any complete fertilizer high in nitrogen is satisfactory for trees. Packaged fertilizers formulated for trees will give you the quantities to apply depending on the diameter of your tree. For large trees that appear to be in stress, call us! We can give you specific recommendations for your situation.

PRUNING

Trees planted in the landscape often need corrective pruning to prevent them from growing too high; to reduce excess shade; or to prevent branches from rubbing against vehicles, wires, buildings, or other branches. Early removal of double leaders or narrow, V-shaped crotches will reduce broken branches in storms and trunk splitting as the trees mature. Early corrective pruning for young trees is recommended to the drastic cutting of large limbs in a mature tree.

The "thinning-out" method of pruning is recommended for most trees in the landscape. The general principles in pruning are to always cut back to a lateral side branch or bud, cut back to healthy wood, and make cuts slant or parallel to a bud that can produce new growth. Prune to conform to the natural shape or branching habit of the tree. The proper pruning cut to a bud should be 1/8" to 3/8" above the bud and slanted away from the bud. This method of pruning is the least conspicuous and conforms to the tree's natural branching habit. Do not prune the central leader. Never leave short stubs when a branch or twig is cut. Stubs offer the entry for insects and wood decay organisms.

Pruning cuts do not need pruning dressing unless for cosmetic purposes. Research has shown that commonly used tree wound paints do little to prevent decay.

Lawn maintenance

NEWLY SEEDED LAWNS

Watering: Improper watering is the single largest cause of failure of newly seeded lawns. For seeds to germinate evenly, the top layer of soil must stay moist-not wet. After planting, soak the soil to a 6" depth, and continue to water as often as necessary to keep the new lawn damp until it is established. Remember, the top layer of soil must not dry out, thus more frequent watering is necessary if the weather is hot and/or windy. Use a fine spray to minimize soil movement or seed washing. Avoid standing water. The length of time for establishing your lawn depends on grass type, germination rate, growth rate, weather and other variables.

Fertilizing: Fertilize with a seed starter formula, or a general purpose formula that is not high in nitrogen. Starter fertilizer encourages root development. Too much nitrogen can burn new shoots, and force blade growth without enough root support.

Mowing: While newly seeded lawns are more delicate, soil is often softer and the roots are not as deeply rooted, mowing a young lawn helps the plants to thicken. Mow, even if the lawn is very thin, when the length of the grass plants appear to need mowing! Be sure to have mower blades sharpened regularly.

Broadleaf weed killer and pre-emergent crabgrass control: No weed treatments of any kind should be applied to newly seeded lawns unless it is recommeded as safe on the label. Broadleaf weed control may be applied after the lawn has been mowed three times and is properly established.

NEWLY SODDED LAWNS

Once sod has been laid, it must be watered thoroughly. Water should penetrate the soil underneath 6-8." Edges of the sod strips are first to dry out and last to grow into the soil. They will require spot watering. You must be sure the underlying soil is always moist. After the sod and soil begin to knit, you can start to work toward a more normal watering schedule.

Foot traffic can slow and/or damage establishment of sod. Avoid traffic on newly sodded lawns! Three to four weeks after your new sod is established you may begin a regular lawn fertilization program. **Caution:** Too much fertilizer causes fungus and thatch to develop. Begin mowing when your new sod needs it. Common sense mowing practices should be followed.

Lawn maintenance

ESTABLISHED LAWNS

Watering: Proper watering can mean the difference between a healthy lawn and a spotty, unattractive lawn. Prescribing exactly how much and how often to water is impossible due to the many variables that exist. There are, however some basic guidelines you can follow to develop a watering program for your lawn.

Water your lawn when it needs it. That is when the soil begins to dry and before the grass wilts. Grass blades roll or fold when wilted giving the lawn a dull blue-green or smoky color. Another sign of need for water is loss of resilience—the ability of a lawn to bounce back. (Do your footprints stay visible for more than a few seconds?)

Morning waterings are the most beneficial for your lawn, but water whenever it is most convenient for you. However, certain times of day offer different advantages and disadvantages.

Afternoons have several disadvantages:

1 | evaporation from wind and sun is maximum

2 | wind can disrupt sprinkler patterns causing poor coverage

3 | water pressure is lower due to higher consumer consumption in the afternoon.

However, light watering in the afternoon can serve to moisten and cool the grass blades, alleviating heat stress on the lawn. Watering in the evening or at night is not recommended as it may promote disease. Regular maintenance, however, fertilizing, aerating and mowing can do more to prevent disease than switching from evening waterings. **Early morning is the ideas time to water,** with less wind, milder temperatures and adequate water pressure. Moisture can soak in without evaporating.

In general, when you water, water well!

If you only wet the top few inches the roots do not grow deeper, and the limited root system force more frequent watering. To keep lawn roots growing, soil must be moist to a depth of 6-8 inches. To determine whether water has penetrated deeply enough use a screwdriver. If it goes into the ground 6" without much resistance, the lawn is wet enough. Apply water uniformly and no faster than the ground can absorb it. Divide watering into short timed intervals allowing for application and absorption.

Water efficient lawns **You can increase watering efficiency by alleviating two major problems: thatch and soil compaction. If either of these problems are severe, water will be repelled and wasteful runoff will occur. Regular aerating will increase water's ability to penetrate and provide air in the root zone. Topdressing lawns with 1/2" compost and watering it in will increase the water holding capacity of the soil.**

Fertillizing: Lawns require more fertilizer than landscape plants. Lawn grasses grow in an unnatural environment, crowded and competing with each other for water and food. Mowing regularly and removing clippings makes regular feedings with complete fertilizers a must for healthy, green lawns.

Complete fertilizers contain the three basic nutrients of nitrogen, phosphorous and potassium. Commercially packaged lawn fertilizers will have different percentages, but will always list these percentages in the same order: N-P-K.

Nitrogen (N): The most important nutrient that your lawn needs is nitrogen. It promotes a quick blade growth and gives lawns a healthy color. Nitrogen, because it most easily leaches through the soil, is often in short supply. Without adequate nitrogen, growth slows and the color becomes pale and yellowish. Too much nitrogen can cause fungus and thatch to develop.

Phosphorous (P): Essential for the healthy growth of lawn grasses is phosphorous. Important to the formation of strong, thick roots, phosphorous is the important element in "starter" fertilizer. Because phosphorous is not readily leached through the soil, and established lawns need small quantities, most complete lawn fertilizers contain a smaller percentage of phosphorous.

Potassium (K): Second in importance to nitrogen, potassium strengthens lawn grasses allowing them to withstand traffic and resist disease. Like nitrogen, potassium leaches through the soil by watering, but dissipates at a slower rate. Potash is the primary source of potassium in fertilizers.

Early and late spring are the most popular times for lawn fertilizer applications. High doses of nitrogen in the early spring give grasses a head start on pests, weeds and the hot summer heat. Pre-emergent crabgrass control is often added in this early treatment. In late spring a slower release complete lawn food, mixed with broadleaf weed killer is popular.

Midsummer heat and often lack of water slow down lawn growth. Fertilizing at this time should not be done if proper watering is not consistent. If fertilizer is applied, be sure the nitrogen is slow release.

The most important time to fertilize is the fall, as it promotes growth and lush green color into the colder weather. Fall feeding allows grasses to store food for quick greening when weather warms in the spring. Many fall fertilizers are balanced heavier in phosphorous to promote healthy roots.

Planting facts

Planting is one of the most important cultural practices determining the success or failure of woody ornamental plants.

To obtain the best performance from plants, attention must be given to planting practices. An investment in time and care during planting will pay its dividends later in the life of the plant.

SOIL PREPARATION

The soil to be placed in the hole around the root ball should provide the best possible conditions for new root growth. Topsoil alone is usually not sufficient! Soil should be amended with organic matter such as compost or peat moss. The rule of thumb is to make a mixture consisting of 75-80% soil removed from hole and 20-30% compost or peat moss. If the soil being planted in is heavy clay, adding sand would help with drainage. (40% clay soil, 40% sand, 20% organic matter). If your soil is very sandy, add additional organic matter to help retain moisture. Be certain that any organic soil amendment is fully composted, or stable. Be certain to mix all of the soil ingredients together well before using.

PLANTING "CONTAINER" GROWN TREES AND SHRUBS

Shrubs and trees are usually sold either potted in containers, or balled and burlapped (B&B).

Dig the hole as deep as the container, and almost two times wider than the container. Fill the hole with water and allow the hole to drain before planting. This practice prevents the dry soil around the hole from drawing moisture from the moist root area of the new plant.

At the time of planting be sure the soil in the container is moist enough to hold the root ball together. **Remove the container** whether it is metal, plastic, peat, composition, fiber or paper. This is recommended even though the container is called fiber, plantable, or biodegradable. If the roots have penetrated a peat or paper container and cannot be removed, holes should be punched in the bottom. With plantable containers, the exposed edge or lip of the container above the soil line should be removed or the container may dry out and not disintegrate.

Remove the plant from the container by turning the container upside down, hold the trunk or stem in place with one hand, and knock the side of the container against a hard surface. Roots and soil should come out in one unit. If this does not work, cut away the pot. It is better to waste the pot than break up the root ball.

If the roots are matted or encircling the root ball, gently loosen the outside ones, always being careful to keep the root ball area intact. It is often recommended to "disturb" the root zone of the container plant by cutting or breaking the ball. However, this must be done without allowing the soil to fall away from the roots.

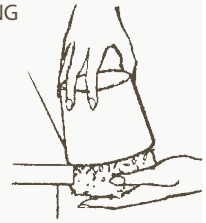
Set the root ball carefully into the hole with the soil line of the tree slightly higher than the surrounding soil to allow for settling. Rotate the plant to find the most aesthetically pleasing side showing where it will be seen most.

Add the amended soil backfill gradually and firm it gently to assure good root contact. Either throughout the process or when the hole is almost level with the soil line, water slowly but well, even if it is raining. The water will help the soil to settle and eliminate the air pockets. After the water is absorbed, finish filling and slightly mound up with more soil to cover all roots. The planting area soil level should be about an inch above the surrounding area.

ALWAYS REMOVE PLANT FROM CONTAINER

FILL HOLE AND SURROUNDING SOIL WITH WATER

KNOCK CONTAINER AGAINST HARD SURFACE



DISTURB ROOT BALL BUT DO NOT ALLOW SOIL TO FALL AWAY FROM ROOTS

HANDLE PLANT BY ROOT BALL NOT PLANT TOP

PLANTING BALLED & BURLAPPED (B&B) TREES AND SHRUBS

Planting B & B plants is similar to planting container plants. Tree and shrubs that are B & B should be planted with the burlap on the root ball.* This prevents the soil from falling away from the roots, which can be deadly to a plant during the growing season. **There is no need to remover the wire basket** if one was used on the root ball. Wire baskets are generally used on larger trees to help keep the soil around the roots. The roots will grow through the wire baskets. It is recommended to bend back the wire basket top or cut the wire loops away from the trunk. **Always cut the twine away from the trunk** to prevent girdling the tree and eventual death.

Planting step-by-step

1 | Dig a hole twice as wide and just as deep as the root ball.**

2 | Set the tree or shrub in the hole so 10% of the root ball is above the soil line. If the hole is dug too deep and must be backfilled, the plant should set higher to allow for its settling.

3 | Remove the twine or ties binding the ball, and either peel back (or remove the top) burlap until it lies below the soil surface.

4 | Begin to backfill around the ball with the amended soil mixture. Pack gently. Water the soil to allow for settling, and finish off the planting with more soil.

5 | Dig a 2"-3" doughnut basin around drip line and water again.

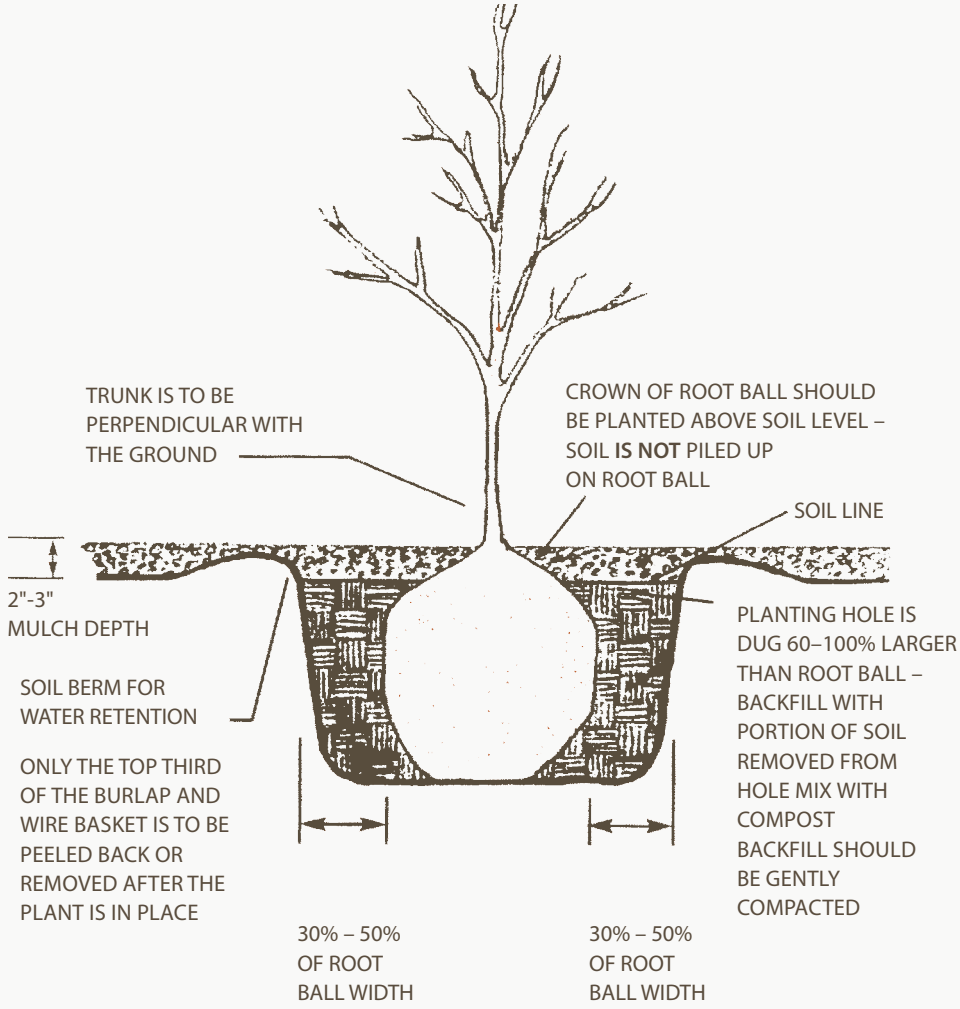
6 | Finish the planting with a 2"-3" mound of mulch. Do not mound mulch on the trunk.

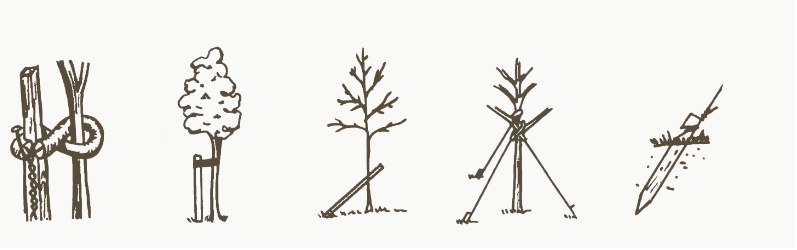
*** Occasionally nurseries might use a treated or plastic type burlap.** This type of burlap should be removed from the plant before planting. The best way to accomplish this is to remove the covering after the ball is set, and there is less danger of the soil falling away from the roots due to handling.

****Planting in heavy soils:** In some areas with heavy clay soil and poor drainage, it is recommended that plants be set higher than usual. Where hardpan clay exists at the bottom of the hole, and the clay cannot be broken, add several inches of stone and plant high. Be certain that the amended backfill has sand added. Watch the performance of these plants to be sure that they are not being affected by too much (or too little) water.

****Planting in sandy soils:** Dig the hole at least a few inches deeper and add humus so it will hold more moisture longer. Add as much as 1 part of compost/peat moss to 2 parts of original soil. Add enough of this soil mix to the hole to be able to set the plant above the original depth as grown in the nursery. If there is any question, set the plant higher, not deeper to allow for settling.

Correct planting technique for balled & burlapped and container plants





STAKING TREES

At one time nurseries required staking, but experts discovered that staking coddled the tree and stifled its natural development of strength. So if the plant seems sturdy and grows upright without staking, all the better. If staking is required, keep in mind that trees will become stronger if allowed to move in the wind. However, if there is constant high wind and the tree is over 8 feet,the plant should be staked.

THE SINGLE STAKE METHODS

Most trees up to 2 inches in diameter or with trunks not strong enough to hold the tree upright can be supported by a single 2" x 2" stake driven firmly into the ground about one foot from the trunk. Attach a single tie near the top of the stake. The tie should be made from a wire run through a piece of garden hose, elastic webbing or a plastic tie made for this purpose. Provide for flexible movement at the tying point, taking care not to cause rubbing or girdling injuries to the trunk.

Single stakes leaning toward the prevailing winds at an angle of 30 degrees to the trunk are also satisfactory. Again, the same as above, attach a single tie to the stake and attach to the tree in the figure eight method.

THE MULTI-STAKE METHOD

A staking suggestion for easier lawn maintenance is to attached guy wires to below ground anchors with detachable hooks and eyes or removable pins in permanent metal pipes flush with the soil surface. Mark guy wires with streamers to make them easy to see for safety.

Support stakes for smaller trees should be removed after one year. Always monitor staking to be certain that the trunk is not being damaged by the staking material.

Facts about perennials

Perennials are herbaceous plants that return year after year.

Perennial garden preparation begins with the soil. It must be well drained and high in organic matter (that is compost or peat moss). Perennials prefer a phosphorous soil base to help establish good root development and a high flower yield. Bone Meal is recommended at the time of planting to ensure an organic phosphorous source.

Perennials usually bloom during one period of the growing season. Thus, a careful selection is necessary to insure color in the garden throughout the year.

Perennial gardens need to be pruned and cut back with the seasons, and mulched for winter protection. Watering, fertilizing, staking and pruning are part of a regular maintenance program. Applying insecticide and fungicide should also be part of a maintenance program only when a specific problem occurs in the garden. Root division is a very important part of maintaining a perennial garden as it rejuvenates the plant as well as enables new plants to develop. This should be completed either in early spring at the onstart of new growth, or in late autumn as dormancy prevails.

There are perennials to accommodate all garden situations. When selecting perennials consider soil types, available sunlight and maintenance requirements. Some varieties are more carefree than others. There are perennials that suit most garden needs from border and groundcover to the tallest (which usually require staking). Plant them in conjunction with one another, and combine annuals to provide color during transition time.

HOW TO PLANT PERENNIALS

The soil should be well worked in specially prepared beds at least 18" deep. Humus and plant food are necessary for successful perennial flowers.

The average planting distance for perennials is 1 foot apart. Vigorous growers like peonies and mallows require as much as 3 feet. Most perennials are sold in containers and should be planted with the top of the container's soil even with the garden, or a little high to allow for some settling. In all planting, spread the roots out naturally and do not crowd. Bring the soil in contact with all roots and press firmly. Water thoroughly, but not too much!

Most winter injury to perennials is caused by alternate freezing and thawing of the soil. Mulching the ground after it is frozen will prevent injury to most perennials.

Facts about annuals

Annuals are herbaceous plants that cycle from seed to seed within the same season.

They are usually not frost hardy. Annuals are planted every year, thus their name!

Annuals provide spectacular color in the landscape spring, summer and fall. Be selective with annuals taking care to choose the correct varieties for the different light situations in the garden. For example, planting geraniums in a shady place will give disappointing results. Plants are usually labeled for preferred light conditions.

Maintenance on annuals is not as time consuming as perennials. They require water, fertilizer, and weeding early on, before the plants fill in. This will help to ensure a lush, beautiful planting.

PLANTING ANNUALS

After choosing the right variety for the light conditions, prepare the area at least 8 inches deep. Add soil conditioners like compost or peat to maximize plant performance. It is recommended that 2" of compost be applied to the planting bed, and worked in at least 6." Good drainage is essential for best growth. Standing water will rot roots quickly.

Space plants according to their final growing size. Annuals are a case where some crowding can make the best looking flower beds! Remove plants from their container and place them in holes the same depth as they were in the container. Pinch off most current flowers. This will cause the plant to put energy into the roots, getting established quicker.

Water thoroughly for the first weeks without letting the plants become dry. Then, water regularly.

Facts about herbicides

Herbicides are either "weedpreventers," that is prevent weeds from germinating in the soil, or they are "weed killers," that is kill weeds that are up and growing.

Some of the most common herbicides available to control weeds are:

Preen or Preen-like products: are granular herbicides designed to prevent weed seed germination. **They do not kill weeds. They prevent weeds.** After a seasonal bed clean up of edging, weeding, fertilizing, and pruning, it is a good idea to apply Preen before mulching the project area.

If mulch has already been applied, Preen can be put down on top of the mulch. For most effective results, water after applying Preen.

Roundup or Roundup-like products: are liquid systemics that will kill weeds, grasses and all kinds of plants to which they are applied. This type of vegetation killer must be sprayed to the foliage that is actively growing, **not applied to the soil.** It is excellent to use as a total kill (some plants may need several applications), to rid an area of vegetation prior to replanting. It can take from 7 to 14 days for total kill. Roundup and the newer liquid systemic vegetation killers are desirable because planting can take place10 days after application without harming new seeds or plantings. Always clean out sprayer and sprayer hose after using a "Plant Killer."

GroundClear or GroundClear-like products: are a total vegetation killer. It is commonly used on stone drives or paths where vegetation is always undesirable. **Caution must be taken in its use and application due to danger of run off or absorption into soil adjacent to valuable landscape plants.** It is recommended to apply any total vegetation killer with a watering can, on still days to avoid air borne drifting and maximum control in application.

Roundup and other vegetation killers should always be applied with a dedicated applicator! Never apply any fertilizer or water with an applicator that has been used for "Vegetation Killers."

Always use care using herbicides. Always follow the directions on the product label.

Facts about mulching

Mulches can be a wide variety of materials that are applied to the soil surface in planting beds usually after edging the bed, pruning and fertilizing the plants and herbiciding the area.

Mulches help prevent the sun from baking the soil surface, and the wind from drying and eroding the soil surface, allowing water to penetrate rather than run off.

Mulches can be in the form of shredded bark, bark nuggets, peat moss, compost, or even decorative stone products. In certain regions specialty mulches such as pinestraw and cocoa shell mulches are common.

When initially mulching it should be applied 2" deep around plant material and in bed areas—and then, thoroughly water in the mulch.

Watering is important so the mulch does not serve as a wick and pull moisture from the soil. Remember that while mulching is beneficial it is not a substitute for watering!

MULCHING IS IMPORTANT FOR THE FOLLOWING REASONS:

- retains soil moisture
- maintains even soil temperatures
- reduces heaving of plants—the freeze and thaw of the soil tends to push the root ball out of the ground exposing the roots to the sun causing scorch and drying
- reduces weeds
- provides a finished, professional appearance to landscapes

Please note: **Do not allow mulch to be piled around the base of trees and woody plants. Moisture from mulch can cause bark to weaken making plants susceptible to insect damage. Mulch 1" around flowers and perennials. Keep mulch from tender shoots. (Compost is a great mulch for perennials and flowerbeds!)**

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