PERENNIALS

HERBACEOUS PLANT MATERIALS IN THE LANDSCAPE

Herbaceous perennial plants, that diverse group of landscape plants which die back to the ground sometimes during the year, can greatly improve the quality of Arkansas landscapes. Perennials have come and gone in popularity throughout the past 150 years – and today they are as popular as they have ever been in Arkansas.

Gardeners often cite their preference for perennials in relation to the fact that they come back year after year and are easier to care for than annual flowers. Such might be true for the gardener who grows only daylilies or irises but is definitely not the case for the gardener who wants to achieve the maximum benefits that perennials can provide. By careful combination of plants it is possible to have perennials in bloom during much of the growing season.

LANDSCAPING WITH HERBACEOUS PERENNIALS

Perennial plants have a tremendous potential for enhancing the overall aesthetic aspects of a landscape plan. But, it must be kept in mind that herbaceous flowering plants are accents to the overall design, not the backbone of the design. If a good overall design has been provided by a careful and thoughtful use of trees, shrubs, and architectural elements, plugging in flowering plants will be an easy task. But, if the landscape is already poorly designed, then perennial plantings may actually add to the confusion and clutter.

The landscape use of herbaceous perennials usually focuses on the aesthetic benefits that the plants can achieve rather than any functional benefits. However, in some landscape situations perennials can be very functional elements. For example, many gardeners in the state are blessed with large trees which add grace and beauty to the landscape but add great difficulty to the problems of growing turf beneath them. Traditional ground covers such as *Vinca minor* or *Pachysandra* could be used, but perennials offer a wider variety of plants which will not only grow and flourish, but add summer-long interest. Steep, sunny slopes could be converted from a hazardous mowing obstacle to a beautiful rock garden. For best effect, these functional uses must also keep good design aspects in mind, too.

The aesthetic uses of herbaceous plants must consider design aspects such as balance, flow, definition of space and focalization, in addition to the all-important aspect of sequence of bloom. Not only must the designer consider how the perennial planting will fit into the overall landscape design, he or she must also consider how the individual border or bed is designed.

The balance of the bed or border need not be the strict formal balance of a herbal knot garden to be effective. Informal balance is usually more fitting in most Arkansas landscapes and is easier to maintain. Informal balance uses groups of plants with similar textures and a mass in repetitive patterns to create balance as well as flow in the bed. Avoid the temptation of having one of everything in your perennial plantings. Harmony in the planting can be achieved by these repeating elements while still leaving plenty of opportunity for introducing variety into the design. Seldom should a plant be used as a single specimen, but instead, groups of three or more should be used.

Perennial plantings can be used to define spaces in the landscape and expedite flow. Perennials are excellent for creating visual flow, or beds may be used to create traffic flow through the garden. Perennials are best used when the viewer must become an active participant in the landscape. Don't design the garden in such a fashion that it can be viewed from a single focal point, but instead design it so the viewer must move through the planting. Each turn of the path should open up a new and interesting vista to be explored. By using winding trails, even a small space can be quite effective.

Perennial plantings sometimes use unusual or striking specimens to focus attention on a certain area or to serve as a design along a trail. Like using specimen trees in the overall landscape, don't try to use too many of these or they will be lost in the confusion.

Each species of perennial has its own intrinsic qualities including such things as flower color and mass, foliage texture, color and persistence, and plant size. Some plants have very stiffly upright habits of growth such as the Siberian iris while others have a prostrate or more billowy growth habit. Many plants have attractive foliage with flowers of secondary importance. A good design must take into account the type of effect that is desired and

then combine the plants in such a way that the overall design has a harmonious flow and not a number of diverse elements all screaming for attention.

Flower colors of perennials vary throughout the spectrum, and many gardeners feel uneasy about combining too many of these colors in the same planting. Harmony in color design, if that is the primary goal, is achieved by using plants of the same color but with varying intensities and hues. These may be supplemented in certain areas with contrasting plants for accents. Plants with colors which might not look best when used side by side may be either physically separated in the planting or they may be plants that do not have an overlapping blooming period. White-flowered plants may be used to isolate a plant that would otherwise clash with its neighbors. Some gardeners actually prefer the dukes-mixture effect created by combining all of the many color possibilities in the same bed. This gives the bed an old-fashioned feel and may be appropriate in an informal planting.

When deciding a color theme for a perennial planting, first consider from what distance it will be viewed and when during the day it will be viewed and enjoyed. Plantings that are viewed from close distances should stick to yellow and white. If the planting is only viewed through the windshield from some distance, keep the color variation to a minimum and use colors that are more likely to be seen. In shaded situations white, light blue, pink, or yellow flowers are much more noticed than the darker colors. Variegated plants are very effective for brightening up dark corners in the landscape. If flowering plants are to be viewed primarily at night, use light-colored flowers. Many reds, blue, purples, and greens appear black when viewed at night.

The ideal perennial border is one that is in bloom during most of the summer and provides continuous flowers. Unfortunately, designing and maintaining this ideal border with continuous blooms is difficult. The list of perennials accompanying this report will help achieve this goal, but still there may be a period of time when the border is not in flower. A good solution to the problem may be to shift emphasis in the landscape during the year so that certain beds are in bloom early in the season and others are at peak bloom later in the year. For example, a single bed could be used for three bulbs during the spring and chrysanthemums for the fall. A separate planting could provide the summer-long color that is desired.

PLANTING ARRANGEMENTS

A number of planting arrangements are ideally suited for use of perennials. The most popular are borders, island beds, rock and wall gardens, woodland gardens, bog and/or water gardens and wildflower plantings. Border plantings are the traditional way of displaying perennial plants. When reading the horticultural literature, especially that originating in England, one undoubtedly encountered references of "the English border," especially those designed by Gertrude Jekyll. Her borders reflected the style of her time and the moderate climate of England. For one to attempt to create one of Miss Jekyll's borders today in Arkansas would be folly. Our home landscapes are much smaller than the large estates she worked with, and few of us can afford the staff of gardeners needed to maintain these elaborate 15-foot-wide borders. From a climatic standpoint, Arkansas is not England. Not even close. Plants that are "easily grown and prone to be weedy" in England are often extremely challenging under the hot, dry summers we must endure.

Borders should be designed with the backdrop of foliage or a solid fence. Borders usually abut directly against the backdrop, but for wider borders it may be desirable to leave a narrow, 18-inch walkway behind the border to facilitate maintenance. Usually borders of today are 5 or 6 feet wide. As a rule, the height of the tallest plants in the border are half the width of the border. Avoid the temptation of planting too many plants in the space. Usually from 12 to 18 inches is left between plants. Overcrowding results in plants that grow too tall and are likely to fall apart in rainy or windy weather. Also, overcrowding encourages diseases and necessitates frequent division.

Island beds, preferably not circular affairs with a bird bath in the center, have recently come of age as homes for perennials, These beds stand alone in the landscape and do not have the obvious backdrop of shrubs or fencing of the border. However, to be effective, island beds must fit into the overall landscape scheme. The beds are best placed a the ends of an open area or along the boundaries of a lawn. They generally should not be situated in the exact center of the open space. Beds should have a sweeping curvilinear design with the curves kept to a minimum and flowing enough that the lawn mower can easily follow the bed. These beds should be designed much like a border with the tallest perennials in the center and the shortest plants to the outside. Provide enough room for each plant to develop normally. The tallest plant in the bed is usually half as tall as the width of the bed. Several island beds may be combined to form a series of more or less continuous planting with walkways between them.

Rock gardens are by definition a combination of rocks and plants where rock is a secondary feature to the plants. Ideally a rock garden will

have a natural supply of rocks and the gardener will only have to plant in the nooks and crannies of the natural formation, but that hardly ever happens. Rock gardens are usually situated on sloping ground with stones arranged to give a more-or-less natural arrangement of stones. Limestone and sandstone, the two types of rock found naturally in the Ozarks, are the best rocks to use in making the garden.

Most rock garden plants do best in a calcareous soil, with excellent drainage, especially during the winter. As a rule, sun-loving rock garden plants are miniature plants under 12 inches tall. Rock gardens are ideal for those wishing to grow as many different kinds of plants possible. Though many of the best rock garden plants are wild plants, they have an alluring charm which many gardeners find attractive then the brightest flower bed planting. There are a number of modifications on the basic rock garden theme. For example, rock gardens often have special areas for difficult-to-grow plants that require scree conditions, moraine conditions, or mountain meadow conditions. For those interested in rock gardens, consult Foster's book *Rock Gardening*, which is the American Bible on the subject. Also, the American Rock Garden Society and its publication, *The Bulletin*, provide invaluable information on growing rock garden plants.

The woodland garden is a type of garden style which is appropriate for many Ozarkian landscapes. In this semi-wild garden, shade-loving plants are used in conjunction with ground covers to create a beautiful naturalistic planting which uses many of the wild plants native to the state. Numerous plants can be used that are adapted to either moist or dry situations. Ferns are ideally suited to these gardens and may often be used as a major part of the design.

Bog and/or water gardens are a specialized type of garden that can be appropriate for gardeners with wet areas or ponds on their properties. These were extremely popular in the 1920's and probably will regain their lost popularity in the upcoming years. These plantings may be combined with other types of garden beds to create a most appealing effect.

Wildflower gardens or natural prairie plantings have received a great deal of attention in seed catalogs during the past five years, and in some areas are becoming increasingly important in reducing maintenance costs. The Texas highway department has initiated a wildflower project along Texas roads and is now saving millions of dollars in annual mowing costs. In order for a wildflower or prairie planting to prosper, the plants must not be cut until after seeds have been formed. This means. that the planting will have to go through a rather unsightly period which many would find undesirable in a residential neighborhood. These wildflower gardens should be used only in the large landscapes where an acre or more can be devoted to planting. It may require several years to get a good stand of native grasses and wildflower blends available from seed companies when doing their planting. The best time for planting these mixes is in the very early spring. Competitive grasses such as fescue and bermudagrass can greatly reduce wildflower establishment. Native grasses such as little bluestem, our wild sedge grass, buffalo and other native grasses are less competitive with the wildflowers and should be mixed in at planting.

PLANTING AND MAINTAINING PERENNIALS

Site selection is one of the most important factors involved in success with perennial gardening. Because the plant is dormant during the winter but the roots persist, the soil must be well drained. To determine drainage of a site, dig a hole 8 to 10 inches deep and fill with water. Allow this water to be absorbed by the soil and then fill with water again. If more than 10 hours is required for this water to be absorbed by the soil, the drainage is suspect.

Drainage can be improved in many cases by simply changing the surface drainage patterns of a site; thus the area will receive less total water. Another way is to dig a trench around the proposed bed and place the soil from the trench in the new bed. This will raise the level of the bed and provide an avenue of escape for water in the soil. One can go a step farther and build a wall around the bed and have a raised bed. Raised beds provide excellent drainage but must be watered more during the summer. Probably the best way to ensure adequate drainage is by using an underground tile drain.

Most perennials require full sun or only tolerate moderate shade; however, there are enough plants that will thrive in shade that beds and borders need not be limited to sunny locations. If perennial borders or beds are located in shade, some provision must be made to ensure that the plants receive supplemental water during the summer. Perennials compete poorly with established trees for water.

Planting

The successful growth of perennials is best assured by providing good drainage and thorough soil preparation prior to planting. Work the soil at least 10 inches deep and incorporate any soil

amendments such as peat moss or compost at least once a month before planting. If possible, have a soil test made to determine the pH and nutrient status of the site. In lieu of a soil test, lime with 5 pounds of ground limestone per 100 square feet and fertilize with 1 pound of 10-20-10 or 12-12-12 per 100 square feet. Work the lime and fertilizer into the soil and rake smooth prior to planting.

Plant all newly acquired perennials as early in the spring as possible. Make sure that all plants are planted at the proper depth for the species. Planting too deeply is usually responsible for failure to bloom or often the death of the plant. Planting too shallow may result in floppy plants that are unable to support themselves. Adequate space must be provided for plant growth and air circulation around the plants. At planting time it may look as if plants are spaced too far apart; however, most perennials will quickly fill in the space left at planting. For the most effective display it is usually best to plant plants in groups of at least three plants of each cultivar together. Proper spacing of new plantings will help ensure maximum beauty and increase the time interval between divisions. If annuals are to be used with perennials, leave adequate space for both groups of plants.

Maintenance

Perennials are not maintenance free as some gardeners would like to believe. The biggest chore associated with growing perennials is division, which must be performed for almost all species. The time required between divisions varies with the vigor of the individual cultivar, the productivity of the site, and the kind of plant in question. Plants such as many members of the daisy family require division which must be carried out every three to five years for maximum display. Most perennials are extremely productive and produce many new plants each time they are divided. Never attempt to replant all of the divisions back in the same area they were removed from as extreme crowding will result. If the plant is divided and a division replanted in the same location, it is advisable to incorporate some organic matter and a little fertilizer into the soil prior to planting. Division of perennial beds and borders should be staggered so that the workload is reduced and the overall attractiveness of the bed is not impaired.

Perennials are not plants that require an abundance of fertilizer; in fact, heavy fertilization may result in excessive vegetative growth that is subject to disease attack or plants may be extremely top heavy and require staking. Fertilization at the rate of one-half pound of 10-30-10 or 12-12-12 per 100 square feet of bed in March, late May, late June, and again in early fall will keep the plants productive without excessive growth.

Most perennials survive without supplemental irrigation during the summer; however, for them to flourish some additional water is usually required. Ideally, plants should receive one inch of water a week either through irrigation or rain. Infrequent heavy waterings are superior to frequent light watering as the latter encourages shallow rooting.

Staking is required for some perennials. It is best to stake the plants early in their growth rather than wait until the plant has toppled over from its own weight. Insert stakes that are about 6 inches shorter than the ultimate height of the plants into the ground and tie the plants as the new growth develops. Peonies and delphiniums are sometimes supported in peony frames which are wire hoops with three legs. These frames require no additional tying but must be in place before the new growth is very far along. Stakes should be green or brown and as inconspicuous as possible. Small gauge wire covered with plastic or paper wrap is good to use for plant ties.

During the season, remove old flower heads as they mature to prevent seeding in the area and to keep the planting attractive. In the fall all foliage should be removed after the first frost and the bed given a thorough cleaning. The fall application of fertilizer should be applied at this time and lightly raked in. Evergreen perennials that are becoming overgrown can be trimmed lightly, but heavy pruning should be delayed until just after the plant has finished flowering. A winter mulch of 3 to 4 inches of pine bark, pine needles, peanut hulls, cottonseed hulls, or other organic material should be used over plants that are prone to winterkill. In the spring, the mulch should be raked back from over the plant and spread between the plants to discourage weeds and keep the bed moist.

SELECTING THE RIGHT PERENNIAL

There are so many perennial plants available from nurseries, it is almost impossible to keep track of all of them. Alan Bloom, England's foremost expert on perennial plants, offers 5,000 different items from her nursery. The following list of plants should provide information about some of the most dependable perennials for Ozark conditions. Don't limit your choices to this meager list, though. Experiment with new plants each year and you will soon have the experience to grow even the most demanding herbaceous perennial.

CHOOSING PERENNIALS AND BULBS

	Exposure[1]			Height				Bloom Season[2]					Flower Color								
	Sun	Part Sun	Shade	0-6"	6-12"	12-24"	Over 24"	ESp	LSp	ESu	LSu	Fall	White	Yellow	Blue	Red	Pink	Orange	Foliage[3]	Ever-green[4]	Ground cover
Achillea filipendulina Fernleaf Yarrow	X					X				X	X			X		X					
Aegopodium podagraria Goutweed	X				X														Var		X
Ajuga reptans Bugleweed			X	X					X						X				Br	X	X
Allium giganteum Flowering Onion	X						X			X	X				X						
Alyssum sp. Alyssum		X					X		X					X					Gy	X	
Anemone sp. Windlower		X				X			X				X	X	X	X	X				
Aquilegia hybrida Columbine			X			X			X				X	X	X		X		Gr		
Artemisia schmidtiana Silver Mound	X				X														Gy		X
Arundo donax Giant Reed	X						X					X							Gr Var		
Asclepias tuberosa Butterfly Weed	X					X				X	X							X			
Aster novae-angliae New England Aster	X											X			X	X	X				
Astilbe x arendsii Astilbe		X				X			X				X			X	X		Gr		
Bellis perennis English Daisy	X					X							X			X	X				
Caladium bicolor Caladium		X			X														Var		
Campanula sp. Bellflower		X				X	X		X						X						
Canna x generalis Canna	X						X			X	X			X		X		X			
Chrysanthemum maximum Shasta Daisy	X					X				X	X		X								
Chrysanthemum morifolium Chrysanthemum	X					X						X	X	X	X	X	X				
Clematis sp. Clematis	X	X					vine		X	X			X	X	X	X	X				
Colchicum autumnale Fall Crocus		X			X							X					X				
Convallaria majalis Lily-of-the-Valley			X		X			X					X						Gr		X
Coreopsis lanceolata Tickseed Coreopsis	X					X			X					X							
Cortaderin selloana Pampas Grass	X						X					X	X						Gr		
Crocus sp. Crocus	X				X			X					X	X	X						

	Exposure[1]			Height				Bloom Season[2]					Flower Color								
	Sun	Part Sun	Shade	0-6"	6-12"	12-24"	Over 24"	ESp	LSp	ESu	LSu	Fall	White	Yellow	Blue	Red	Pink	Orange	Foliage[3]	Ever-green[4]	Ground cover
Crocus speciosus Fall Crocus	X				X							X			X		X				
Delphinium elatum Delphinium	X	X					X		X	X			X		X						
Dianthus deltoides Pinks	X				X			X	X							X	X		Gy	X	X
Dicentra spectabilis Bleeding Heart			X			X		X								X	X				
Dictamnus albus Burning Bush	X						X		X				X			X	X				
Echinops exaltatus Globe Thistle	X						X				X	X			X						
Epimedium grandiflorum Epimedium			X		X			X					X				X		Rd	X	X
Eranthis hyemalis Winter Aconite		X		X				X						X						X	
Festuca ovina glauca Blue Fescue	X				X														Bl	X	X
Freesia x hybrida Freesia	X					X			X				X		X	X	X				
Fritillaria imperialis Crown Imperial	X						X		X					X				X			
Fritillaria meleagris Checkered Lily	X					X			X				X		X						
Gaillardia aristata Blanketflower	X					X				X	X			X		X					
Galanthus nivalis Snowdrops		X			X			X					X								
Geranium grandiflorum Crane's Bill	X				X				X	X						X	X				
Gerbera jamesonii Gerber Daisy	X				X				X	X	X		X	X	X	X	X				
Gladiolus x hybrida Gladiolus	X						X			X	X		X	X	X	X	X	X			
Gypsophila paniculata Baby's Breath	X						X			X	X		X								
Helianthus decapetulus Perennial Sunflower	X						X			X	X			X							
Helleborus niger Christmas Rose			X			X		X					X				X			X	
Helleborus orientalis Lenten Rose			X			X		X					X				X			X	
Hemerocallis hybrida Daylily		X				X	X			X	X			X		X	X	X	Gr		X
Heuchera sanguinea Coral Bells	X					X			X				X			X	X				
Hibiscus moscheutos Rose Mallow	X						X			X	X	X	X			X	X				

	Exposure[1]			Height				Bloom Season[2]					Flower Color						Foliage[3]	Ever-green[4]	Ground cover
	Sun	Part Sun	Shade	0-6"	6-12"	12-24"	Over 24"	ESp	LSp	ESu	LSu	Fall	White	Yellow	Blue	Red	Pink	Orange			
Hippeastrum x hybrida Amaryllis		X					X		X				X			X	X				
Hosta decorata Funkia		X				X					X		X		X				Var		X
Hyacinthus orientalis Hyacinth	X				X			X					X	X	X	X	X				
Iberis sempervirens Candytuft		X			X			X					X						Gr	X	X
Iris x Dutch Hybrids Dutch Iris	X					X		X					X	X	X						
Iris germanica German Iris	X					X	X	X	X				X	X	X		X				
Iris kaempferi Japanese Iris		X				X		X							X						
Liatrus scariosa Tall Gayfeather	X						X					X			X		X				
Lilium sp. Garden Lilies		X					X			X	X		X			X	X	X			
Lupinus x Russell Hybrids Lupine	X						X		X	X			X	X	X	X	X				
Lycoris squamigera Surprise Lily	X						X					X	X			X	X				
Miscanthus sinensis Zebra Grass	X						X					X							Var		
Muscari armeniacum Grape Hyacinth	X	X		X				X					X		X					X	
Narcissus pseudo-narcissus Daffodil	X	X				X		X					X	X			X	X			
Oxalis rosea Wood Sorrel		X		X				X	X			X					X				
Paeonia officinalis Peony	X						X		X				X	X		X	X				
Papaver orientale Poppy		X				X		X								X	X			X	
Phalaris arundinacea picta Ribbon Grass	X					X													Var		X
Phlox paniculata Garden Phlox	X						X				X		X			X	X				
Phlox subulata Creeping Phlox		X		X				X					X		X		X			X	X
Physalis alkekengi Chinese-Lantern	X					X					X							fruit			
Platycodon grandiflorum Balloon Flower		X				X					X	X	X		X						
Polianthes tuberosa Tuberose	X						X			X	X		X								
Primula x polyantha Polyantha Primrose		X		X				X					X	X	X	X	X			X	
Rudbeckia speciosa Showy Coneflower	X					X				X	X	X		X							

	Exposure[1]			Height				Bloom Season[2]					Flower Color								
	Sun	Part Sun	Shade	0-6"	6-12"	12-24"	Over 24"	ESp	LSp	ESu	LSu	Fall	White	Yellow	Blue	Red	Pink	Orange	Foliage[3]	Ever-green[4]	Ground cover
Santolina chamaecyparissus Lavender Cotton	X					X				X				X					Gy	X	X
Santolina virens Green Santolina	X					X				X				X					Gr	X	X
Scilla sibirica Siberian Squill		X				X				X			X		X		X				
Sedum acre Goldmoss Sedum	X			X				X						X					Gr	X	X
Sedum spectabile Showy Sedum	X					X						X	X				X				
Sempervivum tectorum Hens-and-Chicks	X			X																X	
Solidago sp. Goldenrod	X						X					X		X							
Sternbergia luteae Sternbergia	X				X							X		X							
Tritonia pottsii Red-Hot-Poker	X						X				X		X	X				X			
Tulipa sp. Tulips	X					X		X	X				X	X	X	X	X	X			
Veronica longifolia Speedwell	X					X					X	X			X						
Veronica repens Creeping Speedwell	X			X							X	X			X						X
Viola odorata Sweet Violet			X	X				X					X						Gr	X	X
Viola papilionaceae Blue Violet			X	X				X							X				Gr	X	X
Viola pedata Birdsfoot Violet		X		X					X				X		X						
Zantedeschia sp. Calla Lily		X				X				X	X		X	X			X				

Exposures given are considered ideal; however, most plants could be moved one column each way and still be expected to survive. Sun means receiving at least 6 hours of sun a day; Part Sun means receiving 3 hours of sun a day; Shade is no direct sun received.

Bloom seasons are: ESp is early spring (February-mid-April); LSp is late spring (mid-April-May); ESu is early summer (June-mid-July); LSu is late summer (mid-July-August); Fall is September and October.

Foliage indicates foliage color if it is considered of ornamental interest. Gr is green; Gy is gray; Bl is blue; Var is variegated; Br is bronze; Rd is red.

Indicates those plants normally evergreen in plant hardiness zones 6b and 7.