

# Field-Grown *Celosia plumosa* for Cut Flowers

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**T**all varieties of *Celosia plumosa* produce useful cut flowers. Since they require warm temperatures and bright light, their season is limited to late summer and early fall production, but the colors and texture are very desirable at that time. They are most useful as filler between heavier flowers, such as gladiolus, or as prominent flowers in smaller arrangements.

Currently, there are not many tall varieties (over 30 inches) offered by seed companies. Good cut flower plants may be obtained by carefully selecting seed from existing available mixtures. If desired colors are not available in the mixtures, shorter varieties may be grown alongside to introduce the wanted colors in future generations. This may also improve the form of the plumes.

Plants should be started in a warm greenhouse six to seven weeks before transplanting into the field by sowing 500 to 1,000 seeds per 11" x 22" flat with soil about 1 1/2" deep. When the first true leaves develop, drenching with 1 teaspoon of Terrachlor and 1 teaspoon Captan per gallon of water may be necessary to prevent damping off. When plants are about 2" tall, they should be hardened in a coldframe or cool plastic house and held outside in full sunlight until transplanted directly into the field.

Plant outside after warm weather arrives, spaced about 12" apart in rows 40" apart. If weed control and cultivation is not a problem, *Celosia* can be planted in beds at 12" x 20" spacing. If soil is hot and dry, the rows should be watered thoroughly before planting to keep the seedlings from excessive wilting. Seedlings should be thoroughly watered as soon as possible and, except in the case of severe drought, should

not need irrigation again for the entire season. After plants are established, a light application of 6-24-24 dry fertilizer is recommended. Too much nitrogen can cause plants to grow too soft, and they will not hold up as well when cut.

When plants are about 12" tall, they can be pinched relatively hard leaving 6 to 12 leaves on each plant. The resulting branches produce more stems of uniform useful size than the center stems would if not pinched.

Harvesting starts after about 10 weeks of warm weather (usually mid-August in southern Michigan,) and lasts until frost. They are cut, stripped and bunched in the field in hand-sized bunches. Ten or twelve bunches usually fills a four-gallon bucket, and they are marketed through normal wholesale channels.

Throughout the harvesting season, desirable plants are selected for seed. They are marked and observed over a period of time to determine if they possess desirable traits for cut flowers. Plants that produce flowers on the central stem should be avoided. Their offspring may produce open straggly plumes or so many seeds that the appearance is less desirable. The flowers are the tiny white and cream or lavender blooms that form on stems at the base of the plumes or are scattered throughout the plumes. Plants with too many flowers have to be harvested when they are young because, when the seeds mature, they darken, giving a less attractive appearance to the plume. Plants with few or no seeds can be left in the field for a longer time and can, therefore, be held until needed.

Plants that have toppled in the wind or exhibit *Botrytis*-like stem rot should be avoided. These traits may show up in future generations. Exceptions may have to be made if the color is wanted and no better specimens are available. Avoid plants that produce combs in the plumes unless some rather weird strains are wanted. Choose plants that branch well. Some vigorous branching plants can produce more than a bunch of flowers on each plant.

Seeds can usually be harvested after frost, but some may have to be collected earlier if seed starts falling. The entire plume can be picked and dried in paper bags for a few weeks before seed is removed. Crushing the seed pods by hand and shaking them through a window screen, then blow-

ing off all the light material or rolling them out of the debris cleans the seed sufficiently. Each variety is sealed in a glass vial or jar and stored in a 45°F refrigerator until used.

Seed germination is usually good for four or five years, but the best germination rate seems to occur the second year. Some varieties have had some seeds germinate after eight years.

Most selections will produce a mixture of colors and habits of growth, but some varieties could be "trued up" if grown isolated at least 200 feet from other celosia and all nonconforming plants are harvested or destroyed before flowers form.

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