

# WILDFLOWER MAINTENANCE

## Your Key to Success

Maintenance is an essential ingredient in the creation of a successful wildflower planting. The key to an effective, long-term wildflower maintenance program is evaluation and timely follow-up. The site should be evaluated periodically during the growing season to determine if expectations are being met. Some conditions must be dealt with promptly while others may be corrected at a later time. Here are five areas of maintenance that require consideration:

1. reseeding
2. weed control
3. fertilization
4. supplemental watering
5. fall mowing and cleanup

**RESEEDING:** Many people prefer the vibrant, long-lasting colors that are provided by annuals. In most parts of North America, there is just one way to create annual color year after year—by reseeding. Exceptions are the Pacific Coast and the states bordering the Gulf of Mexico, where annuals readily reseed on their own. Annuals can be reseeded in the spring or fall. Spring reseeding should be completed as soon as the ground is workable to take advantage of spring moisture. Remember that the planted area must be kept consistently moist for four to six weeks to insure good germination. In cold climates, fall seeding should be quite late so germination does not occur until the following spring. In mild climates, planting annuals in the fall will insure an early display in the spring. Important: follow our recommendations for appropriate planting rates because reseeding too heavily may cause crowding and poor growth.

If emphasizing perennials is your goal, inspect the planted area and roughly note the number and kinds of perennials growing there. Bare areas, if any, can be overseeded with the original planting mix or with a custom mix. Establishing a solid cover of perennials is one of the best ways to control weeds. When reseeding, some scarification of the soil surface may be necessary to insure good seed-soil contact. A mixture of spring, summer, and fall-blooming perennial wildflowers will produce a changing display of color throughout the growing season.

**WEED CONTROL:** A monthly program of weed control is essential to insure a satisfactory display of wildflowers year after year. Weeds should be eliminated as soon as they can be recognized, either by pulling, spot-spraying with a general herbicide, or selective cutting with a string trimmer.

**SUPPLEMENTAL WATER:** Water is a critical factor in wildflower maintenance. During the hot summer season, up to one-half inch of moisture per week may be required to keep wildflowers at their peak.

**FERTILIZATION:** Fertilization may be beneficial on a long-term maintenance program, particularly if the soil is sandy or very poor in nutrients. If there is reason to suspect a problem with soil fertility, we recommend a soil test and/or plant tissue analysis. These tests will enable you to determine which specific fertilizer may be appropriate for your needs.

**FALL MOWING AND CLEANUP:** If a neat appearance is desired after the wildflowers have gone to seed, mow them to a height of four to six inches. To prepare the area for fall seeding, it may be necessary to remove any excessive plant material or mulch that could prevent good seed-soil contact. We cannot stress too strongly the importance of a regular wildflower maintenance program, which will be dictated by the specific goals of the project. You will be rewarded with a wildflower planting that meets or exceeds expectations and provides a beautiful display year after year.

## PLANTING AND CULTURAL INFORMATION

**MIXTURE FORMULATION:** Our wildflower mixtures are formulated on the basis of climatic conditions (rainfall, temperature range, humidity), and elevation. Most species in our mixtures adapt readily to different soil types provided climate and elevation are suitable. All mixtures contain 16 to 22 species. Annuals have been included to establish cover quickly and to give color the first year; some may produce new plants the following year (the biennials may also reseed). Perennial plants live for more than two years and flower from the second year onward. All species require full or partial sun, with the exception of those in the Shade Mixture.

Our mixtures are blended to give the widest possible range of colors and periods of bloom. Very few wildflowers bloom continually throughout the season; therefore, we have included spring-, summer-, and fall-blooming species in each mixture. Colors include blue, purple, red, white, yellow and many shades thereof. Plant height varies from creeping to 5 feet.

In general, our mixtures are formulated to contain approximately equal numbers of seeds of each species. This varies somewhat because of costs, availability and/or climatic conditions. For example, in the Moist Mixture we have given less seed of species that are particularly aggressive. We strive for a balance of the highest quality for each geographic area.

Mixtures may vary occasionally from the indicated listing, based on availability of individual species.

**PURITY, GERMINATION:** Purity of most species is 95-99%. Minimum germination ranges from 40-75%, actual germination from 40-90% or higher. Minimum standards for each wildflower mixture are shown as PLS (Pure Live Seed), which is obtained by multiplying purity x percent germination and then dividing by 100. Each bulk order is labeled as to catalog code number, species or mix name, lot number, percent germination, germination test date, purity analysis, and quantity supplied. For mixtures, itemized reports are supplied citing percent composition and minimum germination standard for each component in the mixture.

**SELECTION A MIX:** Our Regional Mixtures are designed to fit the broad cross-section of conditions that generally exist within any one geographic region (and within any one project), i.e., variations in soil, slope, drainage, exposure and availability of moisture. For example, we include species for both moist and dry conditions that exist in the particular region. Furthermore, species are included on the basis of their versatility of ability to adapt.

If conditions are relatively consistent or the requirements exacting, one of our Special-Use Mixtures may be appropriate (Dry, Moist, Knee-Hi, Low-Growing, Super-Short or Shade Mixture). For instance, on the rough of a golf course where moisture is controlled, our Moist Mixture may be a better choice than the regional Mixture indicated for the area.

Likewise, our Low-Growing Mixture (less than 16 inches high) and Knee-Hi Mixture (less than 24 inches high) have been designed to meet the demand from urban and suburban landscape architects and contractors for low-growing blends. These mixtures have a "semi-wild" appearance and can be used along roadsides, in parks, and in commercial and residential developments without looking weedy. Neither mixture will need mowing except once in the late fall, if desired. Both mixtures are very versatile and contain species that will flourish in either dry or moist situations.

**CUSTOM MIXTURES:** In certain cases, a custom blend will be most suitable for your project. We can blend a custom wildflower mixture according to your specifications. Such mixtures may be based on color, height, climatic conditions, blooming times, or other considerations. Proportions of species are determined by seed size, aggressiveness and cost. The best mixtures include both annuals and perennials and usually contain 10-12 species. Our qualified staff will be glad to assist you in determining your needs.

**TECHNICAL ADVICE:** We encourage you to contact us with the specifications of your project; we will be glad to assist you in selecting the mixture best suited to your needs. Our service includes free telephone consultation on planting times, soil preparation and seeding techniques.

If you wish to personally determine or confirm which species of wildflowers are found in your area, we recommend the 11-volume series, *Wildflowers of America*, by H. W. Rickett, published by McGraw-Hill Book Co. and the New York Botanical Garden. These books picture many wildflowers in color and are available in libraries throughout the United States.

**SITE SELECTION:** Sowing wildflower seeds without care and planning usually produces unsatisfactory results. Here are some important factors to consider:

- (1) Does the site support plants now? If you have a site where nothing, including weeds, is growing, that site is unlikely to support wildflowers.
- (2) Will there be adequate moisture during germination and establishment? Can you supply supplemental water, if necessary?
- (3) What weed seeds are likely to be present in the soil? Will weeds spread to your site from adjacent areas? Assessment of these factors will enable you to make a realistic choice of a site where wildflowers will prosper and to decide what action will be necessary to ensure your success.

**PLANTING RATES:** Each mixture in this catalog has a recommended minimum and maximum planting rate. Minimum planting rates are based on 60-70 seeds per square foot (5 to 10 pounds per acre), which is usually sufficient to establish a good stand of wildflowers on prepared soil when adequate weed control can be maintained. Maximum planting rates are based on 120-140 seeds per square foot (8 to 22 pounds per acre), and are recommended when adequate soil preparation and weed control are not possible, or when maximum color is required. Avoid using more than the recommended rates since poor perennial establishment may result.

**WHEN TO PLANT:** The best time to plant in your area depends on the climate and rainfall patterns as well as the species you are planting. In cool climates, plant annuals, perennials or mixtures of annuals and perennials in spring, early summer or late fall. Fall plantings should be late enough so that seeds do not germinate until spring. Perennials can also be sown in early fall provided that there are at least 10-12 weeks of growing time before the plants go dormant for the winter. Late fall plantings are advantageous when supplemental irrigation cannot be

provided and adequate rainfall is anticipated in the spring.

In mild climates, plant during the cooler months of the year; fall through spring, for best results. Fall plantings done prior to periods of rainfall will insure an early display of flowers the following spring.

**USES OF GRASSES:** We recommend sowing wildflower seeds alone or with non-aggressive clump grasses. For most areas of the United States and Canada, we recommend planting Hard Fescue or Sheep Fescue. However, in the southeastern states of Alabama, Florida, Georgia, Louisiana, Mississippi and South Carolina, and in Hawaii, we recommend Tall Fescue; Hard and Sheep Fescue will not thrive in these climates.

Plant fescues at a rate of 10-15 pounds (total) per acre, or, for small areas, ¼ pound per 1000 sq. ft. Use of fescues does not change the seeding rate for wildflowers.

Other grasses to consider include Blue Grama, Buffalograss and Little Bluestem. These warm-season, native grasses grow very slowly and are planted for aesthetic and ecological reasons rather than prompt stabilization of soil.

Aggressive pasture grasses should be avoided because they will crowd out most wildflowers; these grasses include Bluegrass, Brome, Crested Wheatgrass, and Annual Rye. If wildflowers must be used with pasture grasses, the flowers should be planted in high-density patches as accents to the grassed areas. Or the flowers may be sown with the grasses if the planting rates of the grasses are reduced by at least one-half.

**SITE PREPARATION:** Proper site preparation is important for prompt germination of seed and healthy growth of seedlings. Best results will be obtained by planting on cleared ground. Remove existing vegetation to avoid competition from other plants. This may be done by pulling, tilling under, spraying with a general herbicide, or by a combination of these methods, and depending upon the size of the area, type and density of vegetation and other factors. Loosen soil by scraping, tilling or scarifying. Tilling should be utilized only when soil is very compacted and further weed control measures can be taken. Specific recommendations are given under the heading, Weed Control.

**FERTILIZATION:** Do not fertilize wildflowers unless the soil is extremely depleted of nutrients. Fertilizers encourage weed growth and lush foliage rather than flowers. If the soil needs improvement, we suggest adding organic matter such as weed-free grass clippings or straw, well-rotted compost, peat moss or leaf mold. In addition to adding nutrients, organic materials enhance soil texture and encourage beneficial microorganisms.

**SEED APPLICATION:** Method of application depends on the size of the area and the terrain. On small areas, broadcast seeds evenly either by hand or by use of a drop or cyclone spreader. It is helpful to mix a carrier such as clean, dry sand with the seed; sand adds volume and aids in even distribution. We recommend using a ratio of 1 or 2 parts sand to 1 part seed. Rake in lightly, covering seeds to a maximum depth of 2-3 times their thickness. Or drag the area lightly with a piece of chain link fence to mix the seed into the surface of the soil. For seeding large areas, i.e., over one acre, specially designed drills are most effective. Drill to a maximum of ¼ inch and firm soil with a cultipacker; this maximizes seed/soil contact. Hydroseeders are also effective, especially for steep slopes, rocky terrain and other areas where conditions make it impractical for driving equipment. Hydroseeding is the application of a slurry of seed and water to soil. The slurry may also contain mulch (hydromulching), tackifier and fertilizer. Mulches are made of wood fiber, paper or excelsior, and their purpose is to hold seeds in place, help retain moisture and provide protection from erosion; mulches are usually dyed green as a visual aid in even distribution. Rates of application for most mulches are between 1500 and 2300 lbs. per acre. In general, hydroseeding / hydromulching is most successful in moist climates or in irrigated areas.

Most authorities agree that germination is better when seed is applied first with 5-10% of the mulching fiber—the balance of the mulch being applied separately as a second step. This approach ensures optimal seed/soil contact; otherwise, many seeds are wasted because they become suspended in the fiber.

It is important that proper procedures are followed to minimize the amount of time that seed is circulated through pumps or paddles prior to application. Over-circulation may damage the seed.

**MOISTURE:** All seeds, including wildflowers, need ample moisture to germinate and to develop into healthy seedlings. Soaking the planted areas thoroughly and maintaining consistent moisture for 4-6 weeks – then gradually reducing watering, will obtain best results. In non-irrigated situations, plant in the spring or before periods of anticipated rainfall. In arid climates or during drought conditions, up to ½ inch of supplemental water per week may be required to maintain an optimal display. If weeds are present, remember that they benefit from moisture as much as the wildflowers and may dominate over watered areas.

**WEED CONTROL:** Weed control is the biggest problem facing wildflower establishment and one that has no easy solution. Weed seeds are present in many situations and lie dormant, but viable, for long periods of time. A weedy area converted

to wildflowers will have a large reservoir of weed seeds in the soil, ready to germinate when conditions are favorable. In most cases, it is advisable to consider weed control in two phases – as part of site preparation prior to planting, and as an important component of the post-germination maintenance program.

Before planting, remove existing weeds by pulling, tilling under, applying a general herbicide such as Roundup or KLEENUP, or by a combination of these methods. For additional weed control after site preparation, a soil fumigant may be used, or the area may be irrigated to encourage weed growth and then sprayed with a general herbicide.

In very weedy areas, the following method is suggested:

1. Till soil or spray vegetation with Roundup or KLEENUP. When using an herbicide, allow vegetation to die, and then rake out the dead debris. If perennial weeds such as bindweed are present, using an herbicide is more effective than tilling.
2. Irrigate to encourage germination of weed seeds near the surface; most seeds will germinate within two weeks if consistent moisture is available. Do not till the soil again because this will bring even more weed seeds near the surface.
3. Spray any new growth with Roundup or KLEENUP.
4. After raking out dead vegetation, allow soil to recover for 3-4 weeks before planting with wildflowers. From our experience, a recovery period of this duration is advisable because extensive use of these herbicides may cause a delay in germination and in the vigorous growth of seedlings.

Once the wildflowers have germinated, further weed control is usually necessary. If practical, pull all weeds as soon as they can be identified. Other successful techniques are spot-spraying with a general herbicide or selectively cutting weeds with a string trimmer. Be sure to remove weeds before they reseed.

Many unwanted annual and some perennial grasses can be controlled with the herbicides Ornamec and Fusilade. These post-emergents do not affect broad-leaved plants so that they can be applied over existing wildflowers; they are most effective when sprayed on new growth and young plants. Take care to avoid treating areas with desirable native grasses or fescues.

**WHAT TO EXPECT:** Wildflowers can provide an excellent, low cost alternative in large-scale, high maintenance situations, as well as a satisfying change from traditional urban landscaping. However, during their initial establishment period, wildflowers require as much maintenance as traditional planting.

A smooth, weed- and vegetation-free planting bed is important for good seed-soil contact and prompt germination. Avoid seeding more than the recommended rate since overseeding can result in crowded conditions the first year and poor establishment of perennials. Cover seeds lightly to protect them from drying out during germination, and to prevent them from being eaten by birds. Consistent moisture is important for 4-6 weeks after planting.

A wildflower planting requires the same weed control measures as traditional landscaping. Effective measures include site preparation prior to planting and a post-germination maintenance program.

Our wildflower mixes contain annual, biennial and perennial species. The annuals, which may not be native to your area, are included to assure maximum color during the first season and to act as a nurse crop for the slower-growing perennials. Annuals germinate quickly when conditions are favorable, providing a quick ground cover and competition against weeds. Natural reseeding of annuals ranges from significant to minimal, depending on the species, climate and other factors. Most perennial and biennial species begin to bloom the second season, but not as profusely as annuals. Therefore, wildflower plantings look noticeably different after the first year.

Sometimes it is desirable or even necessary to sow seed in second and subsequent years. Reseeding may be necessary if establishment of wildflowers is spotty or poor. It is possible to reseed bare areas with the original mixture. Loosen soil of bare areas and provide adequate weed control and supplemental irrigation as needed. Where natural reseeding or annuals is minimal, sowing annuals each spring can produce a magnificent annual and perennial display throughout the growing season.

If desired, wildflowers may be mowed in the fall following seed set. Mow to a height of 4-6 inches, and leave the residue on the ground because it is a reservoir of viable seeds.

**SHARP BROS. SEED CO.**  
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SCIENTIFIC NAME	COMMON NAME	TYPE	COLOR
CENTAUREA CYANUS	DWARF CORNFLOWER	A	B
COREOPSIS TINCTORIA	PLAINS COREOPSIS	A	Y-M
DIMORPHOTHECA AURANTIACA	AFRICAN DAISY STICK	A	W-O-S
ESCHSCHOLZIA CALIFORNICA	CALIFORNIA POPPY	TP	Y-O
GAILLARDIA ARISTATA	PERENNIAL GAILLARDIA	P	Y-R
GAILLARDIA PULCHELLA	ANNUAL GAILLARDIA	A	Y-R
GYPSOPHILA ELEGANS	BABY'S BREATH	A	W
LINARIA MAROCCANA	SPURRED SNAPDRAGON	A	P-Y-V
LINUM LEWISII	BLUE FLAX	P	B
PAPAVER RHOEAS	CORN POPPY	A	W-P-R
PENSTEMON STRICTUS	PENSTEMON	P	B
RATIBIDA COLUMNIFERA	PRAIRIE CONEFLOWER	B/P	Y-R
COSMOS SULPHUREUS	SULPHUR COSMOS	A	Y-O-R
PHACELIA CAMPANULARIA	CALIFORNIA BLUEBELL	A	B
SALVIA FARINACEA	BLUE SAGE	P	B
LAYLA PLATYGLOSSA	TIDY-TIPS	A	Y
DIMORPHOTHECA AURANTIACA	AFRICAN DAISY	A	W-O-S
LOBULARIA MARITIMA	SWEET ALYSSUM	TP	W

10-30 inches rainfall / year

Planting Rate/acre                      6-12 lbs.  
 Planting Rate for 1/2 acre or less    4 oz./1000 sq. ft.  
 Seeds/lb.                                      464,000



SCIENTIFIC NAME	COMMON NAME	TYPE	COLOR
AQUILEGIA CAERULEA	COLUMBINE	P	B
CENTAUREA CYANUS	DWARF CORNFLOWER	A	B
CHEIRANTHUS ALLIONII	WALLFLOWER	B/P	O
CHRYSANTHEMUM MAXIMUM	SHASTA DAISY	P	W
DELPHINIUM AJACIS	ROCKET LARKSPUR	A	W-P-B-V
ESCHSCHOLZIA CALIFORNICA	CALIFORNIA POPPY	TP	Y-O
GAILLARDIA ARISTATA	PERENNIAL GAILLARDIA	P	Y-R
GYPSOPHILA ELEGANS	BABY'S BREATH	A	W
LINUM LEWISII	BLUE FLAX	P	B
PENSTEMON STRICTUS	PENSTEMON	P	B
RUDBECKIA HIRTA	BLACK-EYED SUSAN	A/B/P	Y
SILENE ARMERIA	CATCHFLY	A/B	P
CLARKIA AMOENA	GODETIA	A	P-W
PENSTEMON PALMERI	PALMER PENSTEMON	P	P
VIGUIERA MULTIFLORA	SHOWY GOLDENEYE	P	Y
MYOSOTIS SYLVATICA	FORGET-ME-NOT	A	B
CAMPANULA CARPATICA	TUSsock BELLFLOWER	P	L-B
ERIGERON ANNUUS	FLEABANE DAISY	A	W

ABOVE 7000 ft.

Planting Rate/acre                      6-12 lbs.  
 Planting Rate for 1/2 acre or less    4 oz./1000 sq. ft.  
 Seeds/lb.                                      409,000



SCIENTIFIC NAME	COMMON NAME	TYPE	COLOR
CENTAUREA CYANUS	DWARF CORNFLOWER	A	B
CLARKIA PULCHELLA	DEERHORN CLARKIA	A	P-W
CLARKIA UNGUICULATA	CLARKIA	A	P-LA
COREOPSIS TINCTORIA	PLAINS COREOPSIS	A	Y-M
ESCHSCHOLZIA CALIFORNICA	CALIFORNIA POPPY	TP	Y-O
GAILLARDIA ARISTATA	PERENNIAL GAILLARDIA	P	Y-R
GAILLARDIA PULCHELLA	ANNUAL GAILLARDIA	A	Y-R
GILIA CAPITATA	GLOBE GILIA	A	B
IBERIS UMBELLATA	CANDYTUFT	A	W-P-V
LINUM PERENNE LEWISII	BLUE FLAX	P	B

BELOW 7,000 ft.

Planting Rate/acre                      8-16 lbs.  
 Planting Rate for 1/2 acre or less    6 oz./1000 sq. ft.  
 Seeds/lb.                                      337,000



SCIENTIFIC NAME	COMMON NAME	TYPE	COLOR
LUPINUS PERENNIS	PERENNIAL LUPINE	P	B
MACHAERANTHERA TANACETIFOLIA	PRAIRIE ASTER	B	V
OENOTHERA MISSOURIENSIS	EVENING PRIMROSE	P	Y
OENOTHERA PALLIDA	EVENING PRIMROSE	P	W
PAPAVER RHOEAS	CORN POPPY	A	W-P-R
PENSTEMON PALMERI	PALMER PENSTEMON	P	P
PENSTEMON STRICTUS	PENSTEMON	P	B
RATIBIDA COLUMNIFERA	PRAIRIE CONEFLOWER	B/P	Y-R
THELESERMA FILIFOLIUM	GREENTHREAD	A	Y
VIGUIERA MULTIFLORA	SHOWY GOLDENEYE	P	Y

**\*\*Contents in mixtures are subject to change without notice.\*\***

**B-BLUE    C-CREAM    L-LILAC    LA-LAVENDER    M-MAROON    O-ORANGE    P-PINK    PU-PURPLE**  
**R-RED    RO-ROSE    S-SALMON    SC-SCARLET    V-VIOLET    W-WHITE    Y-YELLOW**