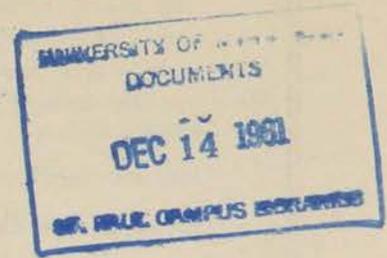


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# Lawn and Landscape Design



Extension 4-H Bulletin 60



UNIVERSITY OF MINNESOTA  
Agricultural Extension Service

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# LAWN AND LANDSCAPE DESIGN

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# Chapter 1—Lawns

An attractive, well-groomed lawn is the primary feature in the development and improvement of the home grounds. It is the base on which trees, shrubs, and flowers are planted to make the home surroundings pleasing. Attention to a few fundamental establishment and management practices will insure a beautiful, healthy lawn turf that will provide many pleasant hours of recreation and relaxation.

## Materials

### 1. For maintenance of an existing lawn:

| Essential                 | Useful  |
|---------------------------|---|
| Lawn rake                 | Small sprayer   |
| Fertilizer                | Lawn spreader   |
| Lawn mower                | Weed killers (only at the direction of parent or club leader) |
| Hose and sprinkler        |   |
| Grass shears for trimming |   |

### 2. For establishment of a new lawn:

| Essential   | Useful               |
|---|----------------------|
| Garden rake   | Lawn spreader-seeder |
| Fertilizer  | Straw mulch          |
| Grass seed  |                      |
| Soil-conditioning materials (peat, rotted sawdust, sand, etc., if needed by soil) |                      |
| Hose and sprinkler  |                      |
| Roller  |                      |



Take soil to a depth of 6" from at least 15 spots per sample.



Mix soil taken from spots in a clean bucket.



Put 1 pint of soil in the test carton. Send to a soil testing laboratory.

## LAWN MAINTENANCE

### Spring Cleanup

As soon as weather permits in spring, rake up all leaves, trash, twigs, and other debris accumulated on the turf over winter. This material, if allowed to remain on the turf, may smother some of the grass. A lawn-type rake will do a satisfactory job. Do not use a garden rake because it will pull out some plants and leave the turf open to weed invasion.

You may roll the lawn with a light roller if you desire. Rolling is not a means of leveling; its function is to press down the grass plants heaved out of the soil by freezing and thawing. If the lawn is very compacted (hard), loosen the soil mechanically with a potato fork or a commercial aerating device.

### Soil Test

Ask your county agent about the proper method of taking a soil sample for testing. (See figure 1.) A

Figure 1. Taking a soil sample.

complete soil test can be obtained from the University Soil Testing Laboratory through your county agent. The questionnaire should be filled out as fully as possible. Plan ahead to allow 1 month for the results of the soil test to reach you.

### Fertilization

A regular lawn fertilization program is necessary if you expect to maintain good turf. Normally you will need to fertilize the lawn at least two times per season, but it may be done more often, depending on the type of fertilizers you use.

Turfgrass plants need nitrogen, phosphorus, and potash. Nitrogen is necessary for growth and good turf colors, phosphorus is required for deep healthy roots, and potash is needed for many plant processes and to promote disease resistance.

Buy fertilizer on a quality basis rather than on the size of the bag. The value depends on the total amount of plant food contained in the bag and the source of material for the nitrogen-carrying portion of the fertilizer. Law requires that the total amount of plant nutrients be shown on the bag.

Consult Extension Folder 165, "The Home Lawn," for recommendations on the amounts and types of fertilizers best suited to your soil conditions.

Remember that all fertilizers, and particularly soluble nitrogen fertilizers, can burn grass if not handled properly. *Always apply fertilizers when grass leaves are completely dry*; always wait until the dew is off the grass. If possible, soak the fertilizer thoroughly into the soil immediately after application. Just before a predicted rain is a good time to apply fertilizer.

## Mowing

Proper mowing practices have a great deal of influence on the health and appearance of grass. If your lawn is composed of Kentucky or Merion bluegrass, creeping red or chewing fescue, set your mower to cut at 1½ to 2 inches. If your lawn is Alta or Kentucky 31 fescue, cut at 2 to 2½ inches. If you have bentgrass, cut at ½ to ¾ inch. Your county agent can help you identify the grasses in your lawn. Different species of grasses require different heights of cut because each has a particular growth habit. The grass leaves serve as the food-manufacturing factory for the grass plant. If you cut a particular species too short it will not have enough leaves to supply sufficient food for the plant; this will lead to weed (particularly crabgrass) invasion.

Frequency of cut is just as important as the proper height of cut. The more often you cut the lawn at the proper height, the better it will be. Never mow off more than one-fourth of the total leaf surface at one

mowing. If you do, it will be a shock to the plant from which it may never completely recover.

Keep your lawn mower sharp and properly adjusted at all times, whether it is a reel or rotary type. Dull mowers tear or shred the leaf tip rather than cut it cleanly. This leaves the lawn with a brown unsightly cast for several days following mowing. Always mow the grass when the leaves are dry; it will mow faster, cut better, and the lawn will have a better appearance after cutting. Normally, clippings may be allowed to remain on the lawn. Excessive clippings should be collected and put in the compost pile; if left on the lawn they may smother the grass and favor the development of disease organisms.

## Weed Control

Weeds invade a lawn because normal maintenance practices have been neglected or have failed. The best possible weed control is a healthy, vigorous lawn that can withstand invasion by a weed. Chemical weed control is a means of eradicating a weed immediately, but must be followed by proper management practices to insure a healthy, vigorous turf. Chemical weed control is not, in itself, a cure for any weed problem; the basic cause of that weed problem must be corrected.

If you have a weed problem and cannot identify the weeds, ask your county agent to help you identify them. (See figure 2.) After the weed has been identified, consult your county agent or extension weed control publications for specific chemical controls for that particular weed and the best time of application. Chemical weed killers should be used only under the direction of a parent or club leader.

There is no one weed control chemical that will control all lawn weeds. Some chemicals are specific for one species of weed. Translocated chemicals are

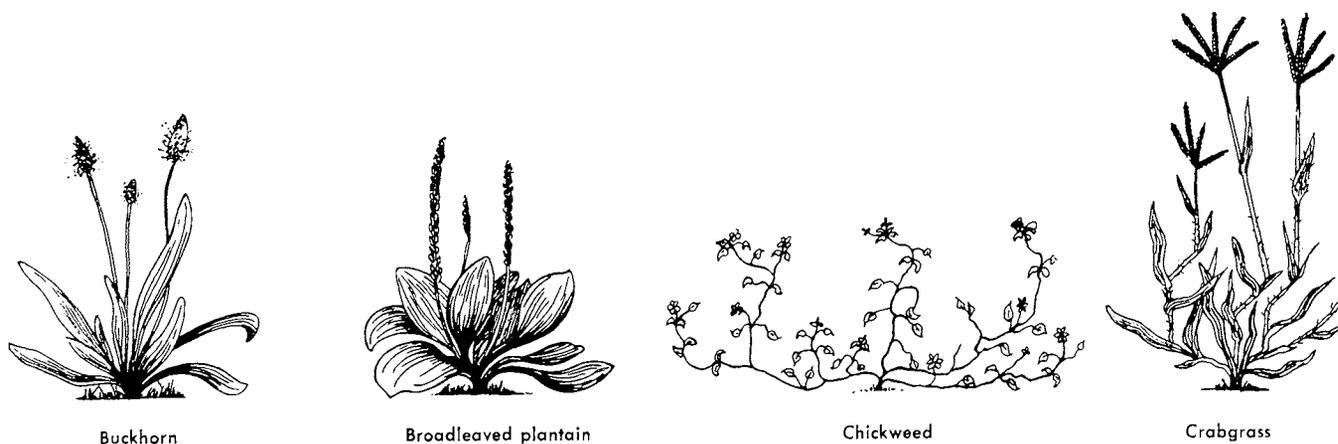


Figure 2. Common weeds.

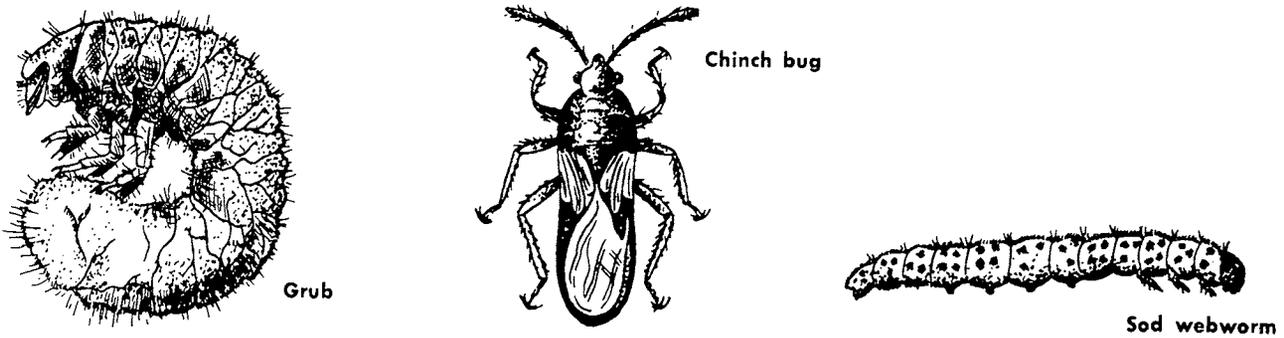


Figure 3. Insect pests that destroy your lawn.

those that are absorbed by the leaves of the plant and are transported into the roots. This type of chemical includes 2,4-D and 2,4-D derivatives. They kill broadleaf weeds, such as buckhorn, broadleaf plantain, and dandelion. They also kill or injure many species of flowers, vegetables, and ornamentals, so they must be used with caution in the vicinity of these plants.

Contact weed killers are chemicals that kill weeds by burning the leaves. They must be used in exact amounts as recommended. Used in less than recommended quantities they will not kill the weeds; used in more than recommended quantities they may kill some or all of the desirable grasses.

When any weed control chemical is used, abundant soil moisture is essential. When soils are hot and dry many chemicals will cause damage to the turf or may be quite ineffective against weeds. A rapidly growing weed is much easier to kill.

Your weed control program must be followed with proper management practices. If the turf is thin because of lack of fertilizer or lime, or as a result of improper watering and mowing practices, any weeds killed by chemicals will be replaced by other weeds. If the grass is vigorous and healthy, it will quickly spread into the voids left by the killed weeds.

### Insect Control

Examine the lawn periodically for the presence of such undesirable insects as grubs, sod webworms, and chinch bugs. (See figure 3.)

Grubs kill the turf by chewing off the roots, enabling the turf to be rolled up like a rug. These grubs do their damage in fall, spring, and early summer before they emerge from the soil as full-grown beetles. Most grubs that cause damage to turf are whitish or grayish with brownish heads and hind parts. They usually lie in the soil in a curled position.

Unlike grubs, sod webworms feed on leaves and stems. Sod webworms are the larvae of lawn moths. The adult moths fold their wings close to their bodies

and hide in the shrubbery during the day, flying only in the early evening when they scatter eggs over the lawn. The webworms work at night by building small tunnels or burrows close to the soil surface. They come to the surface, cut off grass leaves, and drag them into the burrows where they feed. Small, irregular brown spots are the first signs of webworm damage.

Adult chinch bugs are about  $\frac{1}{8}$  inch long and have black and white markings. The nymph or young bug is black with a white spot on the back between the wing pads. This form of chinch bug causes the greatest turf damage by sucking the plant juice from the leaves, causing yellowish spots to appear in the lawn.

If you find insects in your lawn, consult your county agent or club leader for identification and proper control measures.

### Watering

The first basic principle in proper watering is to water the lawn only when it is absolutely needed and to apply enough at that time to wet the soil to a depth of at least 6 inches. Frequent watering in small amounts only wets the surface soil and causes the roots of the grass to become quite shallow, since they need not penetrate deeper in search of moisture. The amount of water needed for deep wetting of a soil depends on the type of soil. Sandy soils require less water to wet the desired depth than a heavy soil, but require more frequent watering because of their low water-holding capacity.

The second basic principle in proper watering is to apply water at a rate slow enough to allow all the water to penetrate the soil. If you apply water faster than the infiltration rate of the soil, you will lose much of the water by runoff. Water is too valuable to waste.

### Renovation

The first step before starting renovation is to have someone help you determine the kinds and amount of desirable grasses present in the existing lawn. If less

than 50 percent of the plant species present are permanent desirable grasses (Kentucky or Merion bluegrass, red or chewing fescue, or tall fescue) the area should be completely reestablished rather than renovated. Follow these steps in renovation:

1. Take soil test in same manner as described earlier.
2. Eradicate weeds.
3. Loosen the soil by raking or other mechanical cultivation means (aerating, disking, etc.).
4. Apply fertilizer according to the need as shown by your soil test or by the general Minnesota recommendations.
5. Apply the proper amount and kind of seed. Your county agent will be able to give you this information. Be sure to distribute the seed evenly.
6. Rake or drag the area to work the fertilizer and seed into the soil.
7. Water the new seeding and keep moist at all times until well established.

## LAWN ESTABLISHMENT

### Grading

New lawn construction begins with proper grading. Grades should slope gently away from the house foundation. (See figure 4.) Lawns sloping toward the house often mean wet or damp basements. Steep slopes may be avoided by the use of terraces and retaining walls. Extreme slopes should be planted to some type of ground cover, such as ivy, myrtle, or packysandra, to eliminate mowing of such areas.

All stones and other debris left during construction of the house, such as lumber, plasterboard, cement, cans and other material, should be removed from the area. If the topsoil has been removed and stockpiled before home construction, the subsoil should be graded prior to replacing the topsoil to the same contour as



Figure 4. Grades should slope away from house foundation.

the finished lawn. Any filling or cutting should be done before the topsoil is replaced.

### Soil Preparation

Plow, disk, spade, or otherwise loosen the soil so it may be worked properly. Work the soil only when moisture conditions are desirable. Avoid working the soil when it is wet.

### Soil Test

Follow the same procedure for soil test as given in the lawn management section. Soil tests are helpful in lawn establishment because any needed nutrients may be worked into the soil at this time.

### Basic Fertilization

The result of your soil test will show the amounts of limestone and basic fertilizer (superphosphate or 0-20-20) you will need. In some cases other soil amendments, such as organic matter, may be recommended. These materials should be applied to the lawn areas and thoroughly worked into the soil to a 4- to 6-inch depth. It is extremely important that these materials be completely mixed throughout the soil, especially if an organic amendment is added. After these materials have been worked thoroughly into the soil, the final grade should be made by hand raking the area with a garden rake. A light rolling will show you any high or low spots that can be corrected by hand raking.

### Starter Fertilization

Just prior to seeding, a complete fertilizer should be applied to the surface according to soil test results or general state recommendations. This is followed by a light raking to work the fertilizer into the upper 1 or 2 inches of soil.

### Seeding

The first step in seeding is to select the proper species of grass for your lawn. You can get a complete list of recommended seed mixtures for sunny and shaded areas from your county agent or from extension publications. Your county agent can help you decide which mixture is best for your conditions.

When you buy your seed, check the label very carefully. It will tell you the purity and germination ability of the seed and the date of germination test.

Calculate the amount of seed needed on the basis of the recommended rate for the mixture you have

chosen. Most mixtures are seeded at a rate of 4 to 5 pounds per 1,000 square feet. Divide your seed into two equal portions. Sow one portion of your seed up and down the area and the other portion back and forth at right angles to the first seeding. The cross-sowing technique insures you of a more uniform distribution of seed whether you use a spreader or seed by hand. After seeding, rake the area very lightly in order to cover the seed with a small amount of soil. Following raking, lightly roll the area so the seed will be in close contact with the soil. This will result in improved and quicker germination.

### **Mulching**

New seedlings may benefit from mulching to protect them from wind and water erosion. Clean straw, hay, cheesecloth, or other mulching materials are satisfactory. Straw or hay mulch can be tied down by driving small stakes or pegs around the perimeter of the seeded area and lacing twine back and forth on the pegs.

The mulch prevents loss of seed from erosion, aids in keeping the soil surface moist, and maintains conditions conducive for a more uniform germination.

Normally you need not remove the mulch, since the grass will grow through it. However, if the mulch

should become quite heavy on some areas, it should be removed as soon as the seed germinates or it may smother the new seedlings.

### **Water**

To hasten germination, water the new seeding immediately after the mulch has been applied. Never allow a new seeding to dry out once it has been watered or germination has commenced by natural moisture. With a good mulch in place, you should not have to water more often than every day or two. Continue to water until the seedlings are high enough to mow; afterward, water as indicated under the management section of this publication.

### **Mowing**

Mow the new seeding just as soon as the seedlings reach a height of  $\frac{1}{4}$  to  $\frac{1}{2}$  inch more than the normal mowing height. For example, if your grass is bluegrass and is to be mowed at  $1\frac{1}{2}$  inches, allow the new seedlings to reach 2 to  $2\frac{1}{4}$  inches but no longer before mowing. It is important that the mower be sharp and properly adjusted and the ground be firm when mowing new seedlings.

# Chapter 2—Trees for the Home Grounds

Trees are the most important plants you can grow; they give shade and beauty to the land, prevent soil from washing down the slope, and give shelter to all kinds of birds and animals. The selection of a tree and the location for its planting cannot be far removed from Nature's basic requirements involving climate, moisture, and habitat.

## Why Do We Plant Trees?

Many boys and girls have climbed trees, have made houses in trees, and have had picnics beneath trees. Many outdoor 4-H Club meetings have been held beneath shade trees. We plant trees to provide protection and shelter. We plant them for their attractive leaves, flowers, or fruit throughout the seasons. Trees provide homes for our birds which in turn protect us against the insects infesting our gardens and home grounds. We also plant trees to keep the air pure and more dust-free. Man has planted forests of trees to regulate floods and prevent erosion. Trees are also planted to provide lumber for our homes, essential windbreaks, food in the form of nuts and fruit, turpentine, rubber, paper, and many other articles for which there are no substitutes. Our highways in the country and streets in the cities are planted with trees to provide shade, beauty, and windbreaks.

## Types of Trees

Trees that drop their leaves in late fall or winter are called *deciduous*. *Evergreen* trees, as the name implies, keep their leaves over winter. Both the deciduous and evergreen types grow into large as well as small trees.

## Tree Science

To be able to understand a tree properly, it is necessary to know the normal workings of the various parts. Refer to figure 5 and check these things:

**Soil**—to provide water, air, support, and plant nutrients. Soil organisms along with moisture and heat make plant nutrients available.

**Roots**—two principal types—tap roots and surface roots—are so named because of their shape and depth in the ground. At the point of attachment to the trunk, roots are relatively large and few. They divide and subdivide, becoming smaller and smaller until extremely fine rootlets are developed at some distance from the trunk. The smallest of these are the absorption rootlets, and from these come the root hairs. It is through these root hairs

that nearly all the water and nutrients are absorbed. Primary functions of a root are:

- absorption
- conduction
- storage of foods made through the leaves
- anchorage.

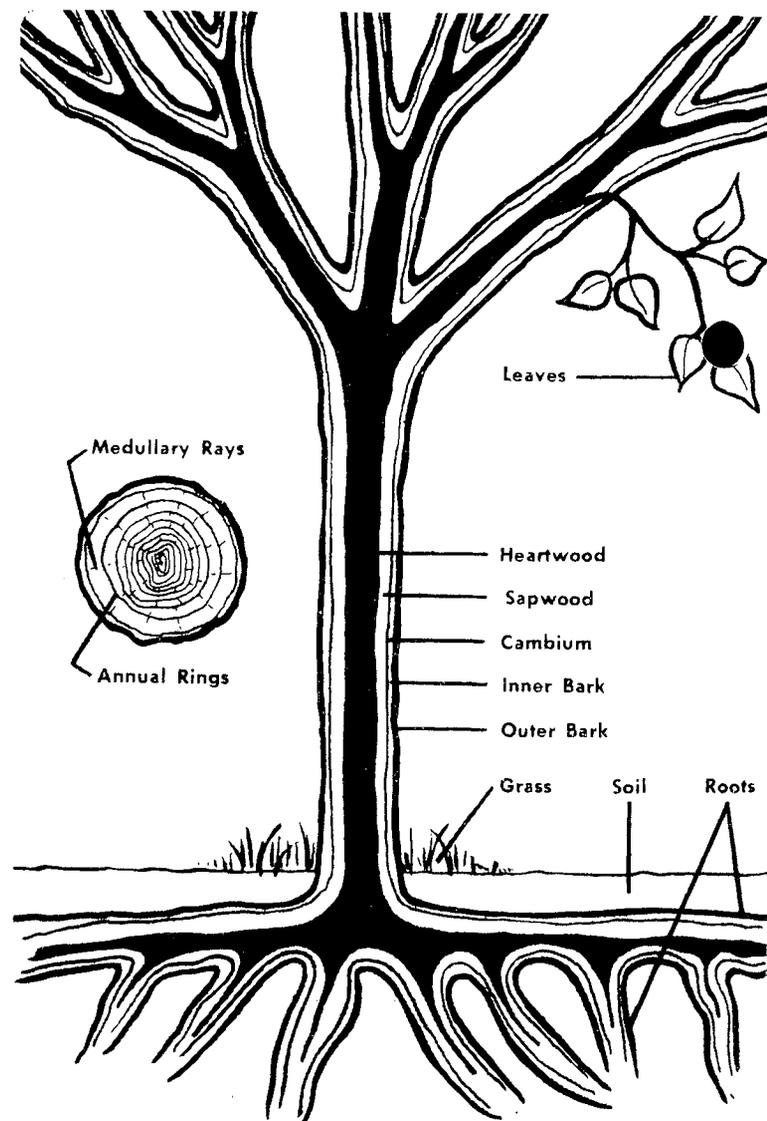


Figure 5. Cross section of tree stem.

**Stem (or trunk)** — stems and branches are constructed so they are able to withstand the strains placed upon them by wind, ice, snow, and the sun's heat. Figure 5 shows the parts of the stem. The functions of the stem are:

- structural support
- conduction of water and food (plant nutrients)
- storage of nutrient materials made in the leaves.

**Leaves**—A leaf has a thin skin covered with a waxy coating. The skin and waxy coating prevent the rapid drying out of the moist inner cells. The lower surface, and sometimes the upper as well, is perforated with thousands of openings too small to see without a microscope. These openings, or pores, are called *stomata*. Through these pores moisture evaporates from the leaves. It is this process—water moving out of the leaves—that is mainly responsible for water moving up the stem. The *stomata* are able to open and close depending on the amount of moisture in the air. Food cannot be manufactured when the plant wilts and the *stomata* are closed.

The primary function of leaves is the manufacture of plant nutrients. The first food manufactured is used to produce root growth, then to mature wood, fruit, seeds, and some is stored for future use. The process of food manufacture is known as photosynthesis. During photosynthesis carbon dioxide is taken from the air and oxygen is given off. These materials enter and leave the leaf through the *stomata*. Animals reverse the process by taking in the oxygen and returning carbon dioxide. This is one of the interesting relationships between plants and animals in which each helps contribute the elements necessary for the other's existence.

**Cross section**—The cross section cut of a tree (figure 5) shows annual rings which indicate growth. One ring is formed per year. When a tree is cut down, a person can determine quite accurately the actual age of the tree by counting the annual rings.

The medullary (pronounced "MED-ah-lary") rays conduct the food and water radially from the center outward and help store the food. (See figure 5.)

## Plan the Planting

On a sheet of graph paper make a small plan of the house and lot to scale (1 inch = 10 feet). Now study figure 6 and consider the possible placement of trees surrounding a house on a lot. The trees are placed so as to provide shade as follows: "A," 12 noon to 2 p.m.; "B," 2 to 4 p.m.; "C," 4 to 6 p.m.; and "D," 10 a.m. to 12 noon. Trees "E" are for foreground pur-

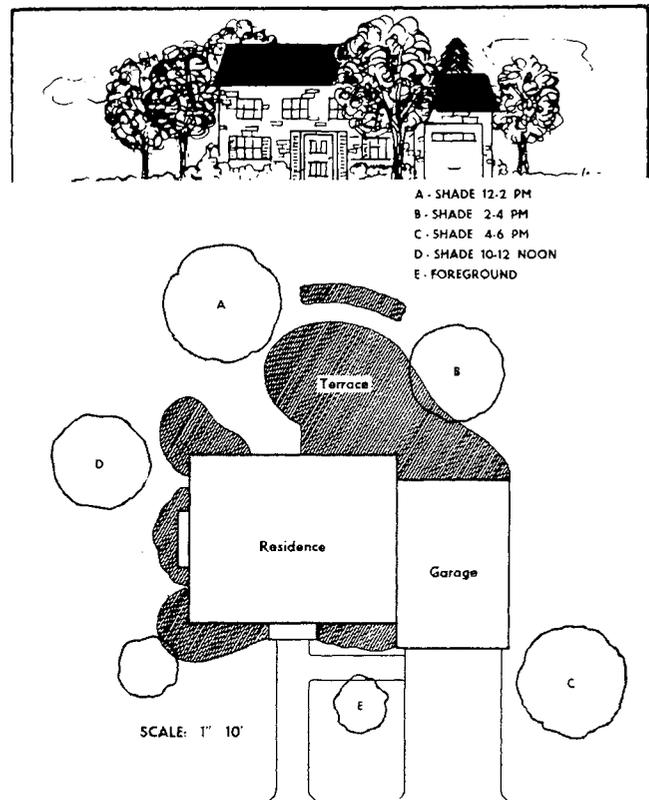


Figure 6. Sketch of grounds showing tree locations.

poses. Trees "E" can be small trees, such as flowering crabapples, hawthorne, Russian-olive or similar small trees, if the house is of a one-story or ranch-type style. If the house is two stories or taller, these trees can be larger. Trees "A," "B," "C," and "D" can be large, such as red oak, sugar maple, or the like. Choose from:

### Large Trees

(50 feet or more in height)

- |                  |                       |
|------------------|-----------------------|
| Basswood         | Thornless Honeylocust |
| Cottonwood       | Silver Maple          |
| American Elm     | Sugar Maple           |
| Common Hackberry | Kentucky Coffeetree   |

### Medium Trees

(25-50 feet in height)

- |                        |                      |
|------------------------|----------------------|
| Paper Birch            | Littleleaf Linden    |
| Cutleaf European Birch | Norway Maple         |
| Green Ash              | Schwedler Maple      |
| European Mountain Ash  | Red Maple            |
| Showy Mountain Ash     | Bolleana Poplar      |
| Ohio Buckeye           | Lombardy Poplar      |
| Northern Catalpa       | Niobe Weeping Willow |
| Ginkgo                 |                      |

### Small Trees

(Under 25 feet)

- |                             |                        |
|-----------------------------|------------------------|
| Amur Maple                  | Pagoda Dogwood         |
| American Mountain Ash       | White-flowered flower- |
| Bechtel Flowering Crabapple | ing Crabapple —        |

|  |  |
|--|--|
| Rosybloom Flowering Crab-apples — Hopa, Red Silver, Sundog, Almey, Radiant, Vanguard | Dolgo, Flame Hawthorns Japanese Tree Lilac Russian Olive |
|--|--|

### Evergreen Trees

|               |                            |
|---------------|----------------------------|
| White Pine    | Spruce — Norway, Colorado, |
| Red Pine      | Colorado Blue              |
| Austrian Pine |                            |

For description of scientific name, site preference, and hardiness ratings see Extension Bulletin No. 267, "Woody Plants for Minnesota."

### Tree Planting

Now look at figure 7. Here you will note the ways in which a tree can be planted. With your parents cooperating, you can decide upon desirable trees to use either in your lawn for shade or to the rear of the house to provide background effect. Consult list of recommended trees, page 9, for tree selection. A tree, like a shrub, evergreen, or other type of plant material, should be bought locally from a reputable nurseryman.

Young trees, in many instances, may be planted with bare roots. Deciduous trees larger than 2 inches in diameter and all evergreen trees should be dug with a large, undisturbed, ball of earth around the roots. Before you purchase a tree from your nurseryman, you should know where it is to be planted. (See

figure 6 for a sketch.) Small-growing trees may be planted 15 to 20 feet from the house foundation, while the larger-growing trees should be placed at a greater distance (figure 6). Do not place the tree in a direct line with the outlet from a septic tank or sewer line, or where it will interfere with overhead wires.

Nursery-grown trees are better than trees collected from fence rows, edges of woods, or the like. Trees grown in nurseries are root-pruned to create a heavy root growth with many hair roots in a small area close to the trunk.

Dig the hole in which the tree is to be planted at least half again as wide as the extended root system of the tree and twice as deep. If the soil is poor, remove it and bring in good soil. Use well-decomposed hardwood sawdust mixed in the proportion of 1 bushel of sawdust to 3 bushels of good loamy garden soil. Set the tree slightly deeper than it stood in the nursery row, on top of well-tamped soil, then fill in around the roots with the soil mixture. If you cannot get sawdust, use commercial peat moss thoroughly soaked with water, or well-rotted stable manure or leaf mold from the woods, or peat humus, and mix with soil in the same proportions as recommended for sawdust.

Place the soil mixture around the roots to within 2 inches of the top of the excavation. Firm the soil with a tamp or by tramping with your feet around the outer edge of the root system. After this is done, thoroughly flood the hole to the top with water and wait until it has disappeared before adding more soil. When this operation is completed, fill in to the level of the ground area and make a saucer-shaped ridge around the outer edge of the planting area.

### Watering

The saucer will hold water when the tree is watered every 1 to 2 weeks. When watering the tree, soak the ground deeply and thoroughly. A small tree needs about four buckets of water. A larger tree requires more water, especially during the dry period from June to September.

### Staking and Wrapping

Wrap smooth bark trees to the lowest remaining branches with tree tape or a strip of 3- to 4-inch burlap. If the tree is tall, the branches should be thinned out in a manner indicated in figure 7, and it may have to be braced. This can be done by using three pieces of baling wire, each at least 6 feet long, and three pieces of discarded rubber hose each about 12 inches long. Insert each wire through a piece of rubber hose and place it about one-third the distance toward the top of the tree around the trunk. The rub-

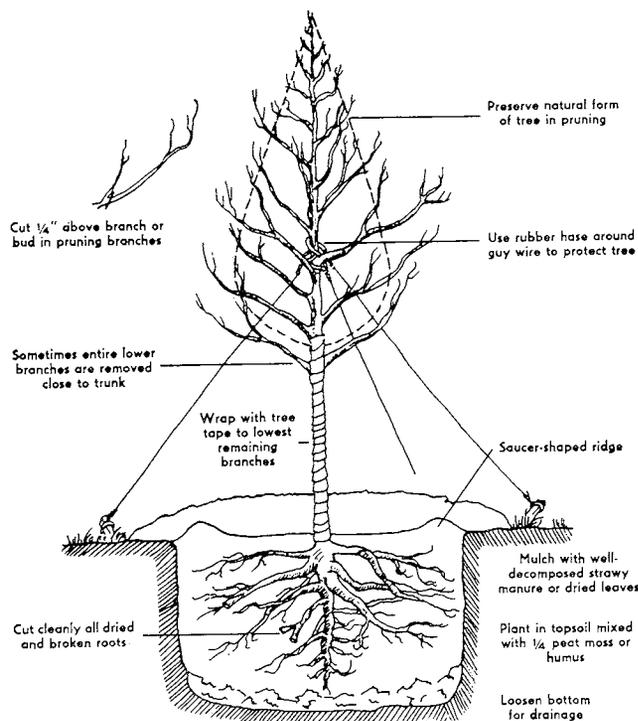


Figure 7. Guide to tree planting.

ber hose is to protect the bark of the trees from becoming cut or bruised by movement due to wind. After each wire has been placed through a rubber hose, stretch it outward to a stake 18 to 24 inches long, driven in the ground to divide the circumference of the circle in three equal parts as shown in figure 7. This wire can remain in place for a year or longer.

## Mulching

After the tree has been wrapped with tree tape and braced, place a 2-inch layer of thoroughly soaked peat moss or well-decomposed sawdust around the planted area but at least 1 inch from the trunk of the tree. Keep this mulch moist at all times so that it will not blow away in high winds or become inflammable.

## Pruning

The pruning of trees and the subsequent treatment of wounds are probably the most important of all tree maintenance practices. Proper and systematic pruning helps trees withstand adverse environmental conditions and reduces the amount of fertilizer and spray materials needed to keep them healthy. Trees are pruned primarily to preserve their health and appearance and to prevent damage to life and property.

### Pruning for health:

1. Broken, dead, or diseased branches are removed.
2. Live branches are removed to permit more sunlight and circulation of air through the top, or to compensate for loss of roots.
3. Rubbing branches are removed to prevent scarred areas and a source of infection.

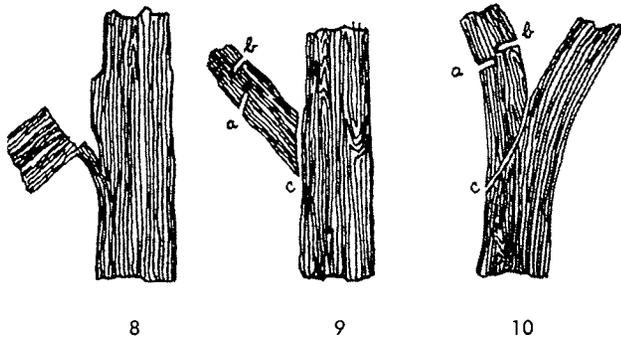
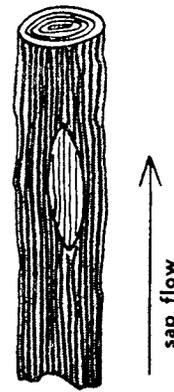


Figure 8. The wrong way to prune a branch. A single cut close to the main stem may result in tearing of the bark.

Figure 9. The correct way — an undercut is first made at "a", and the second cut at "b" which removes the limb, leaving a slight stub. The third cut at "c" removes the stub, leaving a flush cut with live tissue surrounding it.

Figure 10. Removal of limb of a V-shaped crotch is done with three cuts again, "a" first, then "b," followed by the final cut at "c."



The wound, or cut, is pointed at top and bottom to allow sap to be in contact with sides and form new bark to grow over the cut area.

Figure 11.

4. Stubs are removed to promote proper healing.
5. Tops are sometimes cut back to revitalize the remaining parts of a tree.

### Pruning for appearance:

1. Characteristic form may be restored to a badly misshapen tree.
2. Limbs growing too fast in relation to the rest of the tree may be removed.
3. On small home grounds it may be necessary to prune trees to keep them within a certain area; pruning has a dwarfing effect.

### Pruning for safety:

Dead, split, and broken branches — a constant hazard to life and property — may be removed. Streets, driveways, walks, and buildings may be made safe from falling limbs; low-hanging branches offering hazards to passers-by may be removed.

### How to prune:

There is no single method of pruning, but certain standard procedures and precautions are generally followed to insure best results. (See figures 8, 9, and 10.)

1. Make cuts clean and as nearly flush as possible.
2. Cut dead branches back to a healthy crotch so that live tissue surrounds the final cut.
3. Paint all wounds, cuts, etc., in live wood over 1 inch in diameter with a suitable tree paint. Any commercial material labeled "tree paint" or "tree wound dressing" will do. This will help to prevent insects and decay organisms from entering the sapwood and heartwood.
4. Shape all wounds so that the sides of the cuts are parallel to the flow of sap. Remember, sap runs lengthwise in the limbs and stems. Shape these cuts so that there is no abrupt cut across the conducting sapwood to stop the flow. (See figure 11.)

# Chapter 3—The Landscape Plan

If you want to turn your home yard into a garden of beauty, you will be concerned with three basic factors: (1) neatness, (2) function, and (3) beauty.

## Neatness

A neat yard with nothing more than a fine lawn and some properly placed trees is more attractive than an untidy yard overplanted with shrubs and trees.

## Function

A “functional” landscape plan or design will serve your family’s needs. Hold a family conference before the plan is drawn so all the likes and dislikes of your family can be jotted down for consideration.

To make clear what is meant by a “functional” design, let us use the comparison method. If our homes were designed *strictly* for functional purposes, we would have very uninteresting buildings, to say the least.

For example, areas such as walls, floors, roofs, and steps would be plain. There would be very little color and no curtains, carpeting, or other decorative items.

## Beauty

A functional garden design will show the bare essentials arranged to fulfill the family’s basic needs. Then, by wise use of shrubs, trees, flowers, ground covers, walks, benches, and other items, the garden becomes beautiful as well as functional.

There is practically no limit to what you can do with plants and garden features to attain a restful landscape. If your garden does not give you the urge to relax and rest, it is nothing more than a gaudy display of individual plants.

The beauty of a garden is much like a gorgeous sunset; it is ever-changing. This is why working with living plants is a constant source of pleasure. Fortunately, our gardens last longer than the sunsets.

## THE LANDSCAPE PLAN

If you tackle your home grounds landscape job in a well-organized way, the actual drawing of the plan will be relatively simple and easy. To do the job properly, you must make a landscape plan.

### Draw The Plot Plan

**Materials You Need:** tape measure (or a 6- or 10-foot rule), “pin” (any sharp pointed instrument,

such as a screwdriver, ice pick, or nail), tracing paper (preferably cross section paper of 10 squares to the inch), sharp pencil, eraser, drawing compass, and ruler.

### Plans Cost Little

Fortunately, the cost of making your own landscape plan is practically nothing. You *could* do it on a piece of scratch paper and say it didn’t cost you a cent. It would be better, however, to spend a few cents and draw the plan on 10 x 10 cross section tracing paper. You will find a plan sheet in the back of this bulletin. You’ll be wise to use an extra sheet for the rough copy of your plans; professionals do not put their final work on the first sheet of paper.

The easiest way to keep your field notes is to place them directly on 10 x 10 cross section tracing paper. On this paper you draw the house foundation along with all important permanent objects, such as steps, walks, drives, walls, and large trees. Each square on your paper will equal 1 square foot of your property. If this scale is too large, make each square equal 2 or 3 square feet. On your plan indicate how many square feet each small square equals.

### Locating Points by the “Triangulation” Method

Sometimes certain points (mostly trees) on your property are more easily plotted in this manner. (See figure 12.) Measure the distances of lines A and B from two corners of the house or any other known straight line. Then, when locating this point on the

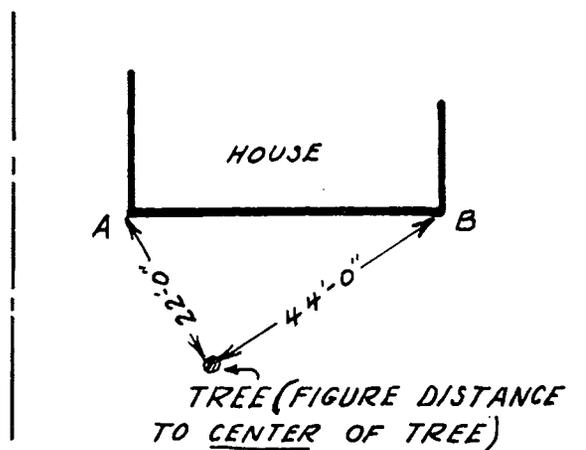


Figure 12. Locating points by the triangulation method.

scale drawing, simply locate the exact spot on the paper where these two distances cross.

When plotting existing trees it is wise to locate the “drip line” of the tree. This is the *spread* of the branching system of the tree. You’ll be surprised to find this is not always a perfect circle.

### **Plot Roof Overhangs**

If the overhang of your roof is more than 24 inches, show it on your plan as a dotted line. This is to remind you to place any landscape plants at least 9 inches beyond this line. If you don’t, the plants may suffer from lack of rain.

Your leader will help you with practical field exercises which will teach you how to make plot plans.

Include on your plan a *north* directional arrow; it is needed to tell you at a glance where areas of shade will be. (Some plants do better in shade than others.)

When your *plot* plan is completed, you will be ready to start a most pleasant and satisfying job — that of designing your own *landscape* plan.

## **Now Draw The Landscape Plan**

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**Note:** Please remember this one very important thing. *Even if you know you can’t afford to do all of the actual landscape planting, DESIGN THE ENTIRE PROPERTY ANYWAY!* (See chapter 4 for service and private areas.)

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Once the rough plan is complete to the relative satisfaction of everyone, trace the entire plan on a clean sheet of paper. This will give you a plan that is free of erasures and smudge marks. It can then be filed away to be used when time or money or both are available to do at least a portion of it. In this manner every minute and every penny will be wisely spent toward the completed garden. (When we speak of the “garden,” we mean your entire landscaped property.) There will be no waste. And in the meantime, you will find yourself enjoying the personal pleasure of dreaming of the completed garden according to your own plans!

# Chapter 4—Front Lawn Area

A completely landscaped home property is nothing more than an extension of the house to the outdoors. What you really try to do is to add three distinct outside “rooms” to your house. These three rooms are commonly referred to as the public or front lawn area, the service area, and the private area. The service and private areas will be handled in chapter 5 of this project. In this chapter we will interest ourselves only with the front lawn area.

The public or front lawn area, generally speaking, is that area that many persons call the “front yard.” (See figure 13.) The front lawn area is often called the public area because it is visible to the public. The first phase of the landscape plan is to divide the property into three areas: front lawn (public), service, and private. It is relatively simple to locate the public area.

By drawing a dotted line through the house from one side of the property to the other, we immediately designate the public area. This line is only a guideline; you may move it toward the rear of the house or bring it more to the front as you may see fit in the later planning stages.

Try to keep in mind as you draw the three areas on your landscape plan that they are much like the rooms in your house. Each room in your house serves a specific purpose. The three areas in your complete landscape plan will also serve separate and distinct purposes.

## Employ These Three Landscape Principles

Within the public area there are three basic landscape principles: (1) frame the house with trees, (2)

soften the lines of the house with plants properly selected and placed, and (3) maintain an open lawn area.

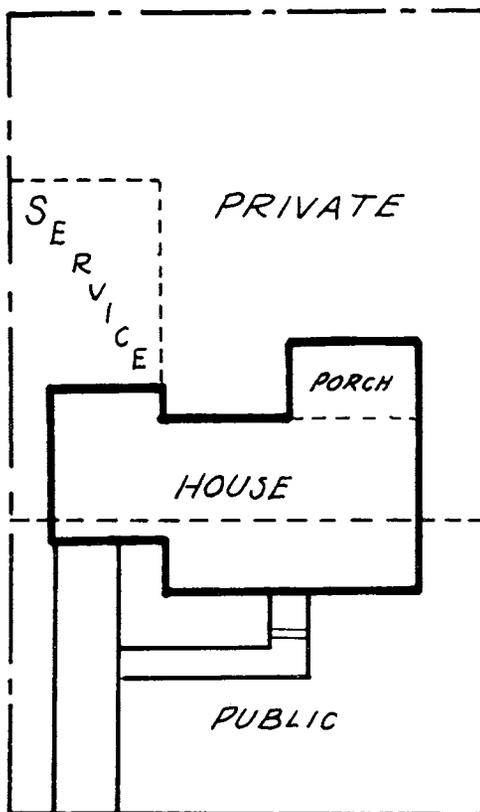


Figure 13. First phase of the landscape plan.

## Let The Oval Help You

Figure 14 shows an oval superimposed on the public area. Note that the oval does not touch the property line or the house. This oval mainly dictates where the major expanse of grass in the public area will be. Any plantings at the base of the home, or down each side of the property, or in some unusual circumstances across the front of the property, will usually be outside of this oval. If you constantly work

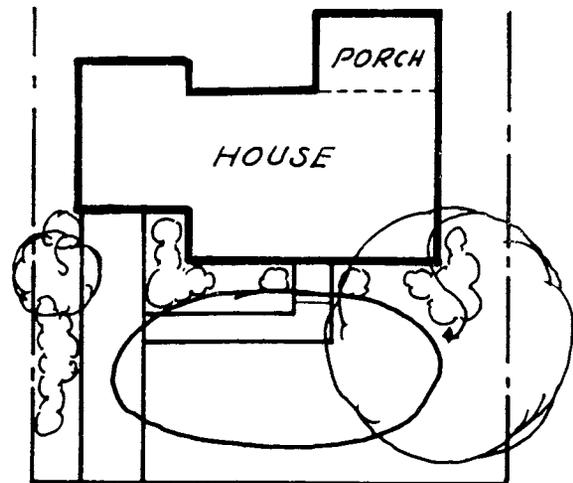


Figure 14. An oval superimposed on the public area.

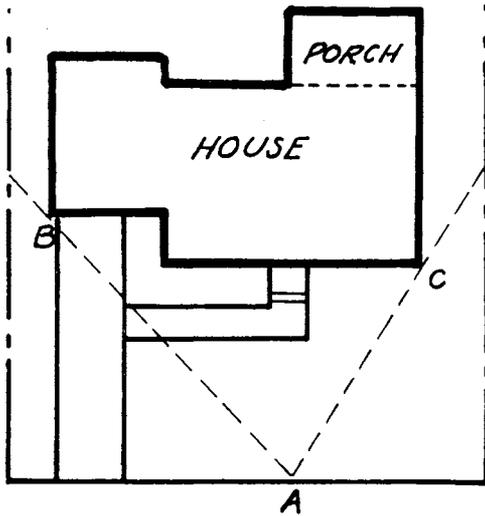


Figure 15. Selecting a focal point. Trees will go along dotted lines.

with this oval in mind, any additional plantings or the use of fences, walls, and hedges will be properly located.

It is not advisable to run a planting of any sort — and this also goes for fences — down both sides of the property all the way to the sidewalk or the street. This is especially true if you live in a residential section where one property joins the next. *Psychologically this appears to be an unfriendly act.* From a functional standpoint, it cuts down the movement of air during hot summer months when any breeze is welcomed. From the pure beauty angle, it tends to block the view of the home. We like to think of the side plantings being just long enough to help the observer's attention to move from either side of the property back toward the house and then eventually to the front door. If the plantings are kept along this oval,

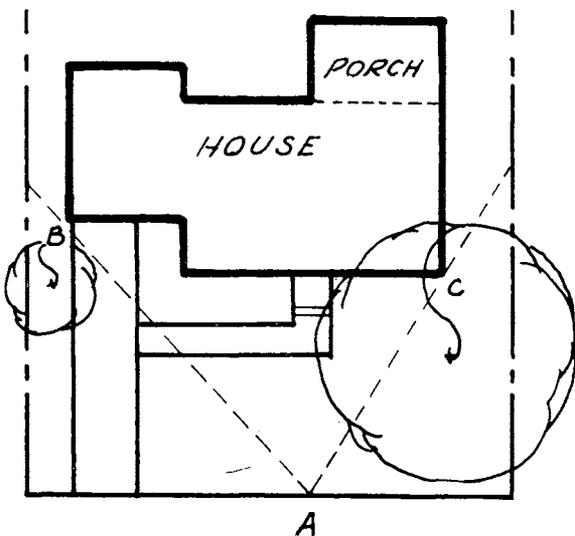


Figure 16. Trees sketched into plan.



Figure 17. House as it will appear when trees reach maturity.

this subconscious leading of the observer's mind to the house will be sure to take place.

First, decide from which point on your property you would like your house to look its best. In figure 15 we have selected a point just opposite the front door. It may be on the sidewalk or even in the street if there are no sidewalks in front of your house. Now sketch in on your plan (very lightly) two lines, each starting from point A and going to the outside front corners of your house. These lines are your guides to the general location of any trees that will be placed on your plan to perform the "framing" job. Any trees used will be placed somewhere near or right on these lines. They will almost never go on the inside of the angle formed by these lines. (This will keep the view open to your house.)

Study figure 16; then look at figure 17, which shows how the public area will look when the trees shown in figure 16 grow to maturity.

Many times more than two trees are needed to frame a home. This is true where the property is large and the house is set far away from the street or lane.

This condition is most often found in rural areas. (See figure 18.)

The smaller the house, the smaller the trees you may use. You might also use one large-growing tree on one side and a cluster of small-growing trees on the opposite side. This gives a very natural but balanced effect known as *asymmetrical* or *occult balance*.

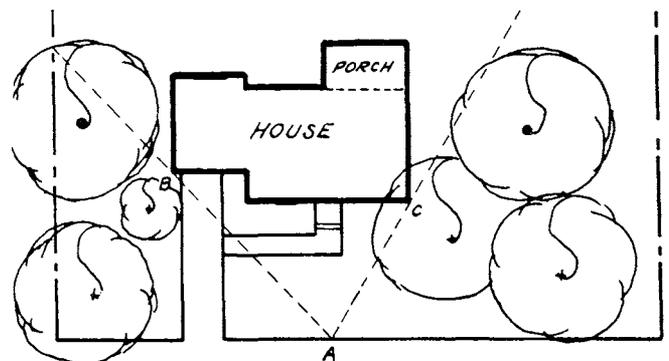


Figure 18. More trees are needed on large lots or when a house is set well away from the street or lane.

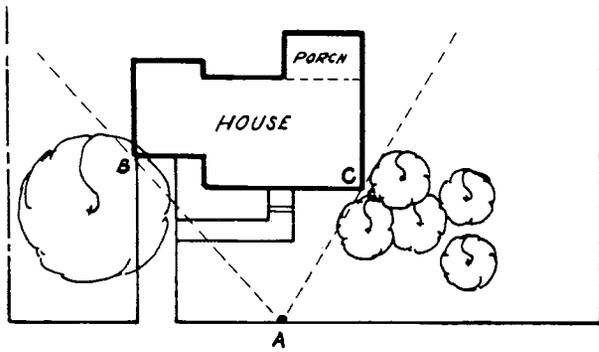


Figure 19. Group of small trees balances one large tree.

(See figure 19.) To better understand this, just recall the days when you played on the seesaw. One heavy child could balance two or more smaller children if their weight equalled his. (See figure 20.)

### Use Your Drawing Compass

With your drawing compass you can draw circles showing the approximate size of the plants at maturity. Using the same unit of measure you did for the plot plan, set the compass to make circles for each tree.

The following trees are among the best of many trees that can grow in your area. If you use a 50-foot circle for the large trees, you will be close to the average. See chapter 2 in this bulletin for a more complete tree list.

#### Large Trees

(50 feet or more in height)

|                       |                     |
|-----------------------|---------------------|
| Thornless Honeylocust | Basswood            |
| Norway Maple          | Cottonwood          |
| Red Maple             | American Elm        |
| Silver Maple          | Common Hackberry    |
| Sugar Maple           | Kentucky Coffeetree |

#### Small to Medium Trees

(20 to 40 feet tall and 15 to 20 feet wide)

|                                      |  |
|--------------------------------------|--|
| Paper Birch                          | Amur Maple                                       |
| Cutleaf European Birch               | Norway Maple                                     |
| American Mountain Ash                | Schwedler Maple                                  |
| Green Ash                            | Red Maple  |
| European Mountain Ash                | Bolleana Poplar                                  |
| Showy Mountain Ash                   | Lombardy Poplar                                  |
| Ohio Buckeye                         | Niobe Weeping Willow                             |
| Northern Catalpa                     | Pagoda Dogwood                                   |
| Ginkgo                               | Russian Olive                                    |
| Rosybloom Flowering Crabapples—Hopa, | Japanese Tree Lilac                              |
| Red Silver, Sundog,                  | Hawthorns  |
| Almey, Vanguard                      | White-Flowered Flowering Crabapples—Dalgo, Flame |

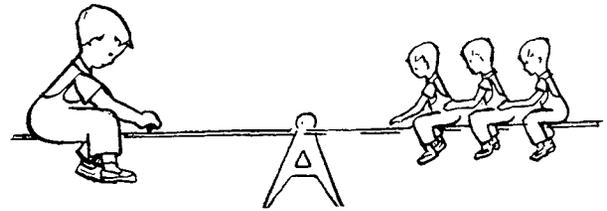


Figure 20. Illustration of occult balance achieved in figure 19.

Extension Bulletins 267, "Woody Plants for Minnesota," and 283, "Landscaping The Home," have more complete lists of desirable trees, shrubs, and evergreens for Minnesota.

When possible, buy trees and shrubs from a commercial nursery in your area. They will be better shaped and more likely to grow. Nevertheless, there is nothing wrong with using plants from your own property or from that of a friend. If you do this, you must keep in mind: (1) be sure you know you are getting the correct species of plant, and (2) transplant only plants less than 6 feet tall. Do this in early spring so that they will have more chances for survival.

### Softening the Lines of the House

The plants that are placed close to your house are spoken of as the "foundation planting." The only reason for such a planting is to blend the manmade object (the house) into its natural surroundings. In most cases, this does not require a great number of plants. Don't be a "copycat;" you may copy a poor example of landscape work. Use your own good judgment after reading this publication and discussing your foundation planting with your project leader. Each house can be treated differently. Study figures 21 and 22 to see where the plants should be placed and how tall they should be allowed to grow.

In figure 21 the strong vertical lines in the architecture have been darkened. Note the sharp angles—much like inverted "T's"—formed where they meet the ground. It is at these points, circles for emphasis, where the key plants should be located. See figure 29 for groupings.

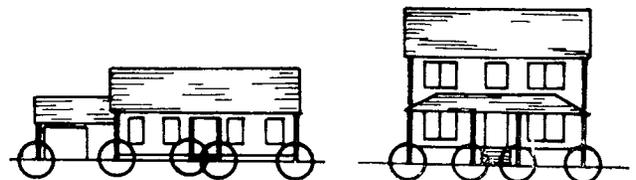


Figure 21. Circles indicate where key plants should be located.

Now look at figure 22. Imagine two lines, each starting from the center of the front doorsill and continuing through points at each side of your house. These points are about half-way between the ground

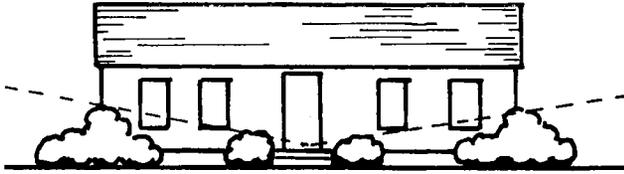


Figure 22. Dotted lines indicate optimum plant height.

and the eaves. These guidelines (dotted) will tell you how tall your plants should be allowed to grow for your house to look its best. This does not mean that the plants must be exactly so tall. It does mean, however, that the plants at the house corners should always be taller than those at the entrance.

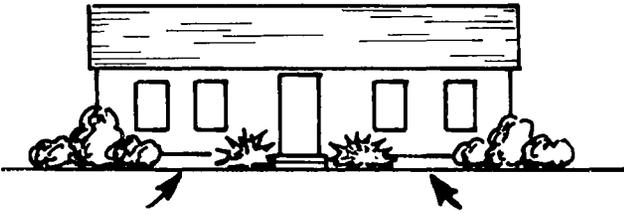


Figure 23. Arrows indicate where no plants are used.

The two arrows on figure 23 point to areas at the base of the house where no plants are used. Leaving these spaces blank creates an illusion that makes us think the house is larger than it really is. The only time plants are really needed in these areas is when the foundation is over 3 feet high.

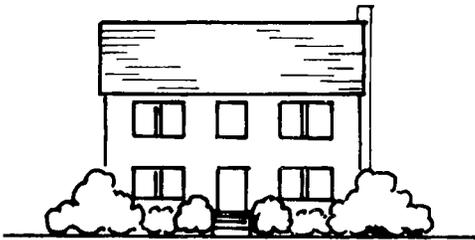


Figure 24. Plants used to conceal a high foundation.

Figure 24 shows a house with a high foundation. Note that the plants used to conceal the base of the house are lower than those at either side of the door. We still follow the same principle of keeping the plants lower at the entrance than those at the corners.



Figure 25. Type of architecture that calls for sharp-pointed plants.

Avoid overabundant use of sharp-pointed plants as you would avoid a poisonous snake. Figure 25 shows the type of architecture that really calls for some sharp-pointed plants.

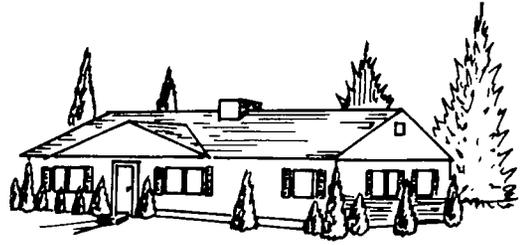


Figure 26. Sharp-pointed plants are not in keeping with this home.

Check figure 26 to see how out of place they look with the modern type of home.

Figure 27 shows the same home done with more or less rounded forms of plants. See how harmonious the entire picture looks. A good landscape is restful to the mind. Sharp-pointed plants make the observer sense a feeling of *activity*. We call it a "busy" planting; it is undesirable.



Figure 27. Rounded forms of plants give this home an attractive setting.

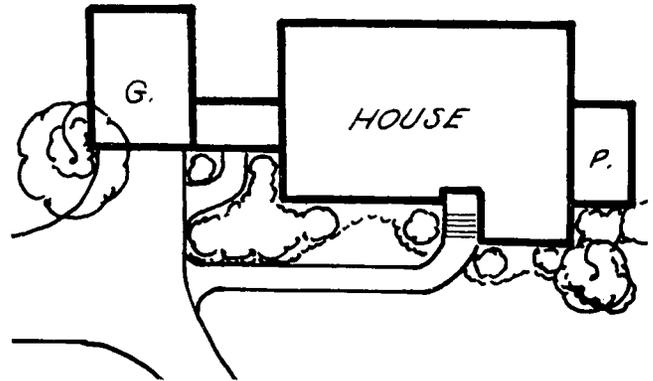


Figure 28. Top view showing location of plants in a proper foundation planting.

Figure 28 is a top view showing the location of plants in a proper foundation planting. Note how the corner groups extend beyond the sides of the house.

Now study figure 29 carefully. It shows some typical groupings for individual corner plantings. Of course, the amount of space available and the size of the house determine the size of the corner group.

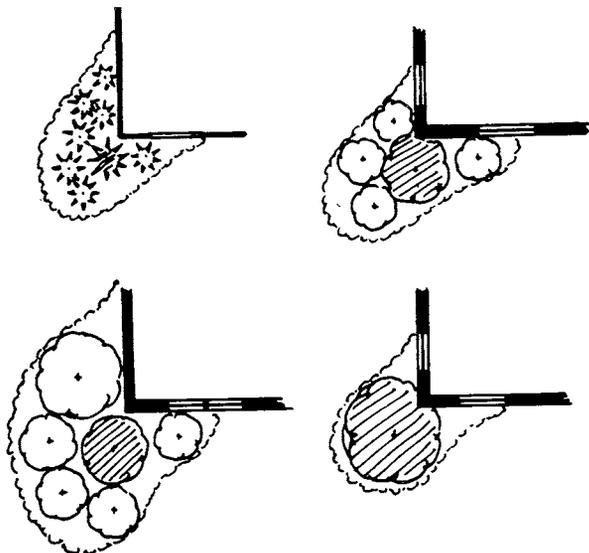


Figure 29. Typical groupings for individual corner plantings.

Where space is available, try to use the long, sweeping, curved corner planting for the best effect. This would be somewhere near the sweep of the oval shown in figure 14.

The shaded areas indicate the key plant in the group.

Try to keep the foliage texture about the same in any one grouping. By this we mean that if the key plant in the group has needled foliage, then the supporting plants should have needles too. If the key plant has broad leaves, such as rhododendron, then the rest of the supporting plants should have the same type. They include azaleas, laurel, and Japanese Andromeda. In the same manner, try not to mix evergreen types (plants that maintain the same foliage for at least 1 full year) with deciduous types (plants that lose their foliage each winter and grow new foliage the following growing season) in the same group.

The plant list on this page will help you select the proper plants. Any time you are in doubt as to whether or not some of these plants are hardy in your area, check with your county agricultural agent, 4-H leader, or your local nurseryman.



Figure 30. Letters indicate key plants or groups of plants.

## Some Of The Best Plants For Your Home

Check figure 30. The letters point to the particular places in the foundation planting where key plants or groups of plants are used. The lettered plant lists that follow are guides that will help you select plants for these particular locations. For example, the letter E points to the entrance plantings. Use the list below to help you select the plants for the entrance to your home.

### Entrance Plantings

#### Evergreens

Eastern Red Cedar and varieties  
 Rocky Mountain Juniper and varieties  
 Eastern Arborvitae  
 Siberian Arborvitae  
 Mugho Pine

#### Deciduous

|                  |                    |
|------------------|--------------------|
| Siberian Dogwood | Japanese Barberry  |
| Redosier Dogwood | Snowhill Hydrangea |
| Winged Euonymus  | Dwarf Ninebark     |
| Arrowwood        | Alpine Currant     |

### Corner Plantings

#### Evergreens

|                     |            |
|---------------------|------------|
| Siberian Arborvitae | Mugho Pine |
| Eastern Arborvitae  |            |

#### Deciduous

|                  |                    |
|------------------|--------------------|
| Redosier Dogwood | Peking Cotoneaster |
| Winged Euonymus  | Vanhoutte Spirea   |
| Common Ninebark  | Chinese Lilac      |

### Maintain An "Open" Lawn Area

By an "open" lawn area we mean a large clear expanse of grass. Other than trees, the only things that should cut into this expanse of grass are the necessary utilities, such as driveways, walks, and paths. This expanse of green will act as a foreground. The observer's attention will flow unobstructed across this clearing to the house itself, which will be the center of interest in your landscape picture.

Any unnecessary objects placed in this open lawn area would be distracting. See figures 31 and 32 for this comparison.

Fortunately, front lawn areas do not ordinarily include all of these typical attention getters. Nevertheless, many of our lawns have one or two such items. Perhaps the greatest violators are the gazing ball, the automobile tire painted white with some cannas or castor bean plants planted in it, the bird bath out



Figure 31. Unnecessary objects on this lawn are distracting.

in the boiling sun, the circular flower bed, and the fan-shaped trellis. (See figure 31.)

Many of these items really have a place in the good landscape design. The circular flower bed, for example, could be in the center of a formal garden. The birdbath could be a terminal feature at the end of a garden axis. The gazing ball is properly used as a central feature in a formal garden known as the radial type. In chapter 5 you will see how these things fit properly into the good landscape plan.

Take a good look at figure 32. Here's the same public area minus all these distracting features. Note how easily your attention goes to the house. This is what you want the observer to do. You want him to, without his knowing it, look at your home. Each property should make a separate picture all its own. The trees will frame the picture; the lawn will be the foreground in the picture; and the house itself, with its stiff architectural lines softened with the foundation planting, will be the center of interest.

Now you have covered the three basic principles of good landscape design for the public or front lawn area of your property. You will notice that *no* annual or perennial flowers are suggested for this area. You can get plenty of color from the flowers on the deciduous shrubs and the broad-leaved evergreens. Your smaller trees and some of the shade trees (such as Chinese Scholartree) will also give you color.

In spite of all this color, many persons *still* want flowers in their public areas. If you or your parents feel this way, then you might want to place just a few spring flowering bulbs in the plant beds.

Bulbs, such as daffodils, crocus, snowdrops, and grape hyacinths, are the ones best suited for this purpose. Tulips and Easter hyacinths are much too formal to be used in such plantings.



Figure 32. Without distracting features, attention goes readily to house.

# Chapter 5—Service and Private Areas

In chapter 4 we discussed the technique of landscaping your front lawn area. In chapter 5 we will cover the remainder of the property. Generally speaking, it is your “back yard.” In the public area we dealt with but one “room.” In the rear of the property we will add two rooms, namely the service and the private areas.

You will be adding two outdoor “rooms” to your property when you design this part of your landscape. The service area might be called the *work area*. This is where you will locate any number of activities, such as a cut-flower garden, vegetable garden, small fruits area, compost pile, doghouse, drying area, children’s play area (this is not always practical, and sometimes it must be temporarily located in the private area), woodpile, or temporary collecting point for general garden debris. This area might be considered the “kitchen” or the “cellar” of your house. This is a place for work.

The third and most personal area is the private area. This is an area wherein you can relax and enjoy the landscape you have created. Just as you entertain your guests in the privacy of your living room, you also entertain in the private area of your garden.

## A Flexible System

When it comes to the exact location or the exact size of the service and private areas, there is no hard and fast set of rules. It is a very flexible technique wherein the family decides for themselves where they want the service area and how big it should be and how much of the remaining property shall be devoted to the private area. Anyone who expects to do all of his own gardening should never get involved with more than he can maintain. Anything up to a half acre is ample for the average family’s budget of time and money. If you have more land, you might be wise to consider using only a part of it as a maintained garden area. You could allow the rest to become a bird and wildlife sanctuary, a woodlot, or a Christmas tree area. The important thing to remember is not to design an area too large to be maintained properly.

Figures 33, 34, and 35 show the flexibility of the oval system in planning the landscape.

Many times the contour of the land will have a lot to do with the size and location of the service and private areas. On rectangular lots it is fairly easy to arrive at a simple solution. Study figures 33, 34, and 35, and try to relate the principle of these sketches to your landscape plan.

With free and easy strokes, sketch ovals inside your plan. Do not let the ovals touch the property lines or the foundation of the house. Use the minimum number of ovals to fill in the maximum amount of space. Sometimes an area will be so shaped that more than one oval will be needed. They also may cross each other. (See figures 34, 35, 36, and 38.)

## Avoid “Blind Alleys”

Figure 37 shows you how to put “doors” in your garden. Doors inside your home allow you to go from one room to another. The same process is used in doing any home landscape.

Use two parallel lines to indicate accesses from one area in the garden to all others. This avoids “blind alleys.” At first these are only “reminders.” Later on in the planning phase they will be erased and the proper means of getting through that particular area will be decided upon and sketched on your plan.

## Join Connecting Ovals Into Graceful Sweeping Curves

If any of the areas on your plan have two (rarely three) ovals, join them into one long continuous graceful curve. (See figure 38.) The resulting line will give you a good idea of where your major lawn area will be. This curved line can be altered to suit your own plan. BUT, try to have the curved edges of your lawn about parallel to the original ovals.

## “Walls” for Your Garden

Your home has outside walls to give you privacy and protection from without; for the same reason, your garden should be an enclosure. This enclosure might be a fence, wall, hedge, or shrub border. (See figures 39, 40, 41, and 42.) In very large properties such as farm sites, this enclosure might even be the trees that form the edge of a woodlot.

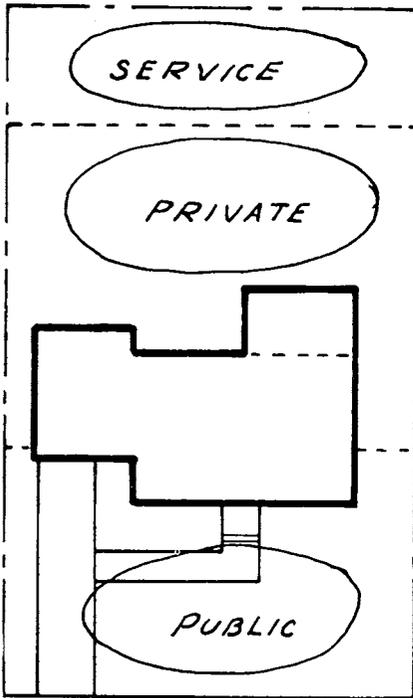


Figure 33.

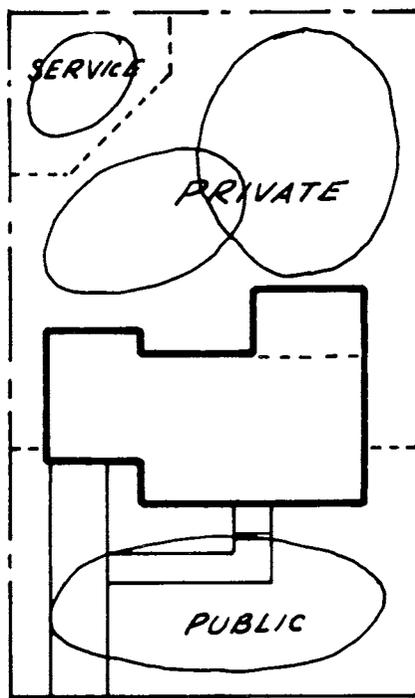


Figure 34.

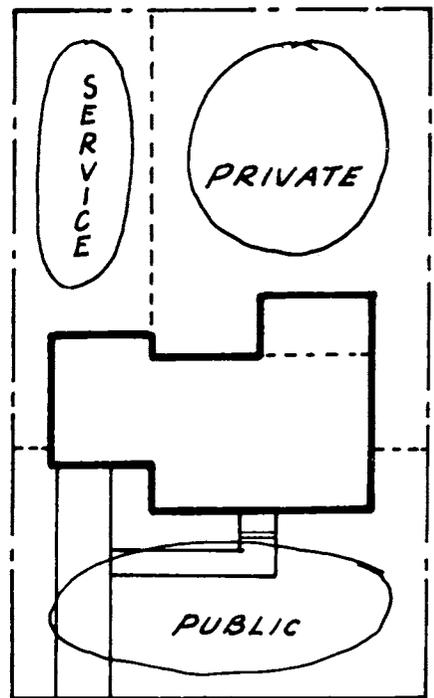


Figure 35.

The figures above show the flexibility of the oval system in planning a landscape.

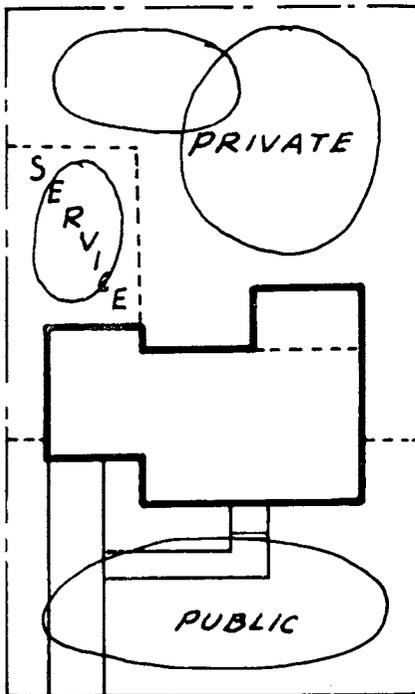


Figure 36. Use minimum number of ovals to fill maximum amount of space.

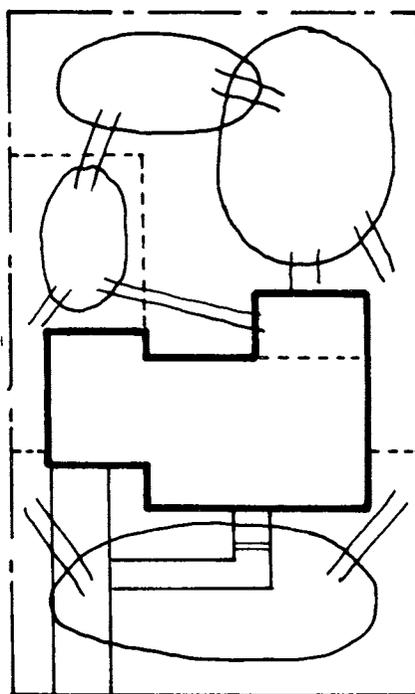


Figure 37. How to put "doors" in your garden.

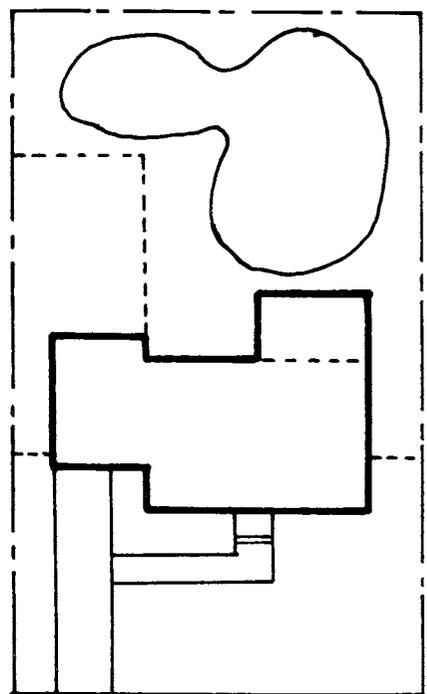


Figure 38. Ovals joined in one long continuous curve.

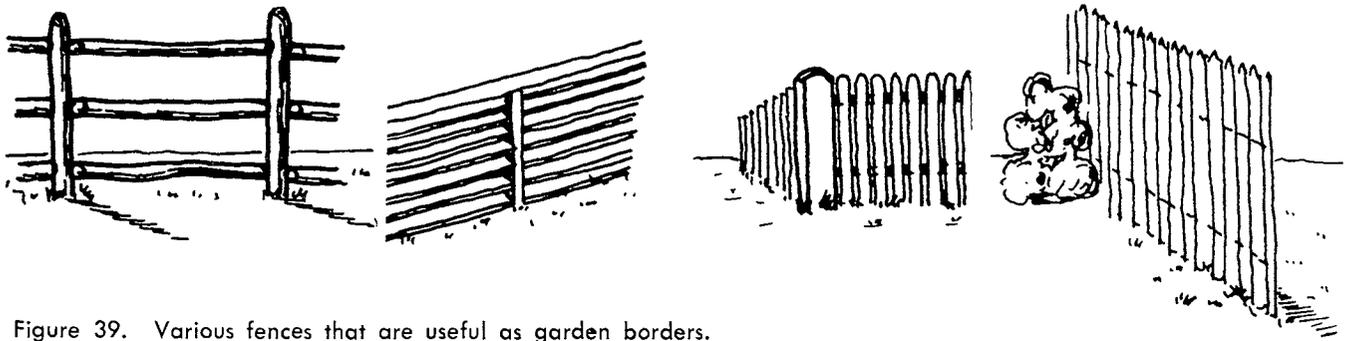


Figure 39. Various fences that are useful as garden borders.

The farther out into the country you live, the less important it becomes to completely enclose the garden. The tight city lot is just the opposite. There

you must conserve every inch of space and gain a maximum of privacy. Fences do the best job under such circumstances.

### Partitions Separate Your Outdoor Rooms

The walls in your house that separate one room from another are known as partitions. Without these partitions your family would live in one huge room containing the kitchen utilities, dining room table, front room and bedroom furniture, TV sets, and everything else that goes into a house. There would be little organization in such a home; there would be no privacy.

In your garden it will be the same thing if you do not separate one area from the other. So we employ the same principles in our gardens as we do in our homes. These two areas in particular, namely the service and private areas, should be separated so that you cannot sit or walk in the private area and at the same time see into the service area.

Again, the amount of space available for your garden will determine to a large extent what type of material you will use for this partition. Where space is at a premium, a fence is the best. Next on the list would come a narrow clipped hedge, or, if you have plenty of room to spare, you could use a shrub border. An evergreen hedge may cost more than a deciduous one, but keep in mind that you have to clip the evergreen hedge but once each year. This is a maintenance factor that you cannot ignore.

Although it takes several years for a young hedge to grow into an effective partition such as the one shown in figure 42, it is often worth waiting for.

### Develop Your Design Around The Garden Axis

A garden should have a visual axis. In landscape design language an axis might be defined as "an uninterrupted line of vision starting from some prominent place, preferably from a window or a door, and terminating at an appropriate garden feature."

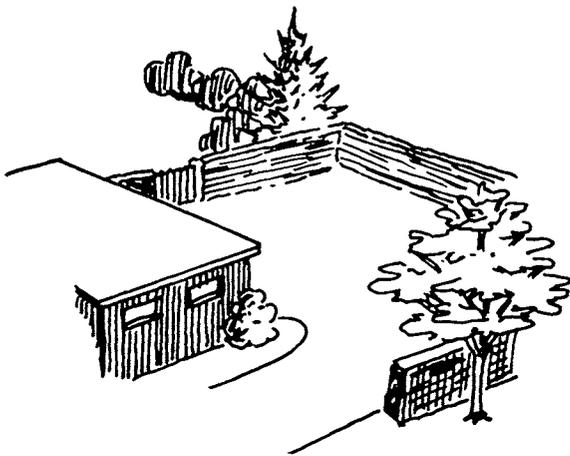


Figure 40. Fencing as a garden border.



Figure 41. Trees and shrubs as garden borders.

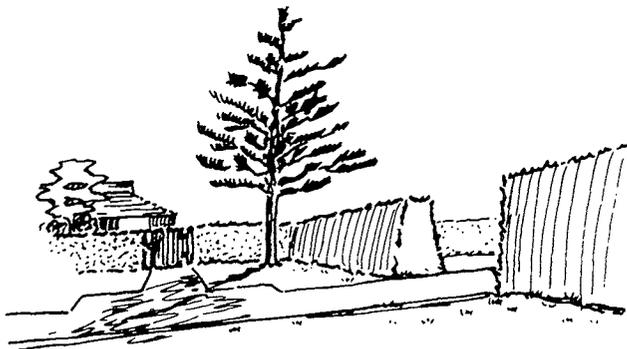


Figure 42. Hedges as garden borders.

In almost all cases, an axis will run at a perpendicular angle to the surface of the house. (See left portion of figure 42.) This does not mean that the axis is wrong if it is not perpendicular. (See right portion of figure 43.) In this case, do the best you can with an oblique axis.

You will actually draw the axis on your rough plans. This must be done to locate the terminal feature at the proper spot in your garden. When you make your final plans, omit the actual pencil line that shows the axis.

You may have been living in your home for many years without realizing that you have been enjoying a garden axis with a natural terminal feature. An example is the existing scenery viewed from a particular window or door. Perhaps a very unusual tree in the scenery catches your attention. It may be a lone pine tree miles away; this pine tree is the terminal feature. Or it may be a view of a lake in the distance. It could be some particular tree on the skyline that becomes a beautiful color in the fall. Or it may be a farm unit painted red with white trim nearly a mile away from the window from where the axis starts. This scene is especially pleasing because it changes its appearance each season of the year.

Such terminal features are obviously the exception to the rule. In nearly 100 percent of the ordinary home grounds landscape plans, the terminal features will be structures such as birdbaths, benches, sundials, gates, and small statuary.

### Hints

A few final hints concerning the layout that you put on paper:

- (1) Keep the plan simple.
- (2) Do not overcrowd your plants. Draw circles that show the true sizes of the plants when they grow to maturity.
- (3) Use a *minimum* of large shade trees.
- (4) Do not overload the plan with flower borders. Whether annual, perennial, or both, they require lots of time and effort.
- (5) If hedges are to be used, select evergreen plants if possible. They may cost more in the beginning, but they are much more beautiful than deciduous hedges. Also, maintenance requirements are very low. Evergreens need pruning only once each year.
- (6) It is not necessary to make a heavy planting of shrubs in front of a solid fence used as an enclosure or partition. Just soften the corners

and place an occasional plant here and there to break the bareness of the fence.

- (7) When keeping small plants down to a comparatively small size, use pruning shears instead of hedge shears. This will prevent the harsh outline that usually occurs when hedge shears are used.
- (8) Try not to have one of every plant in the nursery growing in your border plantings. Use your plants in groups of either 3, 5, or 7 at a time. Occasionally a single plant is all right.
- (9) Be brave — discard any plants on your property that do not fit into your new landscape plan.
- (10) If your property has an overabundance of trees, thin them out gradually until you get down to the numbers that you really require.
- (11) Try not to think of cost when you are making the design. If you keep the cost in mind, your imagination will be crippled.
- (12) See your leader about the possibility of visiting both nurseries and gardens so that you can become more familiar with plants and garden design.
- (13) Finally, color with a green crayon the portions of the plan that have been planted. This makes a good progress report, and it makes an interesting picture to hang in your room.

Good luck in your new venture; it will be a source of tremendous pleasure and, who knows, someday it may be your life's profession.

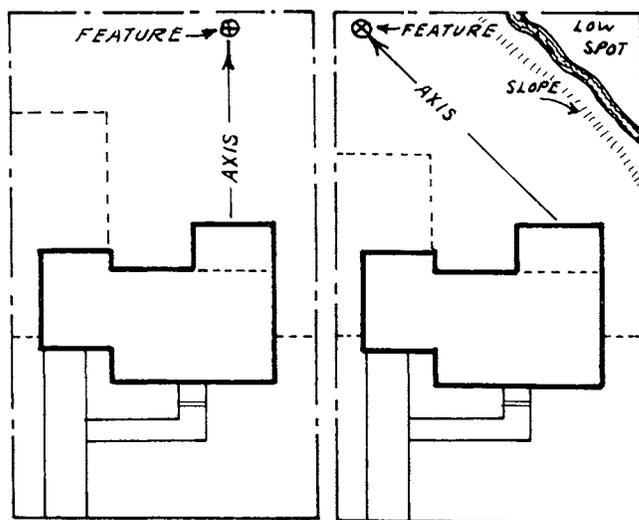


Figure 43. Axis usually runs perpendicular to surface of house (right), but sometimes is at oblique angle (left).

# Chapter 6—Garden Features and Accessories

When we landscape our homes we work with trees, shrubs, flowers, and lawn areas as our “tools.” We use these to create a pleasant setting for the house and to provide an attractive garden for our own pleasure and relaxation. Sometimes we may feel that these tools are not enough and that we could add something else to the garden to give it an added touch of interest. Perhaps a bird bath or a pool for water lilies, or an outdoor fireplace with picnic table and benches would make the garden more attractive and enjoyable. Such things as bird baths, pools, terraces, trellises, etc., are called “garden accessories” and they can do much to make gardens more attractive.

## Using Accessories

This chapter will help you learn about several kinds of garden accessories you can use. Select the accessory or accessories you might like and then decide on the best location for their use. Remember, they must look as though they *belong* to the garden. They must blend in with the surroundings and not “stick out” like a bandaged thumb. Correct placement is important to get the right effect. If you have a small garden it is wise to limit the number of accessories. Too many special features will tend to clutter up the garden and spoil the effect (like a small room crowded with too much furniture).

You may want to build or use one of the major garden accessories listed below. You could also add minor accessories. Select those that will best fit into your garden plan. Accessories should be placed in the garden for best effect and should blend into the overall landscaping for your home. It is helpful to draw a plan of your home grounds that includes garden accessories.

| Features and Accessories |                 | Minor Accessories                             |
|--------------------------|-----------------|---|
| Pools                    | Trellises       | Flower Boxes                                  |
| Terraces                 | Retaining Walls | Bird Houses, Baths<br>and Feeding<br>Stations |
| Fireplaces               | Garden Lighting | Play Area Equip-<br>ment                      |
| Planting Boxes           | Paths and Walks | Lawn Furniture                                |
| Fences                   |                 | Picnic Tables                                 |

## Pools

Small pools for water lilies and goldfish are generally located away from the house and are given a natural setting, although they are sometimes built as parts of the terrace or patio. Unless the garden is very formal in design, the shape of the pool should be round or oval as pools naturally are, rather than square or rectangular. To look natural, the pool should have a background of shrubs, small trees, or evergreens.

The edges of the pool may be planted with ivy, vinca, or perennial plants such as iris.

To prevent cracking of the pool walls in winter, the concrete should be 4 inches thick and reinforced with heavy wire. Curved walls with a bowl effect will have little danger of breaking from repeated freezing and thawing of the ground. Water may be left in the pool over winter. In larger pools, a log may be thrown in for the winter to prevent the ice from expanding against the sides of the pool. In spring, the water should be removed and the pool cleaned out for summer.

Because natural evaporation keeps the water at a rather constant level, overflow is seldom a danger in small pools. The edges of the pool may be built up so that even heavy rainfall would not cause an overflow.

## Pool Construction

A very simple pool can be constructed by lining an excavation with polyethylene plastic. (See figure 44.) The edges of the plastic can be anchored with brick or stones. In order to prevent the plastic from tearing, the surface of the excavation must be smooth, with all sharp rocks removed.

No forms will be needed in the construction of a concrete pool if the slope of the walls is not greater than a 2 to 1 ratio. The pool need not be drained in winter because the slope of the sides will prevent ice pressure from cracking the concrete.

A larger pool with overflow pipe emptying into a 6- to 8-inch bed of cinders is illustrated. The drain is connected to tiles to carry the water off when emptying the pool. The drain may be eliminated if the pool is emptied by syphoning. The 4-inch concrete walls are reinforced at the angles of the wall and floor. (See figure 45.) A pool 10 feet square can accommodate two lily boxes. If the pool is to contain fish, submerged water plants that need no soil can be anchored to the lily boxes. Such water plants as Cabomba and Anarchis oxygenate water for the fish.

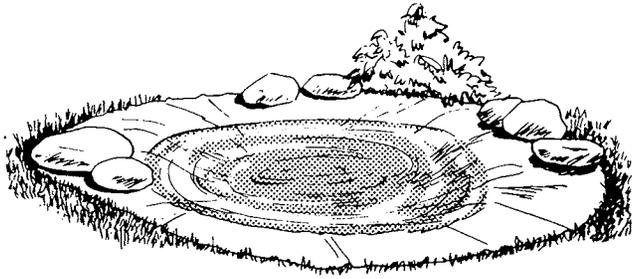


Figure 44. A simple pool made by lining an excavation with polyethylene plastic.

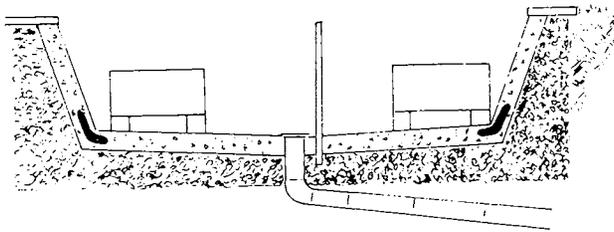


Figure 45. Reinforce concrete pool walls at the angles of the wall and floor.

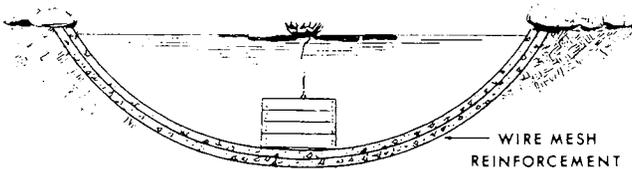


Figure 46. Top of the planting box for a water lily should be 12 to 18 inches below the water surface.

## Lilies

The lily pool should have sun for at least part of the day in order for lilies to do their best. One tender lily will provide enough flowers for the season in a small pool. The tender variety of lily must be removed from the pool in fall and stored in a cool place, but it is generally more convenient to discard the lily and purchase a new bulb each spring. The hardy water lilies can be left in the pool over winter and will need no attention until they get too thick and must be divided in order to produce more blossoms.

## Planting

The planting box for a water lily is 2 feet square and 1 foot deep. Soil for the box should consist of 2 parts well-rotted cow manure to 1 part good garden loam. The soil may be covered with sand to prevent muddying the water. Roots of water plants, anchored in the soil to prevent fish from pulling them out, are planted one to each box with the eye or bud exposed at the surface of the box. The top of the box should be 12 to 18 inches below the surface of the water. (See figure 46.) All hardy lilies may be planted April 1 to September 1.

## Terraces

Terraces are paved areas where one may place garden furniture and use the area as an outdoor living room. They are most often built in conjunction with the house, either at the rear or at the side of the building. They are both useful and decorative as they provide a transition between the house and the garden. Flower beds can be built into the terrace, or flower boxes, flower pots, and planting boxes can be used to add color and greenery. The edges of the terrace can be softened with a planting of ground cover or low-growing perennial plants. An ideal combination is an open terrace leading from a screened porch. One can then enjoy being outdoors when it is convenient but can move into a screened enclosure when insects or the hot sun become nuisances.

## Size, Shape, and Location

To be usable without feeling crowded, the terrace should be at least 12 feet deep. The length will depend on where it is located, but 15 to 20 feet is average. Most terraces are built in a rectangular shape as curves are difficult to work with as far as most construction materials are concerned. However, varying the shape of the terrace adds interest and relieves the monotony of a too familiar shape. If you vary the shape of a terrace be sure that it is wider at the part where most of the movement will be. Terraces on the north or northwest side of the house will get morning sun and afternoon shade, which are desirable features. A terrace on the south or west side of the house should have shade trees nearby to protect it from the hot afternoon sun.

## Materials

Concrete, precast concrete blocks, or flagstone make the most permanent types of surface for a terrace. But brick, laid on well-tamped sand is easier to handle and gives a softer effect. Wood rounds cut from the trunk of a tree make an unusual terrace and old railroad ties cut up in blocks can also be used. Railroad ties have the advantage of already being treated, but any other wood that is used should be treated with a wood preservative.

## Construction

A simple terrace can be made by placing bricks on a bed of sand. Excavate 4 inches and fill with 3 inches of sand. The sand should be tamped very firmly and evened out so there are no humps or holes. After laying the bricks, sand should be brushed on with a broom or scraper to fill the crevices between the bricks. (See figure 47.) The terrace may be outlined with a strip of wood, or with bricks standing on end in a small trench.

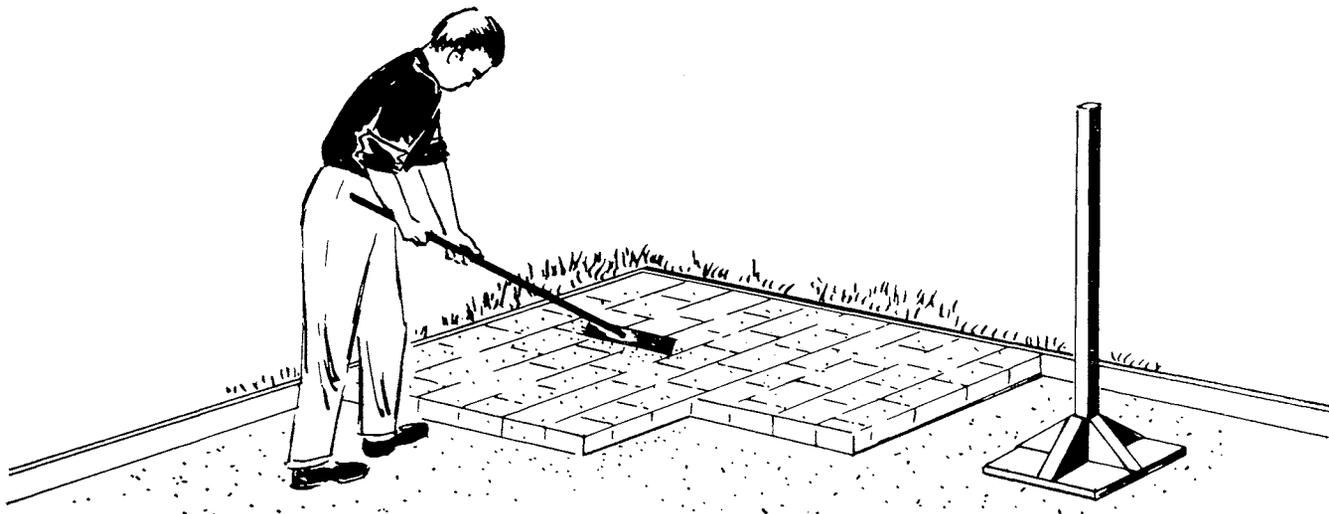


Figure 47. A simple terrace made of bricks on a bed of sand. After laying, sand is brushed on with a broom or scraper to fill the crevices between bricks.

## Fireplaces

Outdoor cookery is fun. It is an activity in which the entire family can participate and receive much enjoyment. Today, inexpensive portable grills are popular because of their mobility and greater flexibility of use. (See figure 48.) Why not consider a portable grill as an accessory for your outdoor patio — you can take it with you if you move.

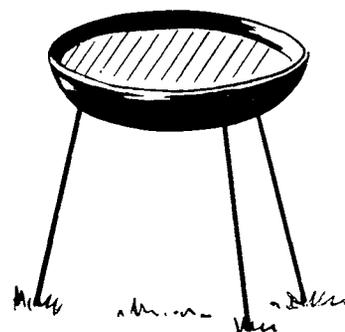


Figure 48. Inexpensive portable grills are handy and popular.

## Fences

Many types of ornamental fencing can add interest to a garden. Fences can be used to surround a property or they may be used only in parts of the garden, such as along the rear lot line or running parallel to the driveway from the street to the garage. (A single section of fence can be used in many parts of the landscape with pleasing effects.)

The most common types of fencing are the post and rail and the horizontal board. These are “open” types of fencing that are generally used for enclosure of either the whole property or part of it. (See figure 49.)

The post and rail fence, if left in its natural color, blends into the landscape very effectively and is generally used with houses built of brick or stone. The horizontal board fence can be stained or painted in a natural wood color and used for the same purposes, but it is heavier in appearance.

The horizontal board fence, painted white, is traditionally used with white houses or with houses that have a lot of white trim (cornice boards, shutters, window and door trim). On a small lot, the white board fence should be used sparingly as it is very noticeable and may detract from the overall picture rather than add to it. It can, however, be softened with groups of shrubs and small trees.

For screening purposes where a fence is needed to give complete privacy, there are the split-sapling types of fences and the vertical board and louvered board fences. These are generally used to screen out an undesirable view or to provide privacy for a terrace or outdoor living area.

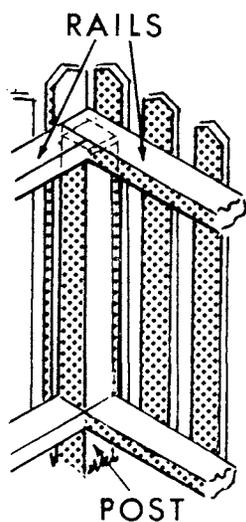


Figure 49. Popular post and rail fencing.

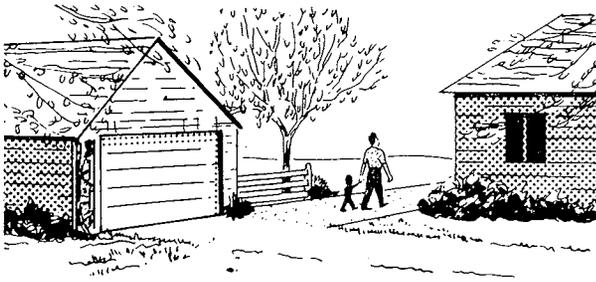


Figure 50. Gravel or stone paths are usually 2 to 2½ feet wide.

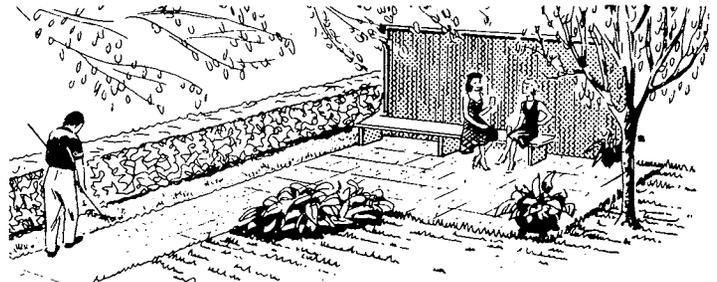


Figure 51. For a simple path where traffic is light, set flagstones flush with the lawn surface.

## Paths and Walks

The paths and walks around your home and yard are much like a highway system. These guide you and your visitors conveniently from area to area. Your paths and walks should go as directly as possible from one place to another. If your paths and walks are not direct, people will take short cuts.

To make a simple path along a lawn border, where traffic is light, set flagstones flush with the surface of the lawn. Flagstones keep a lawn area as unbroken as possible.

Gravel or stone paths are usually from 2 to 2½ feet wide. The gravel must be small enough so it does not roll as you walk on it.

Walks usually carry more traffic than paths and therefore need be more durably constructed. Concrete, brick, or stone may be used. Make the walks from 2 to 4 feet wide and more than 3 feet from the house foundation. (See figures 50, 51, and 52.)

## Flower Boxes

Flower boxes, hung beneath a window or placed on the porch or patio floor, or hung from a porch railing can be an interesting and colorful addition to your home. (See figure 53.) The boxes may be of any size and style to fit your particular need, and planted with colorful flowers for summer, then replanted with small evergreens and vines or ground covers for winter. Another idea for winter use is to stick small pine branches in the boxes. At Christmas time, colored lights can be attached to the branches for outdoor decoration.

### Construction Points

Flower boxes can vary in size but should be deep enough to hold sufficient soil for the plants to grow in.

When used to decorate a window, the box can rest on brackets attached to the house wall beneath the window. A window box should be at least 7½ inches deep and 8 inches wide and slightly longer than the window is wide. (See figure 54.) Ordinary pine can be used to construct the box. The boards should be carefully covered with two coats of paint before the box is put together. Brass screws are more satisfactory than nails for assembling.

Redwood, sealed and stained, makes a more permanent and more natural looking flower box, especially when it is to be used on a brick or flagstone terrace or porch.

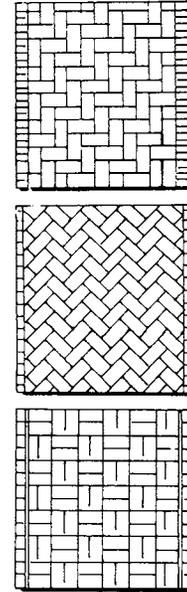


Figure 52. Possible patterns for brick walks.

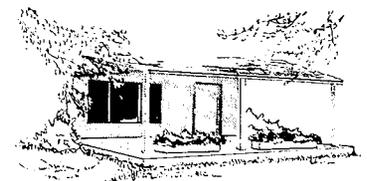


Figure 53. Flower boxes placed on a patio floor can be a colorful addition to a home.

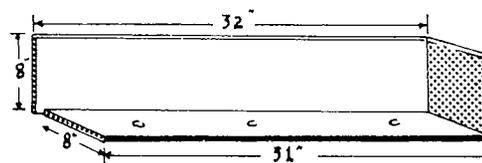


Figure 54. Dimensions for a window box. Box should be slightly longer than window is wide.

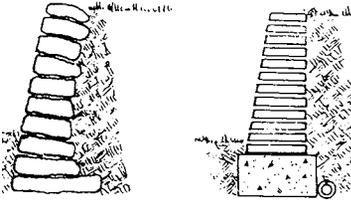


Figure 55. Two types of dry walls. One has a concrete base with tile for drainage, a guard against the wall heaving during freezing weather.

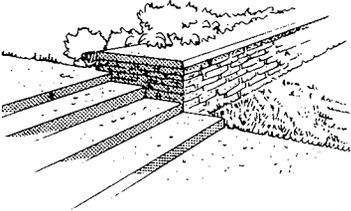


Figure 56. Save a bank mowing problem by building an attractive retaining wall. Steps are for handy access.

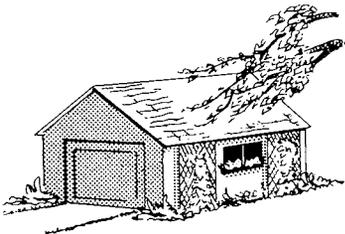


Figure 57. Sections of trellis dress up bare walls of a garage or shed. Roses or summer vines such as morning glory can be used. Stand trellis out from the wall so there is some air circulation between wall and trellis.



Figure 58. With wire, lumber, and ingenuity you can build an effective screening trellis. Ivy can be trained on wires successfully.

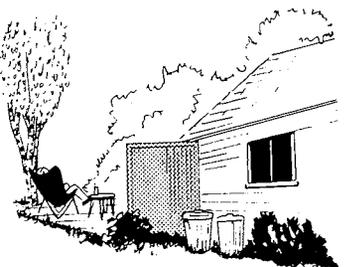


Figure 59. Hide garbage pails, oil tanks, etc. with a trellis or section of screen fencing. Be sure trellis or fencing is built sturdily and is well anchored.

## Soil Requirements

About 2 inches of coarse gravel should be placed in the bottom of the box to allow for proper drainage. Next, add enough sand to cover the gravel. Good garden loam should be used to fill the box to within a half inch of the top. This allows space for watering.

## Plant Materials

Most plants desirable for use in flower boxes require a sunny exposure, that is, full sun for at least half the day. Following is a list of plants most commonly used for flower box planting: petunia, lantana, nasturtium, dwarf marigold, geranium, sweet alyssum, ageratum, coleus, trailing geranium, trailing lantana, lobelia, vinca, and English ivy. Good color combinations are reds with pinks, whites, and blues, or yellow-orange and orange with blue, lavender, and white.

## Retaining Walls

Retaining walls are used where the ground is not flat and where there might be a drop of a foot or more between one area of the garden and another. Retaining walls can be built of stone, concrete block, brick, or concrete faced with stone or brick. Planting pockets can be left in some types of retaining walls so that you can add interest to the wall with small rock garden plants.

Heavy retaining walls made of poured concrete on ample footings are used where the bank is fairly steep and it is difficult to maintain a stand of grass.

The simplest type of retaining wall is the "dry wall." This is simply a wall built up of evenly matched stones or flat field stones without any cement or mortar. Larger stones should be used at the base as a solid foundation and the first row of stones should be set about 12 inches below the ground level to prevent frost from heaving the base of the wall out of place. Slope the wall slightly back from the base as you build it up. This prevents the pressure of soil behind the wall from toppling the top section. If you leave planting pockets in the wall, the slope back also insures that the bottom pockets can get rain water as well as the pockets near the top. (See figure 55.)

Steps can be built into the wall and these can be used very effectively when they lead from a grass terrace down into a garden area. (See figure 56.)

## Trellises

A trellis is a structure made of wood or wood-and-wire which is generally used as a support for climbing roses or vines (although if they are very decorative they do not need plants growing on them). Trellises are often used on the sides of a porch to "dress up" the doorway, or they may be used to screen an unsightly oil tank, gas tank, or garbage can. They are useful for screening because they are light in appearance. Shrubs or small trees used for screening might appear too heavy or take up too much space.

If trellises are used out in the garden, away from the house, they should have good reasons for being there aside from ornamenting the garden. They can be used to divide the lawn area from the vegetable garden or they can partly cover the bare side of a garage or section off a part of the yard that is used as a service area. (See figures 57, 58, and 59.)

Trellises can be made in many different designs, fancy or plain. It is advisable to keep your design simple. Make the trellis out of strong lumber, not out of flimsy lath that will have to be repaired or replaced in a short time. Wire can be used for trellis work (attached to a strong wood frame) and is excellent as a support for some of the twining annual vines. Treat the posts of the trellis that are to go into the ground with a wood preservative to keep them from rotting. When you paint the trellis, use a good grade of mildew-resisting paint.

## Birds in the Garden

Bird structures are included as garden accessories because birds like to live in gardens and most gardeners welcome them. Birds eat insects and weed seeds, the two biggest garden pests. Birds can be attracted to the garden by providing places for them to build nests, find good food, and bathe in clean water.

### Bird Baths

A bird bath can be an attractive and interesting garden accessory. Remember again, that birds like things natural. They will often prefer a simple pool of water to an expensive pedestal bird bath. (See figures 60 and 61.) Some birds will not use a bird bath unless it is in the open where they can watch for enemies. Don't locate your bird bath near low shrubbery where cats can hide!

### Bird Houses

The type of house you build will usually determine the type of bird that will inhabit your garden. Some birds, such as the wrens, will build a nest in almost any house that will hold their tiny families. Old teakettles, boots, shoes, flower pots, gourds, and old hats make homes for these friendly creatures. Purple martins, on the other hand, like to live in large colonies and they will want "hotel" bird houses with as many as 10 or 12 different apartments. Robins do not live in bird houses at all, but they will occupy a shelter which has one or two open sides.

Many types of bird houses can be constructed and placed inconspicuously in the garden. They are fun to watch from a window or a terrace or porch. Expensive materials are not needed and a bird house need not be painted or varnished. If it is, a dark dull finish should be used to make it blend with the natural surroundings. Birds like things natural and rough.

## Planting Boxes

Planting boxes built of stone, brick, or concrete block are often used to "dress up" the foundation of a house or they may be used as a low wall on one or more sides of a porch or patio. They may also be used out in the garden as a low wall separating the lawn area from a vegetable garden or they may be used as a wall in connection with an outdoor fireplace, tying the fireplace more successfully into the rest of the landscaping.

If the planting box is used in connection with the house it should be constructed of the same material as the house, or in some harmonizing material (for example: grey field stone against white siding). Cinder boxes can be painted to harmonize with the house.

The box should be wide enough to allow for growth of shrubs and flowers to be planted in it — 2½ to 3 feet wide is usually the minimum. The length may be whatever makes for good proportion and design. The height of the box must also be planned for good design. (See figures 62, 63, and 64.)

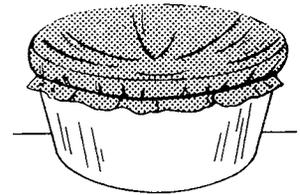
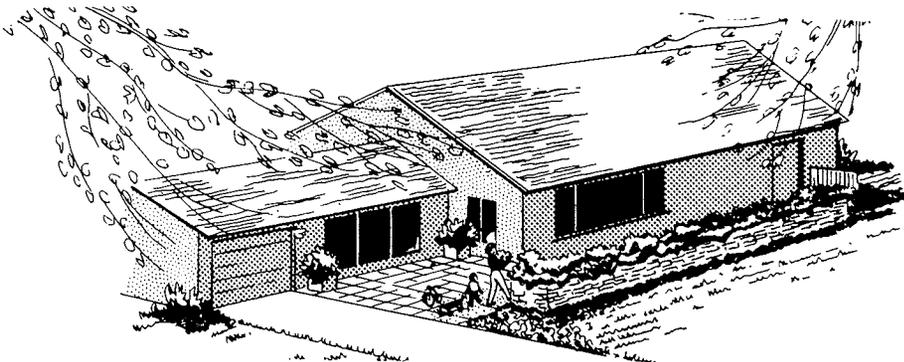


Figure 60. To build a simple form for a bird bath, tie a piece of burlap securely over a tub, cover with concrete, and trowel smooth. Reinforce with wire mesh for added strength.

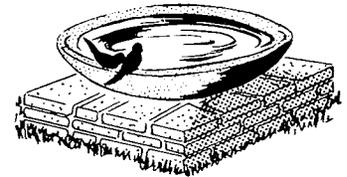


Figure 61. Birds often prefer a simple pool of water to a pedestal-type bath.

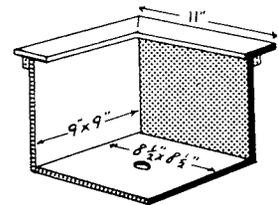


Figure 62. Planting box to place on a step; use at least ¾-inch lumber.

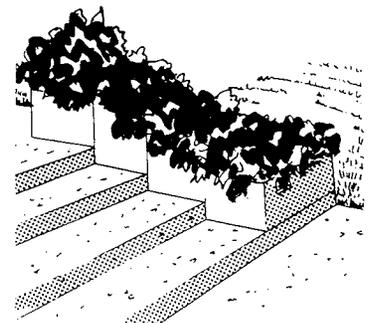


Figure 63. Planting boxes form the border for these steps.

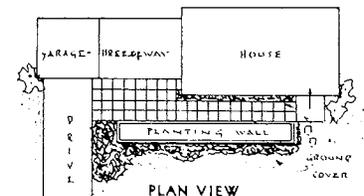


Figure 64. Overall (left) and plan view (above) of planting wall in a well-designed landscape.

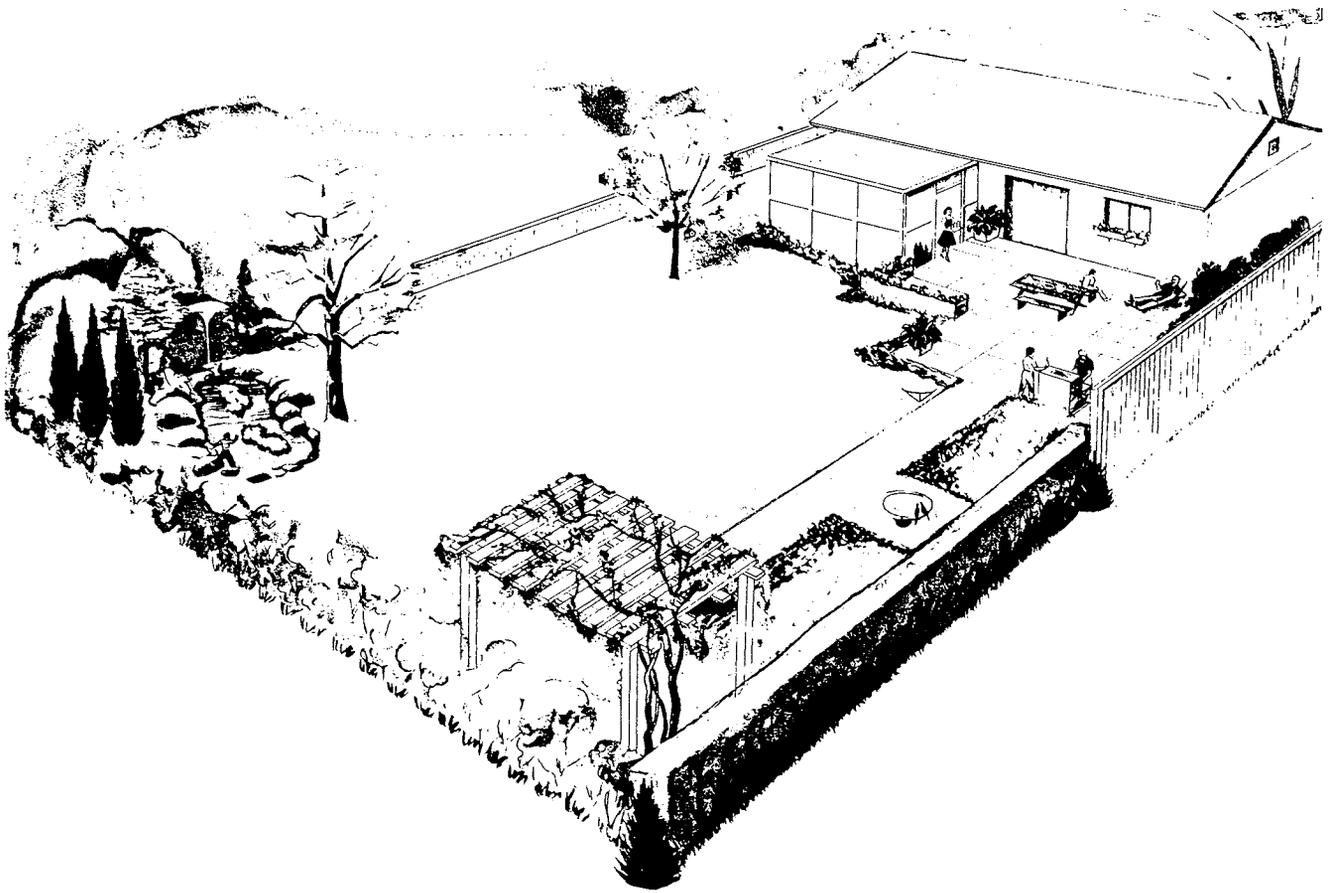


Figure 65. A well-executed landscape design.

### **Planting Materials**

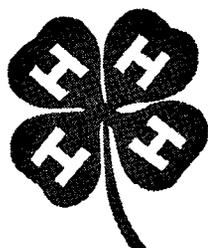
Planting boxes are usually planted with evergreen shrubs for year-round beauty and effectiveness. Annual flowers may be placed in between the shrubs for summer color. Andorra juniper, dwarf boxwood, and convexleaf Japanese holly are good evergreen plants to use as they can be kept pruned to small size. Spring-flowering bulbs such as crocus and narcissus can be interplanted among the shrubs and low-growing annual flowers such as petunias or portulaca can be worked in between and in front of the larger, permanent plants.

### **Garden Lighting**

You can enjoy the beauty of your landscaping at night as well as in the daytime by using outdoor lighting. A single spot light may accent a flowering tree in bloom or, in fall, a tree or shrub in brilliant fall color. If you have a picturesque view of the garden from a living room or dining room window, lighting will seem to make it a part of the room's decoration.

Permanent, weatherproof, underground circuits are the best. Extension cords and aboveground wiring can also be used but these should be kept out of sight as much as possible.

Spotlights, portable lamp standards, or built-in lamps can be used for lighting the terrace or various parts of the garden. White lights or colored lights can be used singly or in combination. Indoor switches make it convenient to light up the garden scene at any time it is desired.



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