Horticulture Fact Sheet
H-92-010

The University of Georgia College of Agricultural & Environmental Sciences
Cooperative Extension Service

Wildflower Establishment & Culture: Meadows, Beauty Spots, and Roadsides

Will Corley, Wildflower Project Manager, Retired

Wildflowers can be used to provide cost efficient landscape color in areas where high maintenance annuals or turf are traditionally grown. Large meadows can be developed or small transitional areas planted to blend turf areas into wooded settings. When adapted species are established and managed properly, a mixture of perennials and reseeding annuals can last for many years, reducing traditional costs, providing wildlife habitat, and giving low cost landscape color.

In Georgia and the southeast, seeds are sown in late fall and winter when soil temperatures decline. Fall seedings take advantage of late fall, winter and early spring rains; minimizing irrigation needs and allowing time for winter annuals and perennials to establish. Spring plantings from March through May are satisfactory if close attention is given to irrigation needs of the developing seedlings.

Soil Preparation: Planting sites usually have some vegetation growing in them. During September or October, tall vegetation in the selected planting site should be mowed and sprayed with a herbicide (Roundup, Kleenup, Finale) after some vegetation regrowth to eliminate existing vegetation. After two weeks, lightly cultivate the soil surface. Deep tilling should be avoided since additional viable weed seeds will be brought to the surface, causing problems. A second application of Roundup may be necessary, if weed seedlings appear. When seeding slopes, contact your local Natural Resources Conservation Service office for their valuable expertise. Alternative soil preparation methods include (1) tank mix of Roundup and garden weeder (Dacthal or Treflan) at least four weeks prior to planting, (2) when time permits, multiple tillings during summer and fall, (3) solarization for weed control to a depth of two inches, and (4) fumigation for control of most weeds.

Fertilization: Normally, fertilizers should not be applied to fertile planting sites since additional fertility will stimulate growth of competing weeds. The use of top soil as an amendment is discouraged since it may contain weed seeds. Submit a soil sample to your local county agent four to six weeks prior to

planting. This will provide base information on the fertility and pH levels of the planting site. Fertilizer is needed on infertile planting sites and when seeding grass/wildflower mixes on erodible areas. Limestone should be incorporated in the planting site if pH levels are below 5.5. Wildflower seedlings can be lightly fertilized when nutrient deficiencies are evident. Broadcast applications of 500 to 1,000 #/ Acre (1 to 2 pounds/100 square feet)) of general purpose (10-10-10 or 16-4-8) fertilizer in spring or early summer can benefit wildflower plantings in typically infertile sites. Half the fertilizer and lime applications for flowering annuals is adequate for wildflower color spots.

Seeding Rate: In lieu of hydroseeding, simple seeding methods can be used to establish wildflowers. For large areas, use the seeding rate indicated for the individual wildflower mix or species, usually 10 pounds per acre. In smaller areas, seed at the rate of four to five ounces per 1,000 square feet or comparable species seeding rate. For small beauty spots, where intense color is desired, double the normal seeding rate. In small areas seeds can be mixed with damp sand and spread by hand. Seeding in large areas may be accomplished with a special drill seeder or by mixing seed with dry sand and spreading with either a drop spreader or rotary spreader. Maximum seed to soil contact must be made to give desirable germination of seedlings on sloping planting sites. This can be accomplished by raking or pulverizing. When seeding wildflowers with soil stabilizing grass, reduce grass seeding rates by 25 percent and follow NRCS fertilizing recommendations. After wildflower establishment, competition by the nurse grass can be reduced by an overspray of Poast (Vantage), Fusilade, Ornamec, or Select.

Mulching: A light mulch, one-quarter to one-half inch thick, is essential in conserving soil moisture and protecting young seedlings. When hydroseeding, the fiber mulch holds seeds in place. Conventional mulches of straw, pine needles, or wood chips are good, but avoid weed infested hay mulches.

Irrigation: Planted areas should be sufficiently moist for four to six weeks during seedling germination and development. When irrigation is not possible, plant in anticipation of seasonal rains, usually late fall and winter.

Weed Control: Weeds are inevitable in wildflower plantings. Other than hand pulling, several control practices can be used. Tall weeds can be treated with a wick application of Roundup or Finale. Isolated weeds can be spot sprayed with an appropriate herbicide. Grassy weeds can be oversprayed with herbicides which are specific for grass control. Mowing can be an effective management tool for weed control when weeds are mowed before seeds mature.

Mowing and Maintenance: Wildflower establishment in normally mowed areas results in 25-30 percent savings in maintenance costs, with a payback in reduced maintenance after two to three years since average establishment costs for wildflowers is $500.00 per acre, discounting labor and profit inputs. Mowing is a valuable maintenance practice. Trimming the perimeter areas defines the wildflower area. In addition to the dormant mowing in late fall when seeds have matured, wildflowers may be mowed for rebloom in summer when drought/heat stress causes significant loss of color. Mowing high (four to six inches) and light fertilization will initiate rebloom of several species in three to four weeks. Desired annuals and perennials should be overseeded after fall clean up.

Wildflower Mixes: During the past 10 years, we have evaluated many southeastern wildflower seed mixes purchased from wholesale catalogs. Some performed better than others, but few provided color during the entire growing season with combinations of seasonal blooms from adapted, noninvasive species comprised of reseeding annuals and perennials. A southeastern wildflower mix or landscape color mix is a good start for a beginner with limited knowledge of wildflower species performance in his/her area. We are presently researching several new mixes for persistence, partial shade performance, and native species for restoration of plant communities. Some of these can be special ordered from most of the wholesale sources listed below. Single species for formulating your own special mixes are also available. Examples of a landscape color mix, southeastern wildflower mix, and partial shade mix are presented in Tables B, C, and D.

Table A. Some Commercial Seed Sources

- *Applewood Seed Company, 5310 Vivian St., Arvada, CO 80002 - Wholesale
- Burpee Seeds, 300 Park Ave., Warminster, PA 18991 - Retail
- *Delta Landscape Supply, Inc., 5999E Goshen Springs Rd., Norcross, GA 30071 - Wholesale
- *Environmentals, P.O. Box 2709, Lompoc, CA 93436 - Wholesale
- Garrett Wildflower Seed Farm, 1117 New Castle Court, Raleigh, NC 27604 - Wholesale.
- Harris Moran Seeds, 3670 Buffalo Rd., Rochester, NY 14624 - Wholesale & Retail
- *Loft Seeds, Inc., Chimney Rock Rd., P.O. Box 146, Bound Brook, NJ 08805 - Wholesale
- *NPI, 1697 West 2100 North, P.O. Box 177, Lehi, UT 84043 - Wholesale
- Park Seeds, Greenwood, SC 29647 - Retail
- *Pennington Seeds, P.O. Box 240, Madison, GA 30650 - Wholesale & Retail
- *Robin Seed Co., 3670 Enterprise Ave., Hayward, CA 94545 - Wholesale
- *S&S Seeds, P.0. Box 1275, Carpinteria, CA 93013 - Wholesale
- *Wildflowers International, 918-B Enterprise Way, Napa, CA 94558 - Wholesale
- *Wildseeds, Inc., 1101 Campo Rosa Rd., P.O. Box 308, Eagle Lake, TX 77434 - Wholesale

(= Custom blending available)*

Table B. Wildflower Mix for Optimum Southeastern Urban Color

Scientific Name	Common Name	Bloom Season	Color
Centaurea cyanus	Dwarf Cornflower	Spring	Blue
Chamaecrista fasiculata	Partridge Pea	Fall	Yellow
Chrysanthemum leucanthemum	Rocket Larkspur	Early Summer	White
Consalida ambigua	Rocket Larkspur	Spring-Summer	Mixed
Coreopsis lanceolata	Lance Coreopsis	Summer	Yellow

Coreopsis tinctoria	Plains Coreopsis	Summer	Yellow/Maroon
Eschscholzia californica	California Poppy	Spring-Summer	Yellow/Orange
Gaillardia aristata	Perennial Gaillardia	Summer-Fall	Yellow/Red
Gaillardia pulchella	Annual Gaillardia	Summer-Fall	Yellow/Red
Monarda citriodora	Lemon Mint	Summer	Lavender
Nemophila menziesii	Baby Blue Eyes	Early Spring	Blue
Oenothera speciosa	Pink Primrose	Spring-Summer	Pink
Papaver rhoeas	Corn Poppy	Late Spring	Mixed
Rudbeckia hirta	Blackeye Susan	Summer-Fall	Yellow
Salvia farinacea	Blue Sage	Summer	Blue
**Solidago spp.*	Goldenrod	Fall	Yellow
**Trifolium incarnatum*	Crimson Clover	Spring	Red

*=Optional

Table C. Typical Southeastern Wildflower Mix

Scientific Name	Common Name	Bloom Season	Color
Aster novae - angliae	New England Aster	Fall	Pink/Purple
Centaurea cyanus	Cornflower	Early Spring	Blue
Coreopsis lanceolata	Lance Coreopsis	Summer	Yellow
Coreopsis tinctora	Plains Coreopsis	Summer	Yellow/Maroon
Cosmos sulphureus	Sulphur Cosmos	Summer	Yellow/Orange
Echinacea purpurea	Purple Coneflower	Summer	Purple
Eschscholzia californica	California Poppy	Spring-Summer	Yellow/Orange
Gaillardia pulchella	Annual Gaillardia	Summer-Fall	Yellow/Red
Gypsophila elegans	Baby's Breath	Spring-Summer	White
Hesperis matronalis	Dame's Rocket	Spring-Summer	Violet/White

Ipmopsis rubra	Standing Cypress	Late Spring	White/Red
Lavatera trimestris	Tree Mallow	Summer	White/Pink
Linum rubrum	Scarlet Flax	Summer	Red
Lupinus perennis	Perennial Lupine	Late Spring	Blue
Mirabilis jalapa	Four O'Clock	Summer-Fall	Mixed
Monarda citriodora	Lemon Mint	Summer	Lavender
Papaver rhoeas	Corn Poppy	Late Spring	White/Pink/Red
Phlox drummondii	Annual Phlox	Spring	Mixed
Rudbeckia amplexicaulis	Clasping Coneflower	Summer	Yellow
Rudbeckia hirta	Blackeye Susan	Summer-Fall	Yellow
Salvia coccinea	Scarlet Sage	Summer	Red

Table D. Partial Shade Wildflower Mix

Scientific Name	Common Name	Bloom Season	Color
Aquilegia caerulea	Columbine	Late Spring	Mixed
Chrysanthemum leucanthemum	Oxeye Daisy	Early Summer	White
Clarkia unguiculata	Clarkia	Late Spring	Pink/Lavender
Consolida ambigua	Rocket Larkspur	Early Summer	Mixed
Coreopsis lanceolata	Lance Coreopsis	Summer	Yellow
Dianthus barbatus	Sweet William Pinks	Late Spring	Red/White/Pink
Echinacea purpurea	Purple Coneflower	Summer	Purple
Gypsophilia elegans	Baby's Breath	Spring	White
Hesperis matronalis	Dame's Rocket	Spring-Summer	Violet/White
Iberis umbellata	Candytuft	Summer	White Pink
Linaria maroccana	Toadflax	Spring	Pink/Yellow/Violet
Mimulus tigrinus	Monkeyflower	Spring	Yellow/Red

Myosotis sylvatica	Forget-Me-Not	Spring	Blue
Nemophila menziesii	Baby Blue Eyes	Early Spring	Blue
Papaver rhoeas	Corn Poppy	Late Spring	Mixed
Viola cornuta	Johnny Jump-Up	Early Spring	Purple/Yellow/Blue

Fact Sheet H-92-010