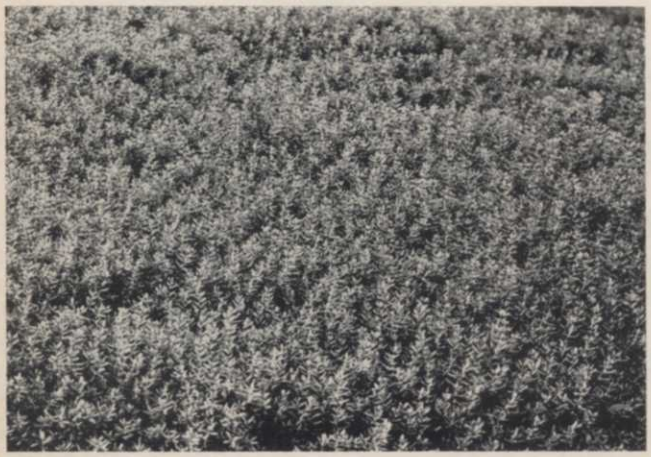
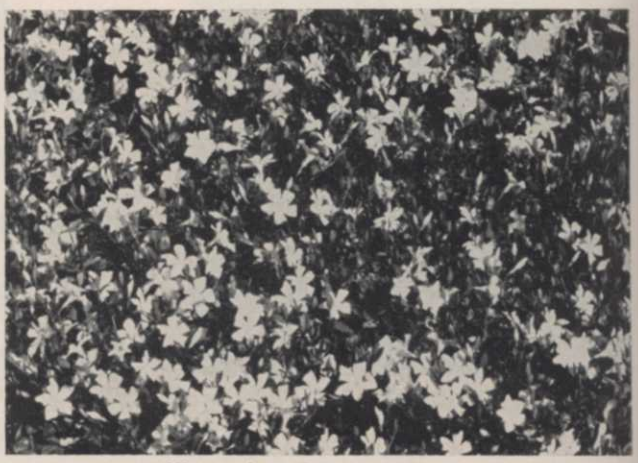
Turfgrasses and Ground Covers



Pachistima canbyi (Courtesy of The Arnold Arboretum)



Vinca minor (Courtesy of The Wayside Gardens Co.)

for Parks and Recreation Areas

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BECAUSE more emphasis is being devoted to the development of parks and recreation facilities, and because they are more heavily used than in the past, the establishment and maintenance of good turfgrasses and ground covers are of prime importance. Proper planting and care of grasses and covers can make recreation facilities attractive and more enjoyable to the users.

Plan Turf Areas Early

The establishment of turfgrasses should be planned in the early stages of park or recreation area development. Once a facility is in use by the public, it is much more difficult to establish a good turfgrass lawn. Planning should encompass proper site grading, proper soil preparation (including the liberal use of commercial fertilizers), and selection of the best turfgrass species.

Quality of the soil will influence the amount and kind of commercial fertilizer required and also selection of grass species. Another major factor determining grass selection is the planned usage of the area.

"End Use" Recommendations

For a general playground, a turf mixture of bluegrass and creeping red fescue, or a straight seeding of Alta or Kentucky-31 tall fescue can be used. If the soil is reasonably good, and in an open area, a bluegrass and red fescue mixture will provide a beautiful turf. However, if the soil is a heavy clay or is extremely sandy, such a mixture will be difficult to establish, and straight seedings of Alta or Kentucky-31 fescue might be considered.

For picnic and limited-use areas in open, wooded spaces, Alta or Kentucky-31 fescue will not establish a good stand of grass. Neither can a good, full turf be expected of Kentucky bluegrass. For these spaces, a half-and-half mixture of Kentucky bluegrass and creeping red fescue is recommended. In many little-used wooded areas, the use of ground cover plants rather than turfgrasses might be better.

In the more heavily used turfgrass areas, it is important to establish a maintenance program that will include annual applications of commercial fertilizer and possible use of turf aeration equipment to help relieve soil compaction.

Many of the most usable park areas may be subject to floods. This must be considered when planning for turfgrasses. What happens to a good stand of tall fescue if floods deposit a layer of silt over all or part of the area? In most cases, the stand of grass, whether tall fescue or bluegrass, will be lost if 2" to 3" of sand or silt are deposited. Most grasses, though, can recuperate from deposits of ½" to 1" of sand or silt.

Do not use cheaper mixtures

that include timothy, bromegrass, or legumes for seeding and establishing turfgrasses for parks and recreation facilities. Such mixtures result in rough, clumpy turfs, which can be dangerous in heavily used playgrounds.

Kentucky Bluegrass Best

To summarize procedures for establishing turfgrasses, when drawing up the original plans for development of the facility and its plantings: (1) include an item in the budget specifically for turfgrass establishment; (2) allow for adequate site and soil preparation; (3) be sure specifications include provision for a liberal quantity of a complete commercial fertilizer to be thoroughly incorporated into the seedbed before planting; and (4), consider how each area is to be used, and select the species of grass most suited to conditions. Remember that Kentucky bluegrass is still the best all-around permanent turfgrass throughout much of the country. Since bluegrass does not develop well in shaded areas, creeping red fescue can be added to these seedings. For the more heavily used areas, consider a heavy seeding of Alta or Kentucky-31 fescue. No other species of grass need be used along with tall fescue. Develop an annual maintenance program for turf areas, particularly those used most heavily, including the use of commercial fertilizer, possible use of turf aerification equipment, and overseeding where necessary.

Best Ground Covers

Though turfgrasses make the best and most solid ground plantings, there are many areas where turfgrasses cannot be used and where the use of other ground cover plants will add to the attractiveness of park and recreation facilities. In addition to more than 30 years of turfgrass research, Iowa State University has established plots to observe various herbaceous and woody plants that may have a place as ground covers under Midwest conditions. In the most recent plots, established slightly more than 10 years ago, these plants are tested for winter hardiness, drought resistance, effectiveness as ground covers and general adaptability to Midwest situations. Some plots are in open sunny locations; others are partially shaded and have tree root competition.

There are several annual plants that have the distinct advantage, for a ground cover, of giving a show of bloom during a good part of the growing season. The annual known as the Dahlberg daisy *(Thymophylla tenuiloba)* performs best in the open sun, on a bank, or in similar areas. Once it starts to bloom in late spring, it will produce a profusion of yellow flowers until frost. It is best to start these plants indoors and set them out after danger of severe frost is over.

Annuals Provide Color

Another annual ground cover is the marigold *Tagetes signata pumila ursula.* This dwarf annual gives excellent color all during the growing season. It is easily started from seeds, and quickly develops into a good cover.

Alyssum is also a good ground cover. The variety, Carpet-of-Snow, has showy, white flowers. The variety, Royal Carpet, has equally attractive red flowers. Another annual, alyssum, *Alyssum maritimum,* is one of the best of this genus for reseeding itself.

We are all familiar with petunias. These annuals do very well as a ground cover when set out early in the spring. If given a good start, they will bloom and grow profusely all summer long and will often bloom until after the first two or three heavy frosts.

A creeping form of zinnia also works very nicely as a ground cover plant. This is the genus Sanvitalia.

Still another familiar plant is the rose moss, genus Portulaca. Once established, it seems to reseed readily. This plant will perform very well in hot, dry soils and even appears to be able to grow in partial shade.

These annuals that readily reseed themselves are well adapted to park areas having steep banks that are difficult to mow and of little use. If they are started from plants and given a little extra care during the first year to establish them, many will reseed with little or no further care.

Herbaceous Perennials

Prostrate thyme *(Thymus serpyllum)* is one of the herbaceous perennials that provides a good ground cover. This is a very low grower and is excellent for planting between paving blocks, along rock walls, or on rock ledges. It can also be used in sunny areas for a ground cover. Prostrate thyme is occasionally injured by low temperatures during the winter, so it might be reserved for the more sheltered areas and for use in the southern Midwest. Some winter injury has been observed in Iowa trial plantings.

An old favorite among the herbaceous perennial ground covers, but one that is still widely used, is ajuga. This plant, like prostrate thyme, is on the climate borderline in central Iowa. *Ajuga reptans* has, however, survived most winter seasons without a great deal of injury.

Another herbaceous perennial that has long been well known as a ground cover is *Vinca minor,* also known as periwinkle or creeping myrtle. It prefers dense or partial shade and reasonably good soil. It will remain green if placed in a location that receives winter shade and will probably perform best in sheltered areas of the central and southern Midwest. It may be subject to some winter injury unless it is in a protected area or covered for the winter by snows or mulches. This ground cover, which produces lavender-blue flowers in May and June, is especially sensitive to winter injury if grown in the sunlight.

Moss pink *(Phlox subulata)* has also performed very well in Iowa State's ground cover plots. This plant prefers full sunlight and grows in almost any soil. Moss pink grows about 6″ tall and produces masses of pink

flowers in late April or early May. The plants, which form small mounds of foliage that grow together into a solid carpet, can be used on banks, rock hills, and similar locations. Some persons may object to moss pink, because the cover occasionally looks slightly ragged after it blooms.

The herbaceous perennial, lily-of-the-valley *(Convallaria majalis)* is a plant that deserves consideration where there is a rich humus soil and dense or partial shade. Wooded bottom land areas are suitable. Once established, plants form a solid mass of broad, upright leaves that bear white, bell-shaped, fragrant flowers in the spring or early summer.

The violets, genus Viola, are found in many different species that perform well as ground cover plants. A number of species grow wild in the woods, and some spread so quickly that they could become weed problems. They are excellent, though, for wooded areas where there is no concern about their spreading into the finer turfgrass areas. They are completely hardy under Iowa conditions.

Fleece Flower Is Aggressive

The fleece flower *(Polygonum reynoutria)* is quite vigorous and makes a fine ground cover if planted in an area where it can be contained. This species grows 12″ to 14″ high, so it cannot be called a low ground cover plant. The fleece flower grows best in full sun. It is quite aggressive and can invade flower beds and lawn areas unless it is restricted. It can be used to provide a solid cover for a bank or other out-of-the-way spot, where there is not too much worry about its spreading.

There are two sedums that have performed very well in the ground cover plots. One is *Sedum spurium,* which withstands hot, dry locations in full sun. The other is *Sedum acre,* a plant that grows about 1″ tall and is covered with yellow flowers in the spring. Like the other sedums, it should have full sun.

A very rugged ground cover plant that has been used extensively on highway embankments and road cuts in recent years is crown vetch *(Coronilla varia).* One selection, developed at Iowa State University and quite hardy for local conditions, is Emerald crown vetch. It has the ability to grow on steep banks in poor soil, clay soil, and other types of soil commonly found on road cuts and embankments. It is a legume and likes full sun, but is a little slow in becoming established. Once established, this plant will compete with all weeds and form a solid, dense cover. With showy, lavender flowers in the spring, the plant grows 18″ to 24″ tall and is propagated primarily by seeds.

Woody Plants As Ground Covers

There are several woody plants, mostly evergreens, that perform very well as ground covers. *Euonymus fortunei coloratus,* known as wintercreeper, seems to be hardy in the trial plots. It is fairly well adapted to full sun, but if planted in sunny locations, will turn quite brown during the winter months and lose most of its leaves much earlier than if it is planted in semishady or shady locations.

Two low-growing evergreen junipers make good ground covers. Andorra juniper forms an ample cover in full sun. Some persons object to the purplish color that it develops during winter months, though others find this winter coloring attractive.

Prostrate juniper *(Juniperus horizontalis)* is the second low-growing evergreen juniper. There are some selections or varieties of this plant that retain their green color during the winter months. These, too, are low growing, with a height of about 12″.

Another evergreen that looks very promising in the trial plantings is *Pachistima canbyi.* Pachistima is a fine, low-growing, broadleaf evergreen that should be used more widely as a ground cover than it is. It performs in full sun, partial shade, or full shade. In central Iowa, it is sometimes subjected to slight winter damage at the tips of new shoots, but damaged areas can be sheared or pruned off in early spring and the plants quickly recover. Damage does not occur every winter. Once established, pachistima forms a solid mass that eliminates weed problems.

Rock spray *(Cotoneaster horizontalis)* is a deciduous shrub that deserves serious consideration for sunny or partially shady locations where the soil is reasonably rich. A fine shrub for bank covers or open spaces, it grows about 2 ft. tall. Leaves are small, shiny, and green, and after the plant blooms, red berries last until after freezing, attracting birds.

Two other woody plants suited for ground cover use on steep banks or out-of-the-way locations are Japanese honeysuckle *(Lonicera japonica)* and Hall's climbing honeysuckle *(Lonicera japonica halliana).* Both plants could become weed problems if placed in areas where they cannot be controlled if they start growing too vigorously.

Wise Selection Paramount

As we develop plans for our parks and recreation areas, serious consideration should be given to the use of ground cover plants in locations that will not be heavily used, and where it would not be convenient or possible to establish good turfgrass. By wise selection of ground cover plants, we can add large splashes of color to parks and cover some blighted areas with plants that will provide an attractive appearance, making these spots more enjoyable. On some steep roadbanks or hillsides, where nothing but weeds and brush grow, or where the soil is bare, we can plant ground covers that produce a thing of beauty, particularly when flowers are in bloom.

Plan ahead for the establishment of ground covers in places where they will be most helpful and useful. Select the plants suited for the situation, give them a little extra care for the first year or two, and then these areas can become low maintenance ones.