

Landscaping the Farmstead

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The Landscape Plan
Yard Maintenance
Woody Plant Materials



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Where to Find

Part I. The Landscape Plan	3
Farmstead Development	3
Planning the Home Grounds	3
The public area	4
The service area	4
The private area	4
Drives and walks	5
The lawn	5
The use of trees	5
The windbreak	6
The foundation planting	7
The shrub border	8
The use of flowers	8
The use of vines	9
Garden Accessories	9
The Landscape Plan	9
Part II. Yard Maintenance	12
The Lawn	12
Soil preparation	12
Planting the lawn	12
Care of the lawn	13
Control of lawn weeds	13
Renovation of old lawns	14
Planting Trees and Shrubs	14
Pruning Trees and Shrubs	15
Pruning tools	15
Tree pruning	15
Pruning deciduous shrubs	16
Pruning hedges	16
Pruning evergreens	18
Soil Fertility	18
Winter Protection	18
Insects and Diseases	18
Part III. Woody Plant Materials	19
General Lists	19
Plants for Special Purposes	22

Landscaping the Farmstead

LEON C. SNYDER



ONE of the attractions of farm life is that the family lives and does much of its work at home on the farmstead. For that reason attention given to farmstead arrangement for convenience and beauty yields rich dividends in efficiency and enjoyment. The farmer's wife especially finds a great deal of satisfaction in pleasant surroundings, and children can contribute much to and learn much from an all-family home beautification project. The farmer will find that a well-arranged and carefully landscaped farmstead not only will speak proudly for his farm but will actually contribute to the efficiency of his farm business.

Part 1. The Landscape Plan

FARMSTEAD DEVELOPMENT

If a new farmstead is being planned, much thought should be given to its location. A central spot on the farm near the highway is desirable. If possible, the house should be on an elevated piece of land with an attractive view of fields, wooded hillside, or lake. Adequate wind protection on the north and west should be provided by planting a windbreak if there is no native woodland. An open exposure to the south and east will insure a bountiful supply of sunlight to make the home bright, cheerful, and attractive.

If the farmstead is already established it may be practicable to rearrange some of the buildings and service areas to make the place more attractive and serviceable. Any new buildings should be located with a view to both efficiency and attractiveness.

In planning a farmstead, it is well to distinguish between the working areas and the living area or home grounds. The arrangement of the farm

buildings, feed lots, garden, etc., should be such that they are readily accessible to the farm home and yet distinctly separated from the living area. The drives and walks must be so arranged that they service not only the house but the working areas as well. The entire farmstead should be neatly arranged and have a well-kept appearance. A neat and attractive yard will lose much of its appeal if the rest of the farmstead is run down.

PLANNING THE HOME GROUNDS

A pleasant outdoor living area can contribute much to the life of the farm family. The recreation of the family and friends is centered here. The size of this area depends on a number of factors. A large house demands more spacious grounds than a small house. The size of the farm family and the time available for maintaining the grounds should also be considered. In general, a small yard, well cared for, is more satisfactory than a large neg-

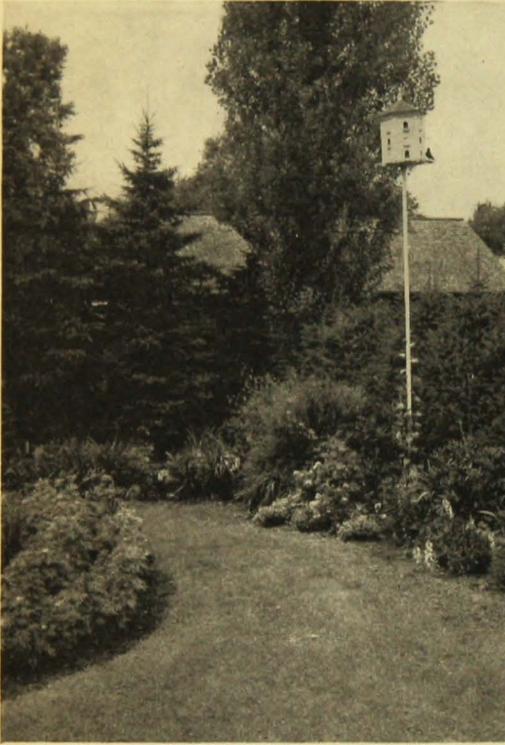


FIG. 1. The garage may be screened from the private area by an attractive grouping of trees, shrubs, and flowers

lected yard. On most farms, the yard should be enclosed by an attractive fence. This will allow for pasturing the areas surrounding the farm yard and will serve to exclude the chickens and other livestock from the yard. It is impossible to maintain a good lawn and have attractive borders and flowers if the chickens have access to this area.

In planning the home grounds, three fairly distinct sections are usually recognized. These are the public area, the service area, and the private area.

The Public Area. The public area is that portion of the grounds facing the highway and visible from it. It may extend from the house to the road or, if the house is back some distance, to a pasture or field. The house should be

the dominant feature and all plantings should be made with this in mind. The lawn is best open except for a few trees used to frame the house. Shrubs and flowers should be confined to the foundation planting and borders.

The drive will usually enter and pass to one side of this area. Trees and shrubs may line the drive if a suitable windbreak has been provided to control snow drifting.

Remember that this area gives the public its first impression of the home. Keep it neat and attractive. Do not plant isolated shrubs or flower beds in the middle of the lawn. They do not look well there and merely add to the work of maintenance.

If the house is well back from the road, a low, informal hedge may separate the front yard from the intervening field or pasture. Never make a tall planting across the front of the yard to block the view from the highway.

The Service Area. The service area is one of the most important sections of the farmstead and one that is often most neglected. It should border on the service entrance to the house and be confined to as little space as possible. In this area will be located such items as the garage, clothesline, trash burner, ash receptacle, woodpile, etc. The clothesline should be adequate for the needs of the family and located in full sun. The plantings in this area should be simple and consist chiefly of screen plantings to hide unsightly objects. There should be room to back a truck into the area to deliver wood or coal to the basement.

The Private Area. The private area or outdoor living room normally will be to the rear and to one side of the house. Since this area is devoted to outdoor living for the family and guests, it should have privacy. The borders of the area should be planted to small trees, shrubs, and flowers. The lawn should be open except for an occasional shade tree.

In order that this area may receive maximum use, attractive and comfortable lawn furniture should be provided. An outdoor fireplace and a picnic table will make a nice addition. It is in this space that special features such as lily pools, birdbaths, birdhouses, and sundials should be placed.

Drives and Walks. The location and arrangement of the drives and walks are of utmost importance. The entrance drive should have ample width and be graded to prevent snow drifting in the winter. It should be graveled or hard-surfaced so that it will be serviceable at all seasons of the year. Since this road must serve the house as well as the farmyard, it should pass near the service entrance to the house. There should be suitable parking space near the entrance that guests are expected to use.

A drive that approaches the house along one side of the public area will usually fit well into a landscape plan. A turn around should be provided for the use of service trucks and visiting guests. The drive should lead directly to a garage convenient to the house. The drive to the farm court should branch off from the entrance drive.

Hard-surfaced walks will be a big help in keeping the lawn in good condition and the house clean. One sidewalk should lead from the parking area to the house entrance and another from the service entrance to the farmyard court.

The Lawn. A good lawn is the most important part of the home landscape. It is often compared with the canvas upon which a picture is painted. The house and its plantings, the shrub and flower borders, the lawn trees and garden accessories complete the picture. The lawn should be open and spacious, with few objects to interfere with mowing and maintenance.

Drainage should be away from the house. The surface may be slightly rolling if there are no pockets left to catch and hold water.

The Use of Trees. Trees form the backbone of any landscape planting. Since they are more or less permanent features of the landscape, care must be exercised in locating them. It is very expensive to remove a tree that has been planted in the wrong place. Care must also be exercised in selecting the right kind of tree for each purpose.

Trees in the home landscape are used:

FIG. 2. An informal pool should be located toward the back of the yard with shrubs and trees used for a background



- (1) to provide shade in selected spots in the outdoor living room and to shade certain rooms of the house at certain times of the day,
- (2) to enframe the views of the house and other interesting scenes,
- (3) to give a background for the house,
- (4) to give an interesting skyline and serve as a background for the shrub border,
- (5) to screen unsightly views, and
- (6) to provide wind protection (see Extension Bulletin 196, "Planting the Standard Windbreak").

The size and form when mature should be considered in selecting trees for different purposes. If the house and yard are small, medium or small trees are best used to keep the entire planting in scale. If the house is large, larger varieties will serve best.

The trees used to enframe the house should not be planted directly in front of the house but at an angle from the front corners (see figure 8). Backyard trees may be planted directly in back of the house but not too near the house foundation. Always keep in mind the

size of the mature tree. Trees used in the shrub border should be small and but slightly larger than the shrubs used. Evergreens are excellent for screening unsightly views and for dividing the yard into areas. They also add color to the winter landscape. Shade trees in the private area should be located to give shade where needed.

Keep in mind the seasonal aspects of the tree. Plant a few with attractive spring flowers and some with brightly colored autumn leaves. The hawthorns and crabapples are excellent for spring bloom, while the maples have attractive autumn foliage.

Do not overplant your yard to trees. Remember that sunlight may be just as welcome as shade. If you desire a fine lawn and lovely flowers, all parts of the garden should receive sunlight during a portion of the day.

The Windbreak. The windbreak will normally be located on the north and west sides of the farmstead. In cases of north or west exposures it will be impossible to run the windbreak across the front of the yard. In such a situation

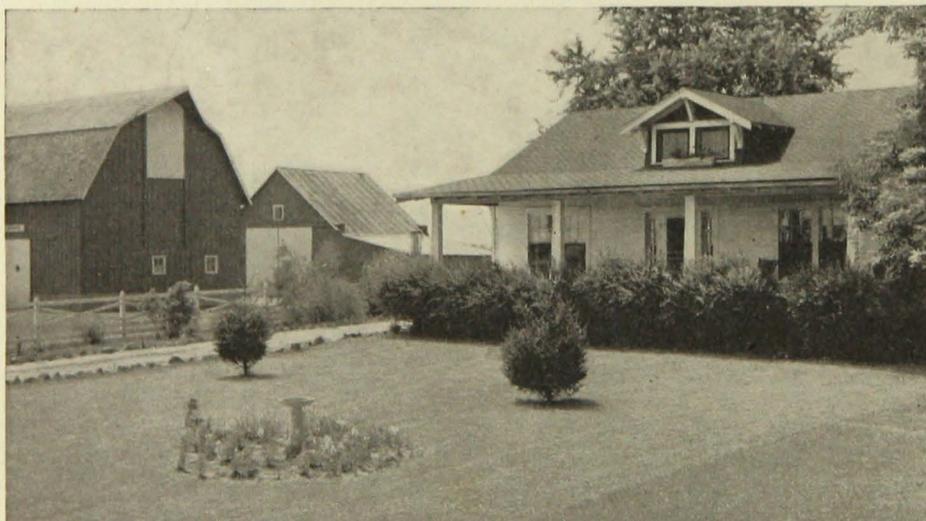


FIG. 3. Some common landscaping mistakes made in this farmyard are: jagged rocks lining driveway, poorly placed specimen trees, round flower bed in center of lawn, and uniform height of foundation planting

FIG. 4. Avoid using materials in the foundation planting that grow too fast and become too tall



the windbreak may come part way across the front, thus offering some wind protection and still not entirely blocking the view of the house from the road.

The Foundation Planting. The purpose of the foundation planting is to blend the house with the lawn. A house is a very unnatural object and seems quite out of place when set in the middle of an open area. By planting shrubs around the base, the harsh lines of the house may be softened and it becomes a part of the landscape scene.

Since a good foundation planting is so important, great care should be exercised in selecting the plants and arranging them. An all too common mistake is to use trees and shrubs in the foundation that are coarse and soon become too tall. Colorado spruce, Tatarian honeysuckle, and sweet mock-orange are good examples of materials often used that soon become too large. Another mistake often made is to use a single species or variety such as the Vanhoutte spirea around the entire front of the house.

Upright shrubs should be used at the corners and between windows. Lower and more spreading forms should be

used beneath windows and in front of low porches. The upright shrubs used at the corners may need to be faced with lower growing and spreading shrubs. Such a planting will blend the house gradually with the lawn. It is not necessary or desirable to hide the entire foundation. Leave an open spot here and there where the foundation will be clearly visible. The entrance planting should be such as to attract attention to the doorway.

In selecting materials for the foundation planting use plants with fine-textured foliage. Avoid shrubs that have coarse stems and large leaves. Consideration must also be given to the growing requirements of the shrubs. Shrubs used on the shaded sides of the house should be those that will tolerate shade, while those on the exposed sides should be drouth resistant.

Do not plant too close to the foundation and do not crowd the specimens. Keep in mind the size of the mature shrubs. Large shrubs should be spaced 5 to 6 feet apart, medium shrubs 4 to 5 feet apart, and small shrubs 3 to 4 feet apart.

Evergreens make a nice foundation planting but are rather expensive.

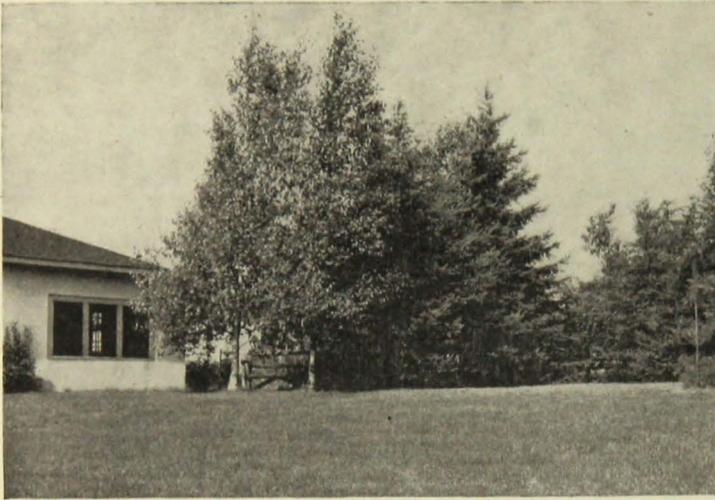


FIG. 5. These native trees and shrubs make an attractive border

Often a mixed planting of evergreens and deciduous shrubs is more desirable than either alone. If you plant evergreens, be sure that dogs are kept away and that the right kinds are selected for each exposure.

The Shrub Border. Shrub borders are used for the edges of the public area and for enclosing the private area. The outline of the informal border should be a curved rather than a straight line. The curves should be graceful and sweeping rather than short or choppy (see figure 8).

In planting the shrub border place small trees and tall shrubs toward the back. These should in turn be faced with medium and low shrubs. In framing a desirable view, use only low shrubs with taller shrubs or small trees on either side.

Coarser shrubs can be used in the shrub border than in the foundation. In selecting materials consider year-around beauty. Include shrubs that bloom at different seasons and those that have highly colored berries and autumn leaves. An occasional shrub with red or yellow leaves may be added to give spots of color to the border.

Plant only hardy shrubs in the main

parts of the border. If you wish to experiment with tender varieties, plant them in spots where their disappearance will not be noticed. Native shrubs are excellent, since they are hardy and will blend better with natural surroundings than introduced species. It is usually best to buy the native shrubs from a nursery, for shrubs growing in the wild are difficult to transplant.

The Use of Flowers. Flowers add a touch of color to the border and add a great deal to the enjoyment of the outdoor living room. Flowers should be planted only in the border or in the foundation planting. Isolated flower beds in the middle of the lawn are difficult to maintain and clutter up the lawn. A special flower garden may be provided where flowers can be grown in rows or in formal beds. This special flower garden will furnish valuable cut flowers throughout the season.

The main plantings in the flower border should be of perennials. Annuals may be used to fill in the blank spots. The following suggestions will add interest to your flower border:

(1) Use vertical line plants such as lythrum, delphinium, and hollyhock in groups toward the back of the border.

(2) Use horizontal line plants, such as phlox, peonies, chrysanthemums, etc., in masses that are wider than deep between the upright forms and in front of them.

(3) Consider color harmony. Light colors are more pleasing than deep colors. Shades of yellow are harmonious with each other and give warmth in early spring and late fall. White is a peacemaker and tends to make dissimilar colors more harmonious. Avoid the use of red and purple flowers together. Blue flowers are fine for midsummer and blend well with white or yellow colors.

(4) Plan your border to have color throughout the season, but do not have more than two or three colors dominant at one time.

The Use of Vines. Vines can be used for a variety of purposes. Certain clinging types are excellent for decorating brick or stucco houses. Open porches are often screened and shaded by the use of annual or perennial vines. Out-houses and fences may also be effectively covered with vines. Vines are also used to cover clothesline posts, trellises, pergolas, etc.

Use hardy perennial vines for permanent effects. Annual vines may be used for temporary effects. See the plant list at the end of the bulletin for adapted varieties.

GARDEN ACCESSORIES

Garden accessories are used to add interest and variety to the garden. They should be located near the borders in prominent places rather than scattered about the lawn. A birdbath is best when located in a somewhat secluded spot but yet visible from the living room window of the house. Sundials should be in full sun if they are to be effective. The fireplace and picnic table should be in some secluded nook. These last features may even be removed from the yard area and placed in a

corner of the orchard or in the shelter-belt.

A pool can be a desirable part of the yard, or a menace. Pools should be located near the shrub border rather than in the center of the lawn. An informal pool goes best with informal plantings, while a formal pool should be a part of a formal garden. Locate the pool where it will receive full sunlight at least half of the day if you wish to grow waterlilies. For safety, a meshwork of steel rods or a coarse wire screen can be installed about two inches below the surface of the water. This will not detract from the appearance of the pool and will prevent accidental drownings.

A rock garden may be a part of the private area. If you attempt a rock garden, remember that it should provide a habitat for rock garden plants rather than be a place to exhibit rock forms. In a well-planted rock garden the rocks are scarcely visible. It is never advisable to make a rock garden in the center of the lawn or a perfectly flat portion of the grounds. It should be above all appear natural and seem to belong to the garden. A bank or slope offers a natural place for a rock garden development. A rock garden may also serve as a background for the pool. If you merely wish to grow common garden flowers, it is better to plant them in the border and forget about the rock garden, since the maintenance of a rock garden requires considerable time.

Attractive and serviceable lawn furniture should be provided for the comfort of the guests. Movable chairs and benches are usually preferred to heavy concrete benches.

THE LANDSCAPE PLAN

Before planting a new development or making changes in the existing one, it will be advisable to draw up a landscape plan. This need not be elaborate.

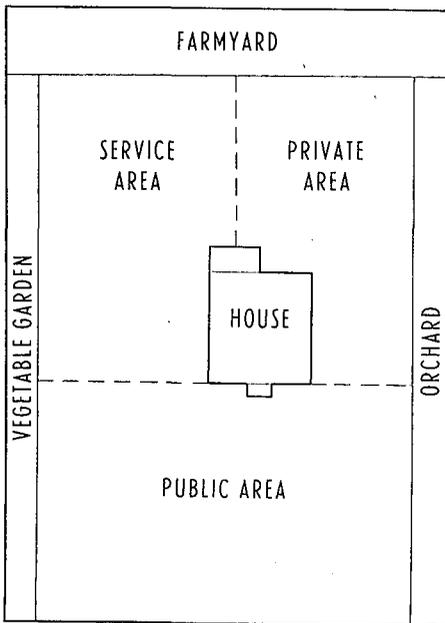


FIG. 6. Measure the farm grounds and locate the house and the three areas on cross-section paper, using a definite scale

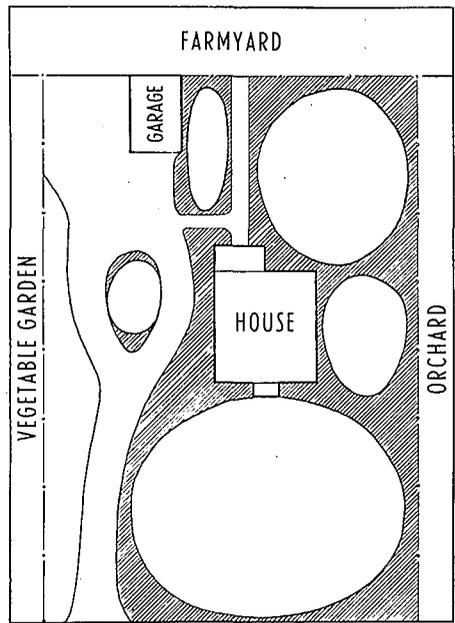


FIG. 7. Draw in the drives and walks. Shade the areas outside of the circles to indicate approximate location of plantings

Just putting your ideas on paper will help to make the desired changes. Remember that it is much easier to move a tree or shrub on paper than it is to move it after it has been planted in the wrong place.

To draw up the plan, you will need some cross-section paper, some tracing paper, a ruler, pencil, and tape measure. Mount the cross-section paper on a smooth board with thumbtacks so you can take it out into the yard. Measure the size of your grounds and plot the dimensions on the cross-section paper. If cross-section paper is not available, a fairly accurate plan can be drawn on plain paper. Next locate the house on the plan. This can be done by measuring in from the front and side boundary and accurately measuring the house. Windows and doors should be accurately located and the height of the windows noted.

By this same method locate the

existing drives, trees, shrubs, etc. Always measure along or at right angles to some established line. You now have an accurate plan of your grounds. Almost immediately you will see where rearrangements can be made.

Fasten a sheet of transparent tracing paper over your existing plan. The lines will show through and you can start sketching the new plan as you want it. If your first plan doesn't suit you, and it probably won't, remove the tracing paper and use another sheet. Repeat this process until you have the desired plan. With this method you make all of your mistakes on paper. You can move a tree by merely rubbing it out with an eraser and putting it in a new location.

Some people find that it helps in getting the desired plan to first mark off the three areas, public, service, and private, by drawing lines out from the house (see figure 6). Next draw circles

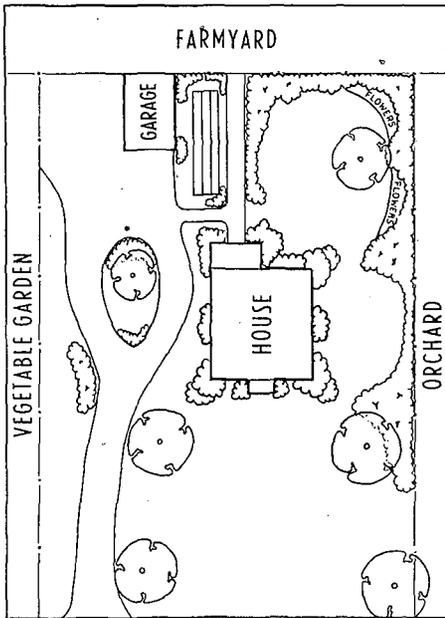


FIG. 8. Sketch in the outline of shrub and flower borders and locate the lawn trees

or ovals in the areas wherever they seem to fit. By shading in the portions outside of the circles you have the approximate locations for foundation and border plantings. The parts within the

circles should be left largely in lawn.

The outline for the shrub and flower borders can now be sketched in, following the general lines of the circles. The result should be similar to figure 8. This avoids the effect of "patchiness."

Having outlined the foundation and border-plantings, the next step is to determine the correct varieties to plant. Let us take a corner of the shrub border to illustrate. In figure 9 we have indicated the height of the shrubs desirable for each position. The shrubs are arranged so that for small groups an odd number of specimens will be used. Where space permits, the shrubs should be staggered rather than planted in a straight line.

By referring to the plant lists at the close of this bulletin, we can select the right variety of shrub to use in each group. Figure 9 shows such a selection of shrubs. In a similar manner a planting plan can be drawn for the entire yard, plant materials listed, and an order placed with some reliable nursery. In this way we select the shrub for each location rather than try to find a location for a miscellaneous collection of shrubs after they arrive from the nursery.

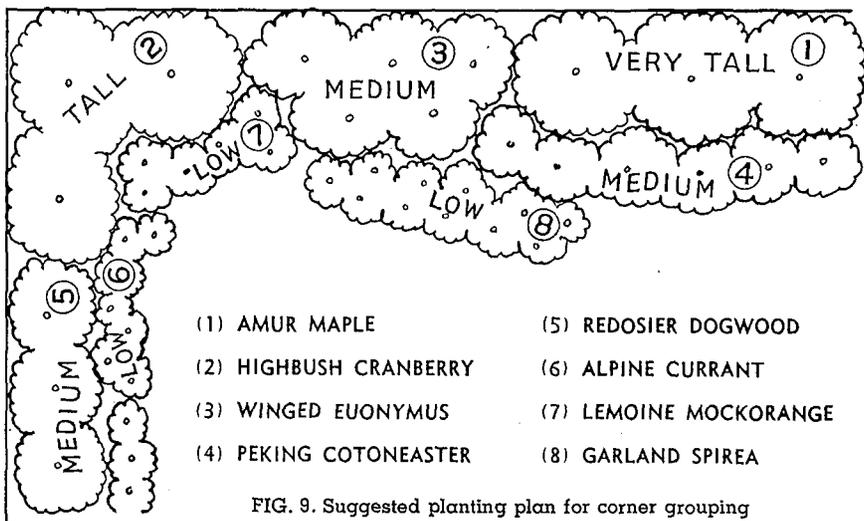


FIG. 9. Suggested planting plan for corner grouping

Part 2. Yard Maintenance

In Part I, we discussed the principles of landscape planning. This is where too many gardeners stop. No matter how attractive a yard may be, it will soon lose its beauty and usefulness unless it is properly maintained.

THE LAWN

A beautiful, well-kept lawn is an asset to any home. In addition to furnishing an attractive setting for the flower and shrub border and other features of the garden, the lawn has a useful role. On a hot summer day, the family and guests will enjoy relaxing on the cool inviting lawn.

Soil Preparation. Success or failure in lawns can usually be traced to the preparation of the soil prior to planting. Too often the subsoil excavated in building the house is spread out on top of the natural topsoil to form the seedbed for the lawn grasses. A far better practice is to remove the topsoil from around the building site and replace it after the grading has been done.

The soil should be well drained and retentive of moisture. For bluegrass, a fertile loam high in organic matter is best. If the soil is a heavy clay or light sand, it will benefit from liberal applications of organic matter. This can best be supplied by the use of well-rotted barnyard manure or by plowing or spading under a cover crop. Remember that it is much easier to incorporate organic matter into the soil before seeding than after.

A finely prepared seedbed is necessary for a good stand of lawn grass. Plow or spade deeply and work frequently to kill any weeds that may germinate. The seedbed should be thoroughly compacted, even, and free from any small rocks. A roller will be useful in leveling the lawn and securing a compact soil.

Planting the Lawn. If water can be supplied, grass can be seeded at any time during the growing season. However, it is usually advisable to sow the seed either in early spring between April 15 and May 15 or in the fall between August 15 and September 15. Spring seeding has two drawbacks: annual weeds are apt to be troublesome the first season, and the hot, dry weather in midsummer may be hard on the young grass.

Kentucky bluegrass is probably the best lawn grass for fertile soils in Minnesota. If the lawn is sandy or shady, red or Chewings fescue will do better. A quick growing nurse crop such as perennial ryegrass, redtop, and white clover are valuable in the lawn mixture to establish a lawn quickly. If the lawn is properly fertilized, these nurse crops will be crowded out by the Kentucky bluegrass and fescue. If a bluegrass lawn is desired, use a mixture of six parts Kentucky bluegrass, two parts redtop, one part perennial ryegrass, and one part clover. Use three to four pounds of this mixture for 1,000 square feet of lawn surface. If you wish to establish a lawn in the shade or on sandy soil, substitute Chewings fescue for one half of the bluegrass in the above mixture.

After the ground has been properly prepared, mark it off into units of 1,000 square feet and weigh out the grass seed. The seed may be broadcast by hand or with a small grass seeder. A more uniform stand will be obtained if the grass is sown on a calm day and broadcast in two directions. After the seed is sown, lightly rake it in with a steel rake and then firm the seedbed by rolling. Sprinkle, using a fine spray, and keep the surface moist by frequent sprinklings until the grass is at least one and one half inches tall. Thorough soaking of the soil at less frequent in-

tervals should then replace the frequent sprinkling to induce deeper rooting of the grass.

Care of the Lawn. Care after seeding is very important if a fine lawn is to be maintained. During dry weather the lawn should be soaked to a depth of at least six inches once a week. Frequent and shallow watering does more harm than good since it induces shallow rooting.

The lawn should be mowed at frequent intervals at a height of from one to one and one half inches. Lawn clippings, if not too heavy, may be left on the lawn to serve as a mulch except during hot weather when decomposition is slow.

The border of the lawn should be neatly edged to separate the lawn from the flower border or foundation planting. When the edge is a straight line, stretch a cord and with a sharp, square-pointed spade cut vertically along the line. Next cut horizontally about two inches deep and remove the sod between the cut line and the border. This sod can be added to the compost pile or it can be spaded into the border. If the border is curved, lay out the garden hose in the proper curve and cut along it.

Control of Lawn Weeds. The control of lawn weeds can best be accomplished by the proper application of fertilizers accompanied by proper watering and mowing. On the farm, well-rotted barnyard manure will be the cheapest fertilizer to use. A light application of five to eight bushels per 1,000 square feet of lawn surface applied early in the spring and again about the first of September is better than a heavy application at one time. Spread evenly and rake to break up any lumps. If manure is not available, a compost prepared from decomposed leaves and other organic refuse can be substituted.

The use of commercial fertilizers to maintain lawn fertility is becoming

more popular. Commercial fertilizers are easier to apply and are free from weed seeds. When crabgrass is absent, three applications of a high nitrogen fertilizer, one in the early spring, the second in late June, and the third in late August, are recommended. If crabgrass has gained a foothold, omit the June application, since the summer application favors the growth of this annual weed. Ammonium sulfate which contains 20 per cent nitrogen is the best fertilizer to use. Apply at the rate of three pounds per 1,000 square feet when three applications a year are made. Apply while the grass is dry and soak into the soil at once since the grass leaves are easily burned by this fertilizer. A complete fertilizer high in nitrogen such as an 8-8-6 (8 per cent nitrogen, 8 per cent phosphorus, and 6 per cent potassium) might be used for either the fall or spring application in place of the ammonium sulfate. Apply this at the rate of six to eight pounds per 1,000 square feet. A lawn fertilizer drill will give an even distribution of the fertilizer, but it can be broadcast by hand. If broadcast by hand, first mix the fertilizer with a quantity of sifted garden soil.

If troublesome weeds such as dandelions and broad-leaved plantain persist, use one of the new hormone sprays containing 2, 4-D. Apply in the morning of a clear day when the temperature is above 70° F. From the middle of May to early June is a good time for the first application, although later application will give good results. If the surface of the lawn is completely covered, this one application should kill all of the broad-leaved weeds. A later application may be necessary to kill seedlings which come up. Since this spray will kill shrubbery and flowers as well, it is very important that the spray be applied only to the lawn surface. The spray tank must be thoroughly washed and rinsed before using for any other purpose.

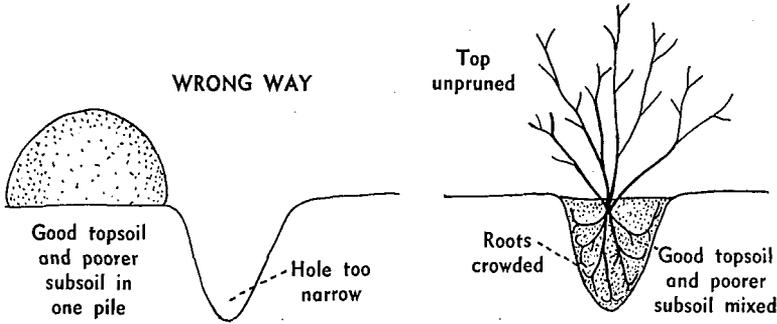


FIG. 10.
Wrong way to plant a tree or shrub

Renovation of Old Lawns. If your lawn is very weedy and there is little good grass present, it will be best to plow or spade it up and start a new lawn as outlined above. If the lawn is thin, it should be thoroughly raked to remove dead grass and leaves and then given a top-dressing with a good loam soil. Grass seed can then be sown at the rate of about one pound per 1,000 square feet. This should be done either in early spring or early in the fall. The same care will be necessary to prevent the young grass seedlings from drying out that is required when starting a new lawn.

PLANTING TREES AND SHRUBS

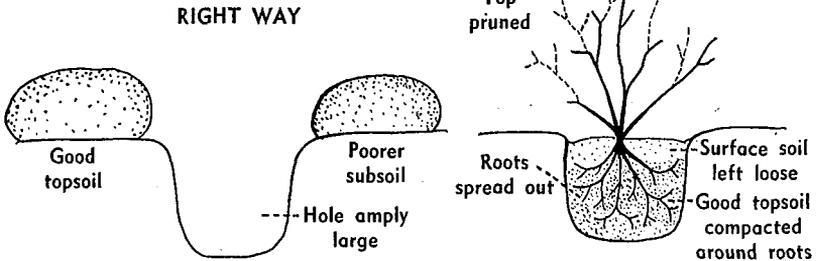
After the garden plan is made, we order our trees and shrubs and anxiously await their arrival. Before the plants come, it will be well to have the ground ready for them. The shrub border should be plowed or spaded and thoroughly worked. Stakes should be used to locate accurately the place for

each tree or shrub. Different length stakes may be used for different size shrubs. Follow your plan and drive the stakes where each shrub or tree will go. You may have to rearrange some of the stakes to fit the space.

When the plants arrive they should be planted at once or, if the weather or time does not permit, they should be heeled-in in some moist shady spot. Dig a trench with one side vertical and the other sloping. Unwrap your plants and line them up in this trench with the roots toward the vertical side. Cover the roots with dirt and pack it around them. The plants can then be planted when the weather permits.

Dig the holes amply large to accommodate the root systems after they are spread out. Root pruning is not advised except to cut off broken roots. Place the tree or shrub so that it will be but slightly deeper than it was in the nursery and gradually fill in the hole, being

FIG. 11.
Right way to plant a tree or shrub



certain that the loose soil gets in around the roots. If the soil is poor, replace with good loam soil. When the hole is nearly full, tramp the soil down thoroughly with your feet or, better still, push a garden hose down into the soil and fill the hole with water. As the water settles, it will pull the soil down around the roots. It is very important that no air pockets remain around the roots. Finish filling the hole and leave the surface soil loose. If dry weather follows, it will be necessary to water until the trees and shrubs are thoroughly established.

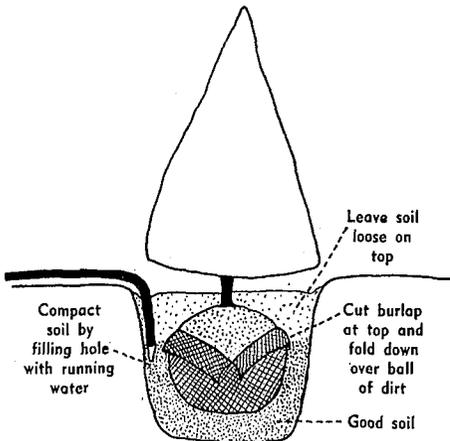


FIG. 12. Correct method of planting an evergreen. Burlap-wrapped ball of dirt protects roots from exposure to air

Evergreens are usually purchased with a ball of dirt around the roots. This is because evergreens are never completely dormant and exposure of the roots to air is usually fatal. When the trees arrive, dig holes a little larger than the balls and put them in place before removing the burlap. Cut away the surplus burlap around the top, but do not attempt to pull the burlap from under the ball. Fill in the hole around the ball with loose dirt and settle with water. Finish filling the hole with loose soil. Keep the tree watered until well established.

PRUNING TREES AND SHRUBS

The pruning of trees and shrubs is a necessary part of good maintenance. No other phase of gardening is as poorly understood as pruning. If a shrub becomes too tall, it is commonly cut back to the desired height by merely cutting off the ends of the branches. This results in a very unnatural flat or round-topped bush with bare stems. Except for clipped hedges, the aim in pruning should be to retain the natural form and beauty.

Pruning Tools. To do a good job of pruning, certain tools are essential. Small hand shears will serve for any branch under one-half inch. Lopping shears should be used for branches or stems over one-half inch and under one inch, while a pruning saw should be used for anything over one inch in diameter. For trimming a hedge, a pair of hedge shears is a necessity.

Tree Pruning. If shade trees are properly grown in well-fertilized soil, they should need little pruning. The natural form of the tree is best and any pruning should be directed at keeping this natural form. Any dead, diseased, or insect-infested branches should be removed. Low branches that interfere with mowing the lawn or that hang down over the walk should be removed. If the tree is so dense that grass does not grow underneath it, it may be advisable to remove some of the lower branches and thin out some of the branches higher up in the tree to let the light through. Pruning may also be needed to remove branches that interfere with telephone or light wires.

Pruning may be done at any time during the growing season, but early spring before growth starts is best, except for trees that bleed readily, such as maple and birch. Use a sharp saw and make all cuts smooth and close to the trunk or a main branch. Never leave stubs to decay. If the branch is large, undercut out from the trunk

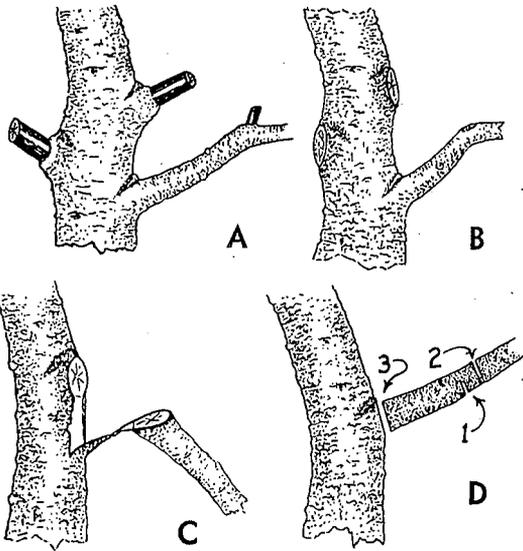


FIG. 13. Pruning a large branch

- A. Wrong—stubs left to decay
 B. Right—branches cut flush with main stem
 C. Wrong—bark tears from weight of branch
 D. Right—branch cut first at 1 and 2

about a foot and then saw the branch off, leaving a temporary stub. This prevents the splitting and tearing of the bark. The stub should then be cut off close to the trunk. Any wounds over two inches in diameter should be painted. Use orange shellac or grafting wax, as they will not injure the tissues.

Pruning Deciduous Shrubs. Pruning methods differ with different groups of shrubs. Those that bloom early in the spring on last year's wood should be pruned after flowering to get the maximum show of bloom. On the other hand, shrubs that bloom late in the season on new wood should be pruned early in the spring before growth starts. Shrubs grown for their showy fall and winter fruits should be pruned lightly early in the spring and again after flowering. The dogwoods and willows that are grown for their brightly colored winter twigs should be cut back nearly to the ground in early spring

to force an abundance of new wood, which is brighter in color.

The amount to prune varies with the different shrubs and their uses. Many shrubs need little pruning except to remove dead or decaying branches. Shrubs that send up many shoots from the ground should be pruned each year to keep the entire shrub young and full of flowers. The Vanhoutte spirea and Tatarian honeysuckle are examples of shrubs of this type. Since these shrubs are spring blooming, they should be pruned after flowering. A few of the oldest stems should be cut off at the ground line. This will force vigorous new shoots from the base that will produce flowers the following year. Branches that have grown too tall should be cut back to a side branch. Weak and slender shoots should be removed. This method of pruning retains the natural form of the shrub and keeps it young.

A number of shrubs should be cut back to one or two strong buds on each stem early in the spring. This group includes the semihardy varieties that kill back most every winter such as Anthony Waterer and Froebel spirea, snowhill hydrangea, and Chenault coralberry. These are summer blooming and produce larger flower clusters and more attractive foliage as a result of this heavy pruning. Hybrid tea roses should also be pruned back heavily in early spring to produce large flowers.

Pruning Hedges. Clipped hedges are usually sheared one or more times during the growing season. Hedge shears are used for this purpose. When the hedge is first planted, it should be cut back nearly to the ground. Let the hedge increase slightly in height and width each year. Always keep the base broader than the top. This will allow the sunlight to reach the lower leaves and thus keep the hedge full of leaves to the ground. If the hedge is allowed to flare out at the top, the lower leaves are shaded and the base soon becomes

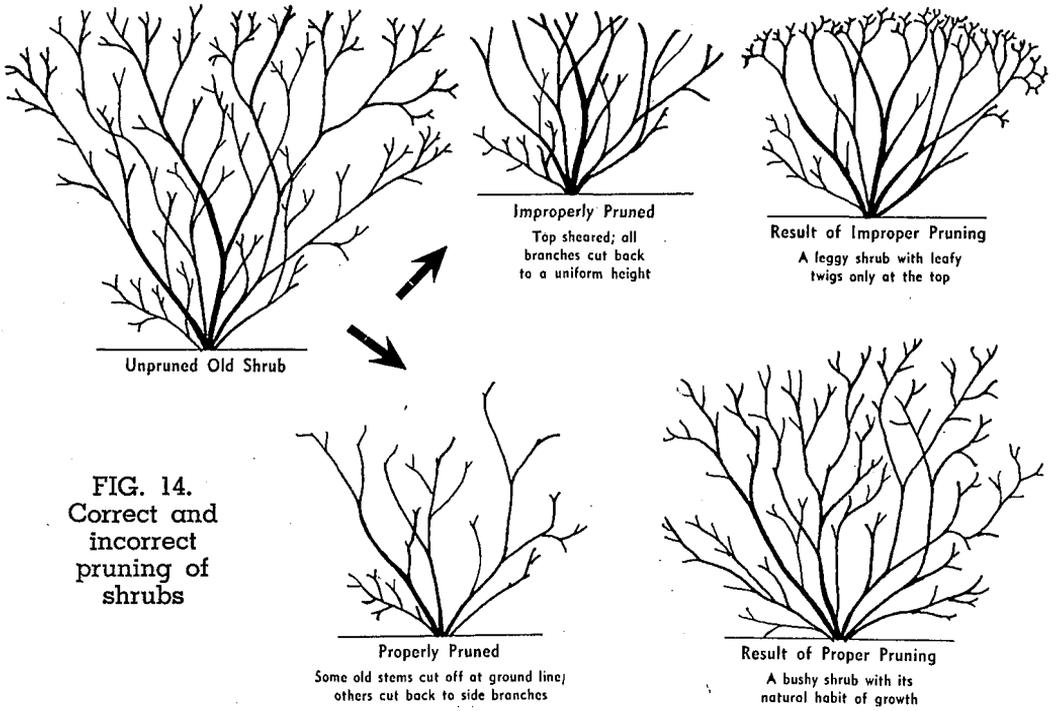


FIG. 14. Correct and incorrect pruning of shrubs

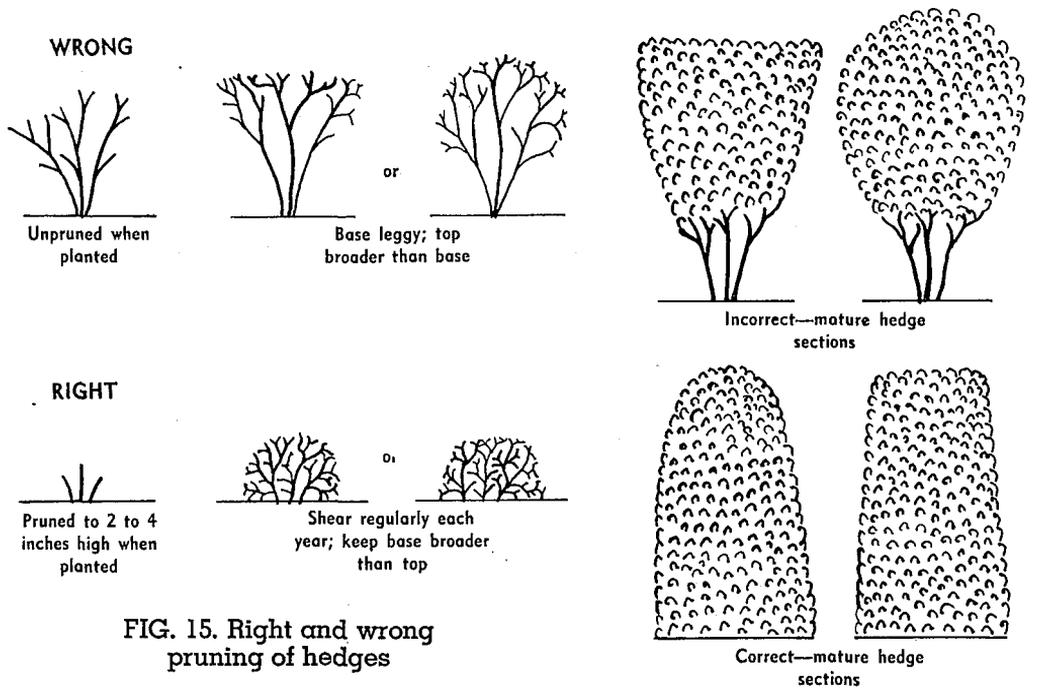


FIG. 15. Right and wrong pruning of hedges

open and leggy. Hedges may be kept flat or rounded on the top.

Pruning Evergreens. Evergreen trees that are used for backgrounds or lawn specimens should not be pruned except to remove dead branches or an extra leader. Upright specimens that are used in the foundation planting should be kept sheared or they will soon grow too large. Junipers and arborvitae can be sheared at any time during the growing season, but recover most quickly if sheared just as growth starts in the spring. If spruces or pines are used in the foundation planting, they can be kept small and compact by cutting off a half or two thirds of the new growth as the buds open each spring.

SOIL FERTILITY

Trees and shrubs, if they are to remain attractive, must be fertilized each year to keep them vigorous and in a state of good health. In the shrub border, well-rotted manure can be worked into the soil, and leaves can be left to form a protective mulch and add to the fertility of the soil. If manure is not available, scatter a complete fertilizer around under the shrubs, using about three pounds of fertilizer for each 100 square feet of soil surface.

Trees growing on the lawn receive little benefit from the fertilizer applied to the lawn. Make numerous small holes about one inch in diameter, 18 to 24 inches deep, and two feet apart in the ground under the outer half of the branches. A crowbar can be used for making the holes. Put the fertilizer in these holes, using about five pounds for each inch in diameter of the tree.

WINTER PROTECTION

Most of the trees and shrubs listed in this bulletin are winter hardy and need no winter protection. Certain trees with thin bark, such as the mountain ash and some of the flowering crabapples, are subject to sunscald.

This results in dead patches of bark on the southwest sides of the main branches. During bright days in February and March, the sun warms up the bark on the southwest side of the tree and the tissues underneath the bark become active. A sudden drop in temperature results in the death of these activated tissues and dead strips of bark result. These trees can be protected by wrapping the trunks on the exposed side with strips of burlap or by tying a narrow board along the southwest side of each main branch.

If rabbits are numerous, young trees should be protected by wrapping the stems with burlap in the fall or by placing a cylinder of fine mesh wire screen around the base of each tree. This screen should be pushed into the soil about an inch to keep mice away from the trunk. Removing any tall grass from around the trunks will also help.

Fallen leaves always offer a problem in the fall. If left on the lawn, they are apt to smother the grass, especially if they are too thick. The leaves should be raked up and put in the compost pile to rot or put underneath the shrubbery to serve as a winter mulch. The practice of burning leaves is wasteful, since a pound of dry leaves is worth two pounds of rotted manure.

INSECTS AND DISEASES

Most of our ornamental trees and shrubs are remarkably free from insect and disease troubles. When insects appear, they should be promptly controlled. Spraying with nicotine sulfate will control sucking insects such as plant lice or aphids, while arsenate of lead used either as a spray or dust will control chewing insects. Dusting sulfur or bordeaux spray will check the spread of most of the common diseases. The prompt removal of all dead or dying branches will also aid in controlling these pests. Overwintering places for insects such as the fence row and shrub border should be kept clean of weeds.

Part 3. Woody Plant Materials

GENERAL LISTS

● Evergreens (narrow-leaved)

Trees for Lawn Specimens, Screens, or Background Plantings

- | | |
|--|---|
| *White Fir (<i>Abies concolor</i>) | Ponderosa Pine (<i>Pinus ponderosa</i>) |
| *Norway Spruce (<i>Picea abies</i>) | †Red Pine (<i>Pinus resinosa</i>) |
| *White Spruce (<i>Picea glauca</i>) | †Eastern White Pine (<i>Pinus strobus</i>) |
| Colorado Spruce (<i>Picea pungens</i>) | Scotch Pine (<i>Pinus sylvestris</i>) |
| *Austrian Pine (<i>Pinus nigra</i>) | *Douglas Fir (<i>Pseudotsuga taxifolia</i>) |

* Plant on heavier soils south of Twin Cities.

† Plant on heavier soils in eastern and northern Minnesota.

Medium, Upright Specimens for Foundation and Border Plantings*

- | | |
|---|---|
| Eastern Red Cedar (<i>Juniperus virginiana</i> and varieties) | †Eastern Arborvitae (<i>Thuja occidentalis</i>) |
| Rocky Mountain Juniper (<i>Juniperus scopulorum</i> and varieties) | †Pyramidal Arborvitae (<i>Thuja occidentalis pyramidalis</i>) |
| †Japanese Yew (<i>Taxus cuspidata</i>) | †Siberian Arborvitae (<i>Thuja occidentalis wareana</i>) |
- * May require shearing to keep them compact.
† Requires a moist protected spot; good on the north side of a house.

Low or Spreading Forms for the Foundation and Border Plantings

- | | |
|---|---|
| Pfitzers Juniper (<i>Juniperus chinensis pfitzeriana</i>) | Mugho Pine (<i>Pinus mugo mughus</i>) |
| Common Juniper (<i>Juniperus communis depressa</i>) | *Japanese Yew (<i>Taxus cuspidata</i> —dwarf or spreading varieties) |
| Savin Juniper (<i>Juniperus sabina</i>) | *Woodward Globe Arborvitae (<i>Thuja occidentalis woodwardi</i>) |
- * Requires moist, protected sites; will grow in shade.

Creeping Forms for Rock Gardens, Banks, and Foundation Plantings

- | | |
|--|---|
| Waukegan Juniper (<i>Juniperus horizontalis douglasii</i>) | Andorra Juniper (<i>Juniperus horizontalis plumosa</i>) |
|--|---|

● Deciduous Trees and Shrubs

Large Trees for Large Grounds—60 or more feet in height

- | | |
|--|--|
| Norway Maple (<i>Acer platanoides</i> and varieties) | Green Ash (<i>Fraxinus pennsylvanica lanceolata</i>) |
| *Silver Maple (<i>Acer saccharinum</i> and varieties) | †Common Honeylocust (<i>Gleditsia triacanthos</i>) |
| Sugar Maple (<i>Acer saccharum</i>) | Black Walnut (<i>Juglans nigra</i>) |
| Common Hackberry (<i>Celtis occidentalis</i>) | American Linden or Basswood (<i>Tilia americana</i>) |
| | American Elm (<i>Ulmus americana</i>) |
- * Brittle; do not plant near buildings.
† Not reliable north of the Twin Cities.

Medium to Small Trees for Small Grounds—25 to 60 feet in height

- | | |
|---|--|
| Ohio Buckeye (<i>Aesculus glabra</i>) | †Weeping Willow (<i>Salix vitellina pendula</i>) |
| Paper Birch (<i>Betula papyrifera</i>) | †American Mountain Ash (<i>Sorbus americana</i>) |
| Russian Olive (<i>Elaeagnus angustifolia</i>) | †European Mountain Ash (<i>Sorbus aucuparia</i>) |
| *Bolleana Poplar (<i>Populus alba bolleana</i>) | |
| Mayday Tree (<i>Prunus padus commutata</i>) | |
- * Narrow, upright habit of growth.
† Plant only in moist, protected sites.

Very Large Shrubs or Small Trees for Border Plantings or Lawn Specimens—12 to 25 feet in height

Amur Maple (*Acer ginnala*)
 Shadblow Serviceberry (*Amelanchier canadensis*)
 Siberian Peashrub (*Caragana arborescens*)
 Hawthorns (*Crataegus* spp.)
 European Euonymus (*Euonymus europaeus*)
 Amur Honeysuckle (*Lonicera maackii*)

Flowering Crabapples (*Malus*—varieties Hopa, Eley, Bechtel, Red Silver, and others)
 Purpleleaf Plum (*Prunus americana* var. Newport)
 Dahurian Buckthorn (*Rhamnus davurica*)
 Glossy Buckthorn (*Rhamnus frangula*)
 Japanese Tree Lilac (*Syringa amurensis japonica*)

Large Shrubs for the Border and Foundation Plantings—8 to 12 feet in height**1. For moist, protected sites**

*Eastern Wahoo (*Euonymus atropurpureus*)
 Sweet Mockorange (*Philadelphus coronarius*)
 American Elder (*Sambucus canadensis* and varieties)
 European Red Elder (*Sambucus racemosa*)
 *Wayfaring Bush (*Viburnum lantana*)
 Nannyberry (*Viburnum lentago*)
 American Highbush Cranberry (*Viburnum trilobum*)

2. For open, exposed sites

*Tatarian Honeysuckle (*Lonicera tatarica*)
 †Smooth Sumac (*Rhus glabra*)
 †Staghorn Sumac (*Rhus typhina*)
 Silver Buffaloberry (*Shepherdia argentea*)
 *Chinese Lilac (*Syringa chinensis*)
 Late Lilac (*Syringa villosa* and its hybrids)
 Common Lilac (*Syringa vulgaris* and its hybrids)

* Suitable for foundation plantings.

† Forms suckers.

Medium Shrubs for Border and Foundation Plantings—5 to 8 feet in height**1. For moist, protected sites**

Siberian Dogwood (*Cornus alba sibirica*)
 *Gray Dogwood (*Cornus racemosa*)
 Redosier Dogwood (*Cornus stolonifera*)
 *Winged Euonymus (*Euonymus alatus*)
 Peegee Hydrangea (*Hydrangea paniculata grandiflora*)
 *Amur Privet (*Ligustrum amurense*)
 Morrow Honeysuckle (*Lonicera morrowi*)
 Virginalis Mockorange (*Philadelphus virginalis*)
 Common Ninebark (*Physocarpus opulifolius*)
 Clove or Golden Currant (*Ribes odoratum*)
 *Arrowwood (*Viburnum dentatum*)

2. For open, exposed sites

*Russian Peashrub (*Caragana frutex*)
 *Peking Cotoneaster (*Cotoneaster acutifolia*)
 *European Cotoneaster (*Cotoneaster integerrima*)
 Cistena Sandcherry (*Prunus cistena*)
 *Nanking Cherry (*Prunus tomentosa*)
 *Flowering Plum (*Prunus triloba plena*)
 *Vanhoutte Spirea (*Spiraea vanhouttei*)

* Suitable for foundation plantings.

Small Shrubs for Foundation and Border Plantings—3 to 5 feet in height**1. For moist, protected sites**

- *Japanese Barberry (*Berberis thunbergii*)
- *Snowhill Hydrangea (*Hydrangea arborescens grandiflora*)
- *Lemoine Mockorange (*Philadelphus lemoinei*)
- *Dwarf Ninebark (*Physocarpus opulifolius nanus*)
- *Alpine Currant (*Ribes alpinum*)
- Ash-leaved Spirea (*Sorbaria sorbifolia*)
- *Billiard Spirea (*Spiraea billiardi*)

2. For open, exposed sites

- *Flowering Almond (*Prunus glandulosa*)
- *Threelobe Sumac (*Rhus trilobata*)
- *Rugosa Rose (*Rosa rugosa* and hybrids)
- *Threelobe Spirea (*Spiraea trilobata*)
- *Garland Spirea (*Spiraea arguta*)

* Suitable for foundation plantings.

Dwarf Shrubs under 3 Feet for Foundation and Border Plantings**1. For moist, protected sites**

- *Slender Deutzia (*Deutzia gracilis*)
- *Anthony Waterer Spirea (*Spiraea bumalda* var. *Anthony Waterer*)
- *Froebel Spirea (*Spiraea bumalda* var. *froebeli*)
- *Chenault Coralberry (*Symphoricarpos chenaulti*)
- *Indiancurrant Coralberry (*Symphoricarpos orbiculatus*)
- *Common Snowberry (*Symphoricarpos albus*)
- *Littleleaf Mockorange (*Philadelphus microphyllus*)

2. For open, exposed sites

- *Bush Cinquefoil (*Potentilla fruticosa*)
- *Russian Almond (*Prunus tenella*)

* Suitable for foundation plantings.

● Woody Vines**For Brick, Stone, or Stucco Buildings****1. For south and west sides**

- Engelmann Creeper (*Parthenocissus quinquefolia* var. *engelmanni*)

2. For north and east sides

- Japanese Creeper or Boston Ivy (*Parthenocissus tricuspidata*)

For Fences, Arbors, Porches, etc.

- Dutchmans Pipe (*Aristolochia sipho*)
- American Bittersweet (*Celastrus scandens*)
- Jackman Clematis (*Clematis jackmani*)
- Virgins Bower (*Clematis virginiana*)
- Everblooming Honeysuckle (*Lonicera heckrottii*)
- Common Moonseed (*Menispermum canadense*)

PLANTS FOR SPECIAL PURPOSES

● For Hedges

For Untrimmed, Flowering Hedges

1. *Large shrubs—8 to 12 feet*
Siberian Peashrub (*Caragana arborescens*)
Tatarian Honeysuckle (*Lonicera tatarica*)
Sweet Mockorange (*Philadelphus coronarius*)
Chinese Lilac (*Syringa chinensis*)
Common Lilac (*Syringa vulgaris*)
2. *Medium shrubs—5 to 8 feet*
Peegee Hydrangea (*Hydrangea paniculata grandiflora*)
Virginalis Mockorange (*Philadelphus virginialis*)
Vanhoutte Spirea (*Spiraea vanhouttei*)
3. *Small shrubs—3 to 5 feet*
Meadow Rose (*Rosa blanda*)
Rugosa Rose (*Rosa rugosa*)
Garland Spirea (*Spiraea arguta*)

For Trimmed Hedges

1. *For high hedges*
Amur Maple (*Acer ginnala*)
Dahurian Buckthorn (*Rhamnus davurica*)
Glossy Buckthorn (*Rhamnus frangula*)
Arborvitae (*Thuja occidentalis*)
2. *For medium hedges*
Peking Cotoneaster (*Cotoneaster acutifolia*)
Amur Privet (*Ligustrum amurense*)
3. *For low hedges*
Japanese Barberry (*Berberis thunbergii*)
Dwarf Ninebark (*Physocarpus opulifolius nanus*)
Alpine Currant (*Ribes alpinum*)

● For Dry or Sandy Soil

Large Shrubs or Small Trees—over 8 feet

- Rocky Mountain Juniper (*Juniperus scopulorum*)
Glossy Buckthorn (*Rhamnus frangula*)
Smooth Sumac (*Rhus glabra*)
Rose Acacia Locust (*Robinia hispida*)
Silver Buffaloberry (*Shepherdia argentea*)

Medium Shrubs—5 to 8 feet

- Indigobush (*Amorpha fruticosa*)

Small Shrubs—under 5 feet

- Common Juniper (*Juniperus communis depressa*)
Threelobe Sumac (*Rhus trilobata*)

● For Shady Places

Large Shrubs—over 8 feet

- Shadblow Serviceberry (*Amelanchier canadensis*)
Tatarian Honeysuckle (*Lonicera tatarica*)
European Red Elder (*Sambucus racemosa*)
American Elder (*Sambucus canadensis*)
Japanese Yew (*Taxus cuspidata*)
Wayfaring Bush (*Viburnum lantana*)
Nannyberry (*Viburnum lentago*)
American Highbush Cranberry (*Viburnum trilobum*)

Medium Shrubs—5 to 8 feet—Continued

- Peegee Hydrangea (*Hydrangea paniculata grandiflora*)
Amur Privet (*Ligustrum amurense*)
Common Ninebark (*Physocarpus opulifolius*)
Arrowwood (*Viburnum dentatum*)

Small Shrubs—under 5 feet

- Japanese Barberry (*Berberis thunbergii*)
Snowhill Hydrangea (*Hydrangea arborescens grandiflora*)
Alpine Currant (*Ribes alpinum*)
Flowering Raspberry (*Rubus odoratus*)
Thimbleberry (*Rubus parviflorus*)
Common Snowberry (*Symphoricarpos albus*)
Indiancurrant Coralberry (*Symphoricarpos orbiculatus*)

Medium Shrubs—5 to 8 feet

- Red Chokeberry (*Aronia arbutifolia*)
Gray Dogwood (*Cornus racemosa*)

● For Showy Fruits and Seeds in Fall and Winter: Also for Attracting Birds

Very Large Shrubs

or Small Trees—over 12 feet

Shadblow Serviceberry (*Amelanchier canadensis*)—bluish red

Hawthorns (*Crataegus* species)—yellow, red, green

European Euonymus (*Euonymus europaeus*)—reddish orange

Amur Honeysuckle (*Lonicera maackii*)—red

Ornamental Crabapples (*malus* hybrids)—Hopa, Eley, Dolgo, Red Silver, Flame, etc.)—red

American Mountain Ash (*Sorbus americana*)—orange red

European Mountain Ash (*Sorbus aucuparia*)—orange red

Large Shrubs—8 to 12 feet

Eastern Wahoo (*Euonymus atropurpureus*)—reddish orange

Tatarian Honeysuckle (*Lonicera tatarica*)—red or orange

Smooth Sumac (*Rhus glabra*)—velvety red

American Elder (*Sambucus canadensis*)—purple

Large Shrubs—8 to 12 feet—Continued

European Red Elder (*Sambucus racemosa*)—red

American Highbush Cranberry (*Viburnum trilobum*)—red

Medium Shrubs—5 to 8 feet

Red Chokeberry (*Aronia arbutifolia*)—red

Peking Cotoneaster (*Cotoneaster acutifolia*)—bluish black

European Cotoneaster (*Cotoneaster integerrima*)—red

Small Shrubs—under 5 feet

Japanese Barberry (*Berberis thunbergii*)—red

Native Roses (*Rosa* species)—red

Common Snowberry (*Symphoricarpos albus*)—white

Indiancurrant Coralberry (*Symphoricarpos orbiculatus*)—red

Vines

American Bittersweet (*Celastrus scandens*)—scarlet

● For Highly Colored Summer Foliage

Large Shrubs—over 8 feet

Russian Olive (*Elaeagnus angustifolia*)—silver

Purpleleaf Plum (*Prunus americana* var. Newport)—purple

Golden American Elder (*Sambucus canadensis* var. *aurea*)—yellow

Silver Buffaloberry (*Shepherdia argentea*)—silver

Medium Shrubs—5 to 8 feet

Golden Mockorange (*Philadelphus coronarius aureus*)—yellow

Goldleaf Ninebark (*Physocarpus opulifolius aureus*)—yellow

Redleaf Rose (*Rosa rubrifolia*)—red

Small Shrubs—under 5 feet

Redleaf Japanese Barberry (*Berberis thunbergii atropurpurea*)—reddish purple

Cistena Sandcherry (*Prunus cistena*)—reddish purple

● For Highly Colored Autumn Foliage

Large Trees—often over 60 feet

- Red Maple (*Acer rubrum*)—red
 Silver Maple (*Acer saccharinum*)—yellow
 Sugar Maple (*Acer saccharum*)—yellow or red
 Northern Red Oak (*Quercus borealis*)—bronz red

Small Trees—25 to 60 feet

- Ohio Buckeye (*Aesculus glabra*)—yellow to red
 Paper Birch (*Betula papyrifera*)—yellow
 Ginkgo (*Ginkgo biloba*)—yellow

Large Shrubs—over 8 feet

- Amur Maple (*Acer ginnala*)—yellow to red
 Smooth Sumac (*Rhus glabra*)—red
 American Highbush Cranberry (*Viburnum trilobum*)—purplish red
 Nannyberry (*Viburnum lentago*)—red

Medium Shrubs—5 to 8 feet

- Red Chokeberry (*Aronia arbutifolia*)—purplish red
 Redosier Dogwood (*Cornus stolonifera*)—red
 Gray Dogwood (*Cornus racemosa*)—reddish purple
 Peking Cotoneaster (*Cotoneaster acutifolia*)—purplish red
 Winged Euonymus (*Euonymus alatus*)—bright red
 Clove or Golden Currant (*Ribes odoratum*)—red
 Vanhoutte Spirea (*Spiraea vanhouttei*)—dull red
 Arrowwood (*Viburnum dentatum*)—glossy red

Small Shrubs—under 5 feet

- Japanese Barberry (*Berberis thunbergi*)—red
 Rugosa Rose (*Rosa rugosa*)—yellow

Vines

- Engelmann Creeper (*Parthenocissus quinquefolia* var. *engelmanni*)—red
 Japanese Creeper or Boston Ivy (*Parthenocissus tricuspidata*)—red

● For Colored Winter Stems

Trees

- Paper Birch (*Betula papyrifera*)—white
 Quaking Aspen (*Populus tremuloides*)—silvery white

Shrubs

- Siberian Dogwood (*Cornus alba sibirica*)—red
 Redosier Dogwood (*Cornus stolonifera*)—red
 Yellowtwig Dogwood (*Cornus stolonifera flaviramea*)—yellow
 Golden Willow (*Salix alba vitellina*)—yellow
 Redstem Willow (*Salix alba chermesina*)—red

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