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Growing Annuals in South Dakota

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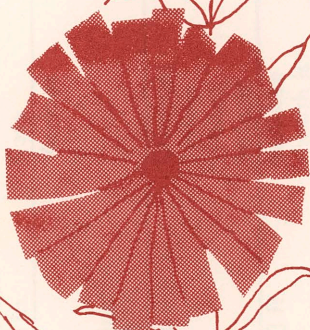
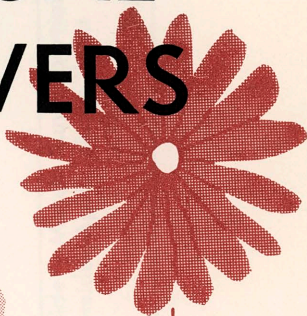
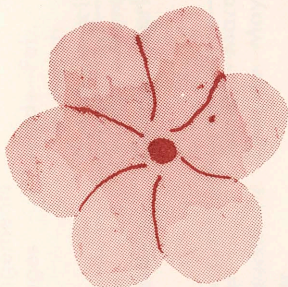
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ANNUAL FLOWERS



**COOPERATIVE EXTENSION SERVICE
SOUTH DAKOTA STATE UNIVERSITY
U. S. DEPARTMENT OF AGRICULTURE**

growing ANNUALS in south dakota

by DEAN MARTIN, extension horticulturist

Annuals are plants which grow from seeds, attain maturity, flower, and produce seeds, all in one season or less, then die. They are different from perennials which grow and flower year after year, or biennials which grow vegetatively one year, flower the second season, then die. Some annuals appear to live over from year to year. Some hardy annuals may do this, but more often the plants which seemingly persist from season to season grow from seed which has wintered over in the soil.

As a group, annuals come from all parts of the world. There is no class more versatile. They are admirable for bedding, for edging, or for "fill-in" material in the spring bulb garden and perennial border. The length of the colorful garden display can be increased by several weeks if annuals are seeded in the garden from mid to late summer.

Keep these basic principles in mind when growing annual flowers:

- **Procure seed from a reputable source.** Investigate those varieties which have been tested and approved. Seedsmen are proud of their pure strains of annuals, and the desirability of using them can not be over-emphasized. Note which varieties have been awarded special citations. Most of them are truly superb.
- **Keep annuals blooming and prolong the blooming season by picking faded flowers from the plants all summer long.** If this is not done, the plants will bloom for only a short time and then die.

Annuals are listed under three classifications:

1. **Hardy**—withstand early spring frosts and can be seeded in the garden as soon as the ground can be worked.
2. **Half-hardy**—require a longer season in which to mature and bloom; should be started indoors.
3. **Tender**—require a still earlier start in the greenhouse or hotbed; cannot be transplanted outdoors until all danger of frost is past.

Hardy Annuals

These may be sowed directly into the soil early in the spring. Dig the soil deeply, pulverize, and liberally enrich with well-rotted barnyard manure or other organic matter at the rate of about 5 bushels per 100 square feet of garden area. A 10-10-10 or similar commercial fertilizer—2 pounds used over the same

area—may be incorporated during soil preparation.

Hardy annuals include these . . .

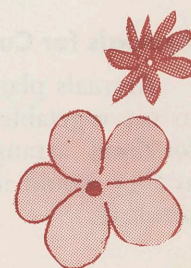
African Daisy (Arctotis and Dimorphotheca)
Alyssum
Annual Anchusa
Annual Baby's Breath
Bachelor's Button
Calendula
California Poppy (Escholtzia)
Calliopsis
Candytuft
Celosia
Clarkia
Cosmos
Annual Sweet William (Dianthus)
Stock
Gaillardia
Larkspur
Lupine
Marigold (all types)
Petunia
Phlox
Poppy (Shirley)
Sunflower (Helianthus)
Sweet Pea
Verbena
Zinnia

Half-Hardy Annuals

These may be started indoors or in the greenhouse about mid-March in shallow containers (3 to 4 inches deep). Sow the seeds in a light, friable soil containing 30 to 40 per cent sand. Sow very fine seeds on the surface of the soil, and press in—don't cover. Keep the containers in a warm place. Shade the container with a piece of paper and water sparingly until the new plants emerge above the soil. Then move gradually to full sunlight. There they may require more water, but be cautious not to overwater—this causes plants to grow rank and succulent, and predisposes them to attack by "damping-off" diseases.

The list of half-hardy annuals includes these . . .

Annual Asters
Annual Flax (blue and scarlet)
Lobelia
Painted Tongue (Salpiglossis)
Pansy
Petunia
Phlox
Salvia
Snapdragon
Sweet Sultan
Torenia
Verbena
Wallflower



Tender Annuals

These must be started in the same way as half-hardy sorts, but earlier—in February in the greenhouse or in hotbeds during March.

Tender annuals include . . .

Balsam (Impatiens)
Butterfly Flower (Schizanthus)
Castor Bean
Chrysanthemum (annual)
Floss Flower (Ageratum)
Gourd
Mignonette
Nasturtium
Scarlet Runner Bean
Everlastings

Annuals for Color

Not even among perennials can the brilliance and variety of colors match those of annuals. Annuals truly run the gamut of the spectrum. Individual tastes will determine the arrangement of colors in regard to pleasing combinations, but pay attention to harmony. Beautiful effects can be achieved by arranging single sorts or types or colors of flowers in masses or “drifts” rather than by using only a few of each type spaced far apart in the garden. The following combinations have been tried and found to give excellent results:

MAROON AND WHITE: Scabiosa and Nicotiana; Black Prince Snapdragon and Sweet Alyssum

BLUE AND YELLOW: Calliopsis and Bachelor Button; Zinnias and Larkspur

PINK AND YELLOW: Snapdragon and Marigold; Verbena and Calendula; Annual Phlox Drummondii and Snapdragon; Scabiosa and Marigold

PINK AND BLUE: Annual Phlox Drummondii as edging for Larkspur; pink and blue Larkspur; Sweet William and Ageratum

ORANGE AND RED: Calliopsis and Nasturtium; Marigold and Salvia; Zinnia and Marigold; Gaillardia and Marigold

Annuals for Cutting

Annuals planted in rows are a valuable addition to any vegetable garden. They may be cut and used for floral arrangements without ruining the display as they would if taken from the permanent border planting.

Among the best annuals for the cutting garden are the following . . .

African Daisy
Annual Asters
Annual Carnation
Baby's Breath
Bachelor's Button
Chrysanthemum (annual)
Cosmos
Everlastings (ideal for dried arrangements)
Grasses (annual)
Larkspur
Love
Marigold
Mignonette
Nasturtium
Painted Tongue (Salpiglossis)
Pansy
Pentunia
Phlox
Poppy
Stocks
Sweet Pea
Sweet Sultan
Verbena

Annuals for Shade

More often than not it is difficult to grow good, thrifty plants in shade. Plants grown with insufficient sunlight tend to grow tall and rank, have weak stems, and foliage and flowers lack good color. There are some sorts of annuals, however, which are shade tolerant. They include . . .

Annual Asters
Bachelor's Button
Pansy
Butterfly Flower (Schizanthus)
Snapdragon
Torenia

Annuals for the Rock Garden

The “backbone” of any good rock garden is a selection of low-growing evergreens and deciduous shrubs and perennial plants. Annuals are valuable here, too, because of their brilliant color display, especially at a time when other sorts have finished flowering. The best of the low-growing annuals for this purpose includes . . .

Baby Blue-eyes (Nemophila)
Baby's Breath (Gypsophila)
Meadow Foam (native in wooded areas of the state)
Pimpernel
Stonecrop (Sedum species)
Violet Cress
Diamond-Flower

Annuals to Grow on Dry Soil

Browallia
Candytuft
Cosmos
Cynoglossum (Blanche Burpee)
Gaillardia
California Poppies
Calliopsis
Zinnias
Red Flax
Portulaca

Annual Climbing Vines

Canary Creeper
Cardinal Climber
Cup and Saucer Vine
Cypress Vine
Gourds
Hyacinth-bean Vine
Moonflower Vine
Nasturtium
Scarlet Runner Bean
Sweet Pea
Wild Cucumber

Annuals for Fragrance

Alyssum
Candytuft
Dianthus (Sweet William)
Stock
Mignonette
Petunia
Snapdragon
Sweet Pea
Nicotiana
Verbena
Siberian Wallflower

Annuals for Edging

Alyssum varieties:
Little Gem (white)
Carpet of Snow (white)
Royal Carpet (violet)
Violet Queen (violet and white)
Anagallis (Pimpernel, many colored)
Brachycome
Lobelia
Dwarf Nasturtium
Nemesia
Nemophila
Pansy

Annuals for Hanging Baskets and Window Boxes

Clock-Vine
Kenilworth Ivy
Alyssum
Browallia
Dusty Miller
Dwarf Zinnias
Floss Flower (Ageratum)
Lobelia
Perwinkle (Vinca)
French Marigolds
Tom Thumb Nasturtiums
Pansy
Petunia
Phlox
Portulaca
Verbena

Annuals to Grow in a Damp Location

Annual Forget-me-nots (Myosotis)
Pansy
Phlox
Sanvitalia
Butterfly-flower (Schizanthus)

ANNUAL FLOWERS FOR SOUTH DAKOTA

Botanical Name	Common Name	Height	Color	Uses	Planting Time (*Best Method)	Planting Site Preference
1. <i>Ageratum</i> Dwarf Intermediate Tall	Floss flower	4-8 inches	Lavender	Edging Bedding	Inside*—March Outside—May	Sun
		9-12 inches	Blue			
		18-24 inches	White			
2. <i>Alyssum</i> Compact Spreading	Sweet Alyssum	3-4 inches	Lilac	Edging Bedding	Inside—March Outside*—April	Sun
		6-10 inches	White			
3. <i>Antirrhinum</i> Dwarf Intermediate Tall	Snapdragon	6 inches	Most colors except blue	Cut flowers	Inside*—March Outside—April	Sun or Shade
		18 inches				
		36 inches				
4. <i>Calendula</i>	Pot Marigold	18-24 inches	Yellow	Cut flowers	Outside—April	Sun or partial shade. Most soils.
			Orange			
5. <i>Calliopsis</i> Dwarf Tall	Calliopsis	9-15 inches	Yellow	Cut flowers	Outside—April	Sun or Shade
		18-30 inches	Brownish-red			
6. <i>Callistephus</i>	Annual or China Asters	18-36 inches	White, Pink	Border Cut flowers	Inside—April Outside—May	Sun or Partial Shade
			Scarlet, Blue Purple			
7. <i>Celosia</i> Cristata Plumosa	Crested Cockscomb Plume type Cockscomb	12-24 inches	Bright yellow, Red	Bedding	Inside*—March Outside—May	Sun or shade. Prefer rich soil.
		24-36 inches				
8. <i>Centaurea</i> Cyanus	Bachelor Button	24-36 inches	Blue, Pink	Cut Flowers	Outside—March	Sun
			Purple, White			
9. <i>Cosmos</i>	Cosmos	2-5 ft.	White, Lilac Pink, Crimson Orange	Cut Flowers	Inside*—April Outside—May	Sun
		3-4 ft.				
		6-3 ft.				
10. <i>Delphinium</i> Ajacis	Larkspur	2 ft.	White, Pink,	Borders Cut flowers	Fall or Early Spring	Sun
			Blue, Scarlet Purple			
11. <i>Dianthus</i> Many species and varieties	Annual Pinks	12-inches	Red and related tones	Bedding plants, cut flowers	Inside*—March Outside—April	Full Sun
12. <i>Dianthus</i> Caryophyl- lus	Carnation	1-1½ ft.	Red, rose,	Bedding Cut flowers	Outside—April (Cloth protection)	Full Sun
			Pink, White Yellow			
13. <i>Impatiens</i> Balsamina Dwarf Tall Sultani	Balsam, Touch-Me-Not	6-8 inches	Orange	Bedding	Inside—March Outside—April	Sun or Shade
		2-2½ ft.	Rose White, Pink			
	Sultana	15 in.	Rose	Border	Outside—April	Tolerates shade
14. <i>Lathyrus</i> odoratus Dwarf Tall	Sweet Pea	8 inches 5-6 ft.	Various	Arrangements Corsages	Inside—Feb. or March Outside—April	Sun
15. <i>Mirabilis</i> Jalopa	Four O'Clock	1½-3½ ft.	Crimson, Yellow White, Striped	Hedge Foundation	Inside*—March Outside—April	Sun
16. <i>Molucella</i> laevis	Bells of Ireland	2-3 ft.	Bell-like sheath is green, Small flowers white	Flower Arrangements Border	Inside*—March Outside—May	Sun
17. <i>Nicotiana</i> Alata Sanderae sylvestris	Flowering Tobacco	1-5 feet	White	Bedding	Inside*—March Outside—April	Sun or partial shade. Most soils.
		1-3 feet	Red			
		1-5 feet	White			

Botanical Name	Common Name	Height	Color	Uses	Planting Time (*Best Method)	Planting Site Preference
18. Petunia	Petunia	6-12 inches 1-2 feet	White Rose Purple Yellow Pink	Bedding	Inside*—March Outside—May	Sun or Shade
19. Phlox Dwarf Tall	Annual Phlox	6 inches 1-1½ ft.	White, Magenta, Rose, Purple	Bedding Border	Inside*—March Outside—May	Full Sun Sandy Soil
20. Portulaca grandiflora	Moss Rose or Sun Plant	6 inches	Purplish- crimson, Yellow, White	Bedding	Outside— October or April	Hot, Sunny location
21. Salvia splendens	Salvia, Scarlet Sage	2-3 ft.	Scarlet	Foundation bedding Border	Inside*—March Outside—May	Sun
22. Scabiosa atropur- purea	Pincushion flower	2-3 ft.	Purple, Blue Mahogany, Rose, White	Cut flowers	Inside*—March Outside—April	Sun
23. Tagetes Dwarf (French) Tall (African)	Marigold	8-12 inches 2-3 ft.	Yellow Red, Orange	Edgings Cut flowers Bedding Background of Border	Inside*—March Outside—May	Sun Sandy soils
24. Tropaeolum Dwarf Medium Tall (Climbing)	Nasturtium	10 inches 1½ ft. 6 ft.	Yellow, Orange Scarlet	Bedding	Outside—April	Sun
25. Verbena Dwarf Tall	Verbena	6 inches 1 foot	White, Rose, Purple, Yellow	Ground cover Bedding Border Cut flowers	Inside*—March Outside—April	Sun
26. Viola tricolor	Pansy	8 inches	Purple, Blue, White Yellow	Bedding Small arrangement	Inside*— February	Partial Shade
27. Zinnia Dwarf Tall	Zinnia	1-1½ ft. 3 ft.	Various	Bedding Arrangements	Inside*—March Outside—May	Sun Rich Soils

Annual Report of the Extension Service, South Dakota State University, 1914

Department	Number of Agents	Number of Lectures	Number of Demonstrations	Number of Exhibitions	Number of Meetings	Number of Publications	Number of Other Services
General Extension	1	100	50	20	100	100	100
Home Economics	1	100	50	20	100	100	100
Plant Pathology	1	100	50	20	100	100	100
Entomology	1	100	50	20	100	100	100
Chemistry	1	100	50	20	100	100	100
Physics	1	100	50	20	100	100	100
Mathematics	1	100	50	20	100	100	100
History	1	100	50	20	100	100	100
Geography	1	100	50	20	100	100	100
Government	1	100	50	20	100	100	100
Law	1	100	50	20	100	100	100
Medicine	1	100	50	20	100	100	100
Engineering	1	100	50	20	100	100	100
Architecture	1	100	50	20	100	100	100
Art	1	100	50	20	100	100	100
Music	1	100	50	20	100	100	100
Physical Education	1	100	50	20	100	100	100
Business Administration	1	100	50	20	100	100	100
Public Administration	1	100	50	20	100	100	100
Political Science	1	100	50	20	100	100	100
Sociology	1	100	50	20	100	100	100
Psychology	1	100	50	20	100	100	100
Education	1	100	50	20	100	100	100
Library Science	1	100	50	20	100	100	100
Journalism	1	100	50	20	100	100	100
Communication	1	100	50	20	100	100	100
Public Relations	1	100	50	20	100	100	100
Advertising	1	100	50	20	100	100	100
Marketing	1	100	50	20	100	100	100
Business Law	1	100	50	20	100	100	100
Business Ethics	1	100	50	20	100	100	100
Business Organization	1	100	50	20	100	100	100
Business Administration	1	100	50	20	100	100	100
Business Economics	1	100	50	20	100	100	100
Business History	1	100	50	20	100	100	100
Business Geography	1	100	50	20	100	100	100
Business Government	1	100	50	20	100	100	100
Business Law	1	100	50	20	100	100	100
Business Ethics	1	100	50	20	100	100	100
Business Organization	1	100	50	20	100	100	100
Business Administration	1	100	50	20	100	100	100
Business Economics	1	100	50	20	100	100	100
Business History	1	100	50	20	100	100	100
Business Geography	1	100	50	20	100	100	100
Business Government	1	100	50	20	100	100	100

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