



Chrysanthemums

As the summer flowers start to fade because of heat, cold, and other problems, the fall flowers will start to flourish. During the fall season, chrysanthemums become the dominant show in the garden. Mums naturally bloom late in the season because they are short day plants. Long nights cause flowers to form in the fall. From late-August until snowfall, beautiful shades of yellow, orange, red, purple, bronze, pink or white will decorate your garden. Mums make wonderful garden plants and excellent cut flowers. Combined with fresh and dried materials they make beautiful fall decorations. Mums are easy to grow, but if you neglect them they may produce weak stems, unattractive foliage, and they may only have a few small flowers.



Hardy varieties of garden mums produce underground shoots or stolons so the plants persist from year to year. Potted florist chrysanthemums are generally killed by freezing, or they may bloom so late in the season the flowers are killed by frost before they open. After florist mums finish blooming, send them to the compost bin. After the hardy mums finish blooming, new shoots will start to grow, so protect them from the frost by putting mulch around them.



Planting

Plant mums in fertile, well drained soils with full sunshine. Garden mums need at least 5 hours of sun daily; even more is better. When planting mums in the fall, set the plants out at least six weeks before a killing frost. When planting in the spring, wait until after the last killing frost before planting them. Add one pound of **16-16-8 Multi-Purpose Fertilizer** per one hundred square feet of garden area, and an inch of **soil pep** over the entire area. Rototill the soil six to eight inches deep before planting.



If you have a heavy clay soil, grow the mums in raised beds, in pots, or in berms. Chrysanthemum roots do not like to stay wet. Place them at least two feet apart. After planting, put mulch around the plants to help control weeds, to help keep your plants moist and to protect plants throughout the winter.

Fertilizing

Fertilize mums regularly until the plants are large and bushy. Apply one pound of **16-16-8 Multi-Purpose Fertilizer** per one hundred square feet every six to eight weeks during the spring; April to June. You can also give your plants a light application of **Fertilome Blooming and Rooting Fertilizer** every two or three weeks during the summer to help your plants develop even more flowers.



Be careful, too much nitrogen fertilizer will make the plants grow too fast, too tall, and may cause them not to bloom on time.

Pinching - Trimming

Pinching back is the gardener's term for the

very simple operation of removing the growing tips. It can be either the tops of the main stems, or the tips of the side stems on a plant. It stimulates the development of side branches lower down. It is an old and simple gardening task.



With the exception of a few plants in the garden, pinching back is most essential with Chrysanthemums. Pinching chrysanthemums yields compact, bushy plants with more blooms.

When the plants are four to five inches tall pinch off the tip of each shoot. Do not remove side shoots as plants grow. Pinch the tips again when the new growth is another four or five inches long. Continue pinching the tips until July 4. Pinching the new growth stimulates more side shoots to develop. More shoots mean more flowers in the fall. It also means shorter, bushier plants.

Exhibition Mums If you are growing the tall, exhibition type chrysanthemum varieties, you do not want any side shoots. You do not want small bushy plants, or lots of flower buds. Remove the side shoots as soon as they start to grow. Remove all buds except the tip bud on each stem. Be careful not to disturb or damage the tip bud. Continue removing all unwanted buds all season, regularly. Let six to eight stems grow on each plant. To get the largest flowers possible only let three or four stems grow on each plant. As you can imagine, these types of chrysanthemums must be staked.



Blooming time

Chrysanthemums are short day plants. Actually, mums need long nights to bloom, not short days. Mums natural-



ly start to bloom in the fall as the nights become longer. Have you wondered why you can buy blooming mums in the winter, spring and summer but your plants won't bloom until fall?

Chrysanthemum growers can make chrysanthemums bloom any-time of the year they want just by changing the length of darkness.



Most growers “**black-cloth**” them to make them bloom when they want them to. They all have their secret formulas, but many growers cover the plants with black plastic for twelve (uninterrupted) hours of darkness and remove the plastic for twelve hours of light. By repeating this process every day for five to eight weeks, depending on the variety they are trying to get to bloom, mums will start to form flower buds and will bloom during the *wrong time* of the year. Chrysanthemum growers have a very specific set of requirements they have to follow to get their plants to bloom when they want them to.

Picking flowers

Chrysanthemums make great cut flowers and will last for many days. Always harvest flowers early in the morning, or, late in the evening. Do not pick flowers during the heat of the day if you want them to last. Crush or split the stems when you put the flower stems in water. The crushed stem will be able to absorb water better and the flower will remain fresher longer.



Varieties

Choose mums either for your garden, or for growing cut flowers. Their beauty, their color and their practicality make them the greatest of all the fall flowers. They are available in most colors. Use your imagination to pick the varieties you want to grow.



Single: They have daisy-like flowers with one to five long petals radiating from the central eye. They are available in a wide array of colors.



Pom Pom: They have small, stiff and globe shaped flowers. Many people call these button mums. There are only a few colors of these types of mums available.



Anemone: These have single daisy-like flowers with a rounded crest. The petals are usually deeper colored than the crest.



Decorative: These are the most common types of mums. The flowers are curved towards the center. They have multiple rows of petals and are available in almost any color you want.



Quills: The petals are long, tubular and straight, similar to the shape of a por-



cupine's quill. Not many varieties are available with this type of flower.

Spoon: As the name suggests the petal shaped. Not many varieties of this type are hardy for this area.



Spider: The petals are long, tubular and have a hooked end. A few varieties are usually available.



Reflex - Typically has a flat top with downward curving (reflexing) rays. The florets overlap each other creating a bird plumage or mop-like appearance.



Garden mums also make great container plants. They're just right for popping into a clay pot, lining up in a row in a window box, or placing in the center of a mixed container with trailing foliage plants all around. Many landscape plants can provide a backdrop for groupings of mums.



Over Wintering

A few people have a difficult time overwintering some varieties of mums. There are a few basic reasons for this:



Chrysanthemums are shallow-rooted plants. Repeated freezing and thawing of the soil causes winter injury. Covering with mulch will help.

Planting too late, and not allowing the plant to establish itself in the ground, may kill tender plants.

Planting Florist Mums: they will not survive the cold.

Cutting off the leaves too short, and not mulching the plant to protect against temperature extremes.

Keeping roots 'too wet' during the winter months.

However, even the so-called "hardy" chrysanthemums may not consistently over-winter every year.

Tip: Leaving on the tops of the chrysanthemum plants over the winter can increase winter survival. The tops act like mulch and protect against extreme cold temperatures.

Lack of Flowering

Lack of flowering is occasionally a problem with mums. Possible causes include wrong cultivar selection (florist mums); insufficient sun, too much fertilizer, inconsistent water; late pinching; root competition from nearby trees and shrubs. Unusually hot weather (especially nights) in August, or unusually cold weather in late August and September may also prevent flowering. Insect or disease injury can stop Chrysanthemums from blooming..



Florist Mums

Florist mums are varieties of Chrysanthemum that are available in a wide array of blossom forms. They can vary from



quilled to pompon to spider to decorative. These varieties are grown in greenhouses to be sold for special occasions as indoor plants. They have special light requirements, that greenhouses can provide, to force them into blossom. Greenhouses can make them bloom any time of the year they want.

Florist mums produce few, if any, underground stolons, which are necessary for the chrysanthemum plant to survive the cold winter weather.

You can plant a potted florist mum outside and it will grow for the summer. However, it may not bloom again, and it usually will not survive the winter, no matter how much protection you give it. Use it as a bedding plant and then remove it when you pull up your marigolds and petunias for the winter.

If you are not sure if the mum you received as a present is a garden mum or a florist mum, you can plant it outside and see what happens. If it does not survive the winter, it was probably a florist mum. If it survives the winter but does not bloom, it is probably a florist mum. It will probably never bloom, so you need to decide if the green plant is worth keeping without it ever producing flowers.



Dividing and Transplanting

Chrysanthemums can be divided every three to five years, to avoid overcrowding, and to promote maximum flowering. They should be divided in the spring, when new growth appears.

Dig the entire clump and separate the plants with a sharp knife or spade. Remove all the old, woody, dead, or diseased plant parts.

Replant the healthy divisions as soon as possible. Young plants will grow much faster, and provide a better blooming plant, than the crowded old clumps.

Diseases

Mums are susceptible to various diseases. Although many do not kill the plants, they disfigure and make them unattractive. Diseases are best prevented by cultural practices, such as; Don't plant mums in wet or shady areas. Don't crowd plants. Promptly remove any diseased leaves, stems, or flowers, and destroy the affected parts. It is sometimes cheaper to buy a new plant than to cure an infected plant.



Powdery mildew is caused by fungi that live on the surface cells of the plant, not inside them. Infected leaves are covered with a white or ash-gray powdery mold. Badly infected chrysanthemum leaves become discolored and distorted, then drop off. Powdery mildews thrive in both very humid or very dry weather. They are not life threatening, but they are unsightly. If it is not possible to ignore the mildew, spray healthy leaves on affected plants and healthy neighboring plants thoroughly with a garden fungicide.



Rust infection causes pale areas to appear on upper leaf surfaces, with powdery orange pustules or spots directly beneath on the undersides of the leaves. Severely infected plants are much weakened and fail to bloom properly.



Budrot causes the growing tips and the affected buds to soften, turn brown and not open.

Gray Mold Leaves show brown water-soaked spots. Infected parts become covered with a grayish-brown, powdery mass of spores.

Verticillium wilt is a soil disease. The plants usually wilt, turn brown, become stunted, and produce few if any flowers. Remove and destroy infected plants because there is no chemical control for this disease. **Verticillium wilt** can persist in the soil for many years, and chemical control is not practical. Plant mums in a new location and avoid areas previously planted with tomatoes, potatoes, or petunias.

Stunted chrysanthemums can be the result of the "asters yellows virus". **Asters yellows virus** is spread by leaf hoppers. The problem is not noticed until the plants are already affected, so spraying is not effective. Remove and destroy stunted plants immediately.

Insect Problems

Aphids curl leaves and distort the plants and flowers. They live on the underside of the leaves and may be difficult to control.



Leaf miners are difficult to control, because they live between the surfaces of the leaves and make patterns inside the leaf. Use a systemic insecticide to control leaf miners.



Thrips cause distorted and discolored flowers. Flower buds may not fully open if they are affected by thrips. Thrips are best controlled with a systemic insecticide.



Spider mites are a problem on mums in hot, dry areas. Problems can be reduced by washing the leaves with a strong stream of water. Spray with a miticide every 2 to 3 weeks to control spider mites.

Spittle bugs as the name implies, look like small drops of spittle. The insects cause damage similar to aphids. They are easily controlled by washing with a strong stream of water and by using almost any garden insecticide.



Use Eight, Malathion, or an Insecticidal soap to control aphids, spittle bugs, and many other insect pests.

Interesting Fact: Chrysanthemum flowers, when pulverized, are used as a natural source of the organic insecticide, pyrethrum.

Chrysanthemums are one of the most popular flowers in the world, second only to the Rose.





In the fall garden, chrysanthemums can be the showstoppers. No other late-season flower delivers as much color, for as long, or as reliably as 'mums'. They continue to bloom prolifically after the other garden plants have called it quits for the season - right up to snowfall.

More Resources:

<http://extension.usu.edu/boxelder/files/uploads/Chrysanthemums.pdf>

<http://www.mums.org/chrysanthemum-classes/>

<http://www.mums.org/>

