

SELECTING GROUND COVERS

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Selecting ground covers by the tops' appearance is satisfactory only if esthetics are the sole concern. In most cases, however, the interest is in plants that withstand wet or dry conditions and soil erosion. Erosion control is provided primarily by the root systems, which, with the growth habit of the plant, are the keys to controlling water runoff.

The perfect ground cover plant would be an impossible ideal. It would have deep, fibrous root systems; be quick to cover the ground but not weedy; and be easily propagated and transplanted. It would have an attractive flower that blooms for three or more weeks. It would not climb shrubs or structures; it would tolerate a wide range of soil types and conditions, withstand sun or shade, be dense enough to eliminate weeds, easy to clean of leaves, disease and insect resistant and would require little or no care.

Ground covers are used for many reasons, erosion control being the most misunderstood. When selecting a ground cover for erosion control, it is important to consider the type of erosion present. There are three types: impact, sheet and gully. To control impact erosion only, plant ground covers like Sargent's juniper (*Juniperus chinensis* var. *sargentii*) and crownvetch (*Coronilla varia*). Dwarf selections of forsythia (*Forsythia viridissima* 'Bronxensis') and spirea (*Spiraea japonica* 'Alpina' (Bot.Ed.: *S. alpina*?)) are good. Sheet erosion must be controlled by plants that are fibrous-rooted and provide impact cover as well. Plants like stone cress and tall fescue are both good. Gully erosion is caused by dumping large amounts of water in a confined area such as a down spout or parking lot. Lilyturf and tall fescue are excellent for such situations.

Ground cover plants fall into one of four categories, according to growth habit and root systems. The first is the wood branching types with deep, loosely-knitted roots. The best plants in this class are:

<i>Juniperus chinensis</i> var. <i>sargentii</i>	Sargent's juniper
<i>Juniperus procumbens</i>	Japanese garden juniper
<i>Juniperus horizontalis</i> 'Wiltonii'	Blue rug juniper
<i>Spiraea japonica</i> 'Alpina'	Dwarf spirea
<i>Forsythia viridissima</i> 'Bronxensis'	Dwarf forsythia
<i>Forsythia</i> 'Arnold Dwarf'	Arnold's dwarf forsythia
<i>Thymus serpyllum</i>	Mother-of-thyme
<i>Cotoneaster horizontalis</i>	Rock cotoneaster
<i>Euonymus fortunei</i> 'Vegetus'	Bigleaf wintercreeper

These plants are unsatisfactory for erosion control because of their fibrous root systems and the length of time required to establish them. They do withstand a good deal of drought due to the deep root systems.

Another large class has bunched foliage with a crown root system. These are fair for erosion but spread slowly if at all. Most of this class is deciduous and is easily cleaned of leaves and trash. Plants that fall into this category are;

- Hosta decorata*Blunt Plantainlily
- Hosta undulata*Variegated Plantainlily
- Heuchera sanguinea*Coralbells
- Potentilla verna*Spring Cinquefoil
- Festuca ovina* 'Glauca'Blue fescue
- Festuca elatior*Tall fescue

The third group consists of large, fleshy-root types that will provide good impact protection and drought resistance but, as in the case of Crownvetch (*Coronilla varia*), loosen the soil if not thickly planted. Crownvetch tends to condition soil, so caution should be used when planting on slopes that will shift or gully erode. These are the best of the fleshy-rooted ground covers:

- Hemerocallis*Daylily
- Coronilla varia*Crownvetch
- Xanthorhiza simplicissima*Yellowroot

The fourth class is composed of the stolon or rhizome plants. These are by far the most widely propagated of all the ground cover plants. They meet more of the ideal criteria than any of the others discussed. These plants are dense, low-growing, easily propagated, and many bloom and are evergreen. The following list is by no means complete, but the plants should be produced and used more extensively than at present. Better plants of this type are;

- Waldsteini fragarioides*Barrenstrawberry
- Veronica officinalis*Speedwell
- Ajuga reptans*Carpet Bugle
- Sedum acre* or *S. sexangulare*Large-leaf stonecrop
- Sedum pruinaum*Blue Spruce sedum
- Cerastium tomentosum*Snow-in-summer
- Euonymus fortunei* 'Coloratus'Purple-leaf wintercreeper
- Euonymus fortunei* 'Gracilis'
(*E. radicans* 'Variegata')Variegated winter creeper
- Hedera helix*English ivy
- Hedera helix* 'Rochester'Fine-leaf English ivy
- Asarum canadense* or *A. europarum*Wildginger
- Liriope spicata*Lilyturf
- Liriope spicata* 'Variegata'Variegated lilyturf
- Potentilla tridentata*Wineleaf cinquefoil

The demand by landscapers for good, dependable, attractive ground covers is growing daily, and the breeders and propagators are years behind. Hopefully this gap will be filled with quality as well as quantity. Not enough has been done to breed better ground cover plants. University and commercial plantsmen must begin a concentrated selection program to introduce new clones into the nursery trade.

Ground covers can be used where grass will not survive. We must do more to educate the public to the beauty and usefulness of this class of plants.

MODERATOR CUNNINGHAM: Thank you, Prof. Giles. Our next speaker is another professor and our new Award of Merit winner, Prof. Harvey Gray; he is going to tell us about some propagation trials with ground covers.

PROPAGATION OF SELECTED GROUND COVERS

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This report summarizes my efforts over the past 7 months and discusses 16 different ground covers. The bulk of the plants observed are at Planting Fields Arboretum, Oyster Bay, New York. Mr. William Cunningham, Waldron, Indiana supplied plants for observation, and Mr. James Cross, Cutchogue, New York supplied data on bearberry production.

Ajuga reptans 'Burgandy Glow', Carpet Bugle. This plant develops stolons which produce rooted plantlets at the stolon terminals. The plantlets are well developed in July and August. These small plants develop well when potted in Cornell mix in peat pots and placed in a coldframe for growth and winter protection. A 40 to 50% shade is most helpful to these plants at all stages of growth.

Arctostaphylos uva-ursi Bearberry. This is a procumbent plant developing very few roots. In past years I have rooted this plant with varying degrees of success. The following statement is based on data from Jim Cross: "Small cuttings taken well back in from the long terminals of plants growing on the dunes of Eastern Long Island produce the best plants. Cuttings taken from plants growing on the mid-island pine barrens are less satisfactory. Cuttings stuck in sand early in March, carried at 65°F and treated with ½ Hormodin #3 and ½ Benlate produced 98.9% well-rooted cuttings.