UNITED STATES DEPARTMENT OF AGRICULTURE
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CARE OF NARROW - LEAVED EVERGREENS

The narrow-leaved evergreens or "conifers" include a large number of shrubs and trees admirably suited for different uses in the home garden, for the areas adjacent to the house and for tall screens, windbreaks, hedges, and individual specimens. Most of them are primarily plants of moist climates but some do well in the dry, windy sections of the West Central States. The most widely planted kinds are the junipers, pines, spruces, arborvitaes, firs, and yews, each of which has many species and named horticultural varieties. Specific information on the choice of sorts best suited to a given situation is usually most dependable when it is obtained from qualified local sources. State experiment stations, County agricultural agents, landscape architects, nurserymen familiar with the locality, and garden clubs, very often can supply valuable help in selecting the most suitable varieties for the climate and for definite purposes. Details on transplanting, feeding, and pruning which apply generally are briefly described here.

Transplanting - The best time for transplanting evergreens in the North and the Midwest, where drying winds occur, begins in the spring when the deciduous trees and shrubs are just starting into leaf and continues for about a month or until growth is well started on the evergreens. Another favorable period, especially where the winters are moist and less severe, is in late summer and after fall rains begin, continuing until the surface of the ground freezes at night. During these periods new root growth is likely to start within a short time and will soon supply the demands of the foliage for moisture constantly lost by transpiration. Evergreens can be moved successfully at other times also, with special care in the transplanting operation and close attention later to proper watering.

Evergreens, except very small sizes, usually are transplanted with a "ball" of soil, in which the roots are held intact, wrapped in burlap or similar fabric in order to reduce root injury to a minimum. The balls must be handled carefully to avoid cracking and loosening the contact of the roots. When the plants are received it is desirable to set them out without delay if conditions permit. If necessary, they can be held temporarily in a shady place protected from wind, the balls buried in moist earth without removing the burlap. In case the air is dry it is helpful to spray or sprinkle the tops daily until transplanting is completed.

The holes to receive the plants need to be a foot or more wider and deeper than the balls. Unless the soil taken out is very good, it is best to replace it with fertile loam for back-filling. A small mound of the fresh soil is put into the hole, on which the ball is rested and adjusted

so that the plant stands firmly at about the same depth at which it grew in the nursery. If heavy paper or other impervious material has been used for wrapping it is cut away when the ball is in place, as such material would be a barrier to the passage of both moisture and roots.

The earth is pressed in firmly while the back-filling proceeds so as to close any large air spaces. When about three-fourths filled, water is poured in and time allowed for it to percolate and to settle the fresh soil into still closer contact with that of the ball. In finishing the fill, it is advantageous to leave a shallow depression in order to facilitate future watering in case of drought.

Newly-transplanted evergreens taller than 2 or 3 feet in exposed or windy situations may need stakes or guy wires to prevent root injury caused by swaying and to hold the plants in their natural erect positions until the roots gain a strong hold. The wire to hold the trees to the supports must be buffered where it is looped around the trunks with some soft material, such as pieces of old garden hose or burlap, to prevent injury to the bark.

Moisture at the roots is essential and must be supplied by watering if rainfall is lacking, even for the more drought-tolerant species, until the plants become well established. The abundant foliage constantly gives off quantities of moisture by transpiration, which the limited root systems can scarcely supply at first unless the soil is moist at all times. In the favorable climate of the Eastern States, little artificial watering may be needed if the transplanting is done during the best periods; but where rainfall is scanty and the air is dry and windy, watering at intervals of perhaps 10 days or 2 weeks to soak the earth thoroughly is the most important cultural operation during the first season. Although an adequate supply of moisture is so important, too much water is injurious to most species. A sodden condition for any considerable length of time is to be avoided both by good drainage and by supplying water only when it is needed.

A mulch of leaves, straw or other coarse material is very beneficial in conserving soil moisture and in protecting the roots from severe freezing. It also aids in controlling weeds which would rob the plants of needed light and moisture if allowed to gain a strong foothold. The application of strong fertilizers to newly-set trees is not often necessary or desirable for normal garden soils.

Feeding - Evergreens grown in lawn and garden areas that are fertile enough for the grass and other plants require little special feeding to maintain a moderate, healthy growth. In case the plants do not thrive, other causes than lack of plant food may be responsible, such as lack of water or too much water, the result of poor drainage, deep shade, and overcrowding. Even in good soil the plants cannot easily overcome these handicaps. However, if other factors are reasonably favorable and the soil lacks fertility, more vigorous growth can be promoted by feeding.

One of the most common defects in the soil of residential areas is deficiency in organic matter, the residue from decay of plant tissues. Composted leaves and garden litter are valuable when spread over the root areas. The needles or leaves that fall from the trees themselves are beneficial if allowed to remain under the trees. Barnyard manure has long been regarded as of great benefit in feeding evergreens, applied after it has been composted or partially rotted. Sheep manure and chicken manure contain more nitrogen than that of horses or cattle and must be used more sparingly.

Chemical fertilizers may be used to advantage on poor soil when the organic materials are not available or when the presence of litter under the trees is objectionable. The three main elements in commercial fertilizers are nitrogen, phosphorus, and potassium. The amount of each element is stated numerically on the packages. Thus, a 10-8-6 formula means 10 percent nitrogen, 8 percent phosphorus, and 6 percent potassium. This formula has been used with good results for evergreens. For young, well-established trees it may be applied at the rate of 1/4 to 1/2 pound per foot of height of the trees. For the older trees, 1 to 1-1/2 pounds per inch of trunk diameter is used. At this rate a tree with a trunk diameter of 8 inches would receive 8 to 12 pounds. A standard method of application is to make holes with a 2-inch auger or a crowbar several inches in depth, spacing the holes at intervals of 18 inches to 2 feet extending from the trunk to a little beyond the spread of the branches. The proper amount of fertilizer for the tree is distributed equally into the holes and then covered with soil. Care must be taken to keep the fertilizer from direct contact with the trunk and roots.

Pruning - The need for pruning evergreens arises mainly in such types of plantings as those adjacent to entrances, foundations, and in other formal situations. In these restricted areas it is necessary to maintian the size and form of evergreens in proper relation to the surroundings in order to prolong their usefulness. The medium-sized and dwarf kinds, such as arborvitaes, junipers, false cypress, and yews, commonly used where the space is limited, will develop into more compact form and their size to be kept within the desired bounds for a long time by pruning that is restricted to cutting back the stronger twigs.

A sharp pruning knife is the best tool for this work unless a sheared effect from the use of clippers is desired. By shortening the more robust growth a few inches and selecting the tips of branches to be cut, the characteristic form of the plant can be maintained fairly well with but little evidence of cutting. This light pruning can be done at any time, but generally early summer if preferred so that new growth will soon fill any openings and new buds can form for growth the following season. It is best to do some pruning each year, beginning before the plants have reached the full size desired. By this means the cutting of large branches will not become necessary for many years.

A problem in pruning is presented when evergreens have been neglected until they become overgrown. It is difficult to bring the trees back to an attractive form and smaller size after they have been long neglected. Pruning under such conditions must naturally be very severe so that the immediate effect is to expose the inner branches which usually are partly bare of foliage. Some kinds, such as yews and arborvitaes, may start new growth on large limbs back of the cuts and in time tops of smaller size may be developed with thrifty growth. Some other kinds recover so slowly, if at all, that it is more satisfactory to replace rather than attempt to restore them.

Evergreen hedges may be grown for various effects ranging from closely trimmed to partially trimmed and informal natural forms. In shaping the outlines of a hedge that is to be clipped, it is very desirable to develop the base wider than the top, sloping the sides so that ample light will reach the lower portion. This helps to avoid the tendency to thin out at the bottom where the plants will seldom replace lost branches. Dense growth is promoted by beginning to shear while the plants are considerably lower than the ultimate height desired, allowing only a few inches of increased height each year. Usually 2 or 3 shearings a season are sufficient for this type of hedge. The work can be done without injury to the plants whenever it is needed.

Pines, spruces, and others that grow only one yearly layer of branches, eventually develop into large trees, and are not well suited to the limitation of small areas. They may, however, be kept to comparatively small size by cutting off part of each of the soft candle-like new shoots when they elongate early in the summer and before the new leaves have developed fully. These trees are at their best when planted in groves, windbreaks, or as speciment trees unhampered by their surroundings. In such situations the necessary pruning is mainly the removal of any dead or injured branches whenever they appear. Occasionally2 or more leader branches may develop in a specimen tree. The symmetry of such a tree can be enhanced by cutting off the terminal shoots of the unwanted leaders.

The persistence of the foliage on evergreens varies greatly among the different kinds. On the arborvitaes and some others with similar foliage, the innermost leaves turn brown and fall late in the summer of their second year. This natural and normal process is sometimes mistaken for an unhealthy condition, especially if the trees have grown slowly, making the brown leaves somewhat conspicuous for a few weeks. On many other kinds the leaves last to the end of the third year, and on a few, of which the yew is one, they may persist for 5 or 6 years.

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