

Plant Wise

IOWA STATE UNIVERSITY
University Extension

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Mum's the Word for Fall Color in the Garden

By Cindy Haynes
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Chrysanthemums, or mums, are a dependable and colorful staple for the fall garden. They live up containers on decks, patios or front door stoops and brighten beds and borders, just as other perennials and annuals are winding down for the season. Thousands of cultivars of mums are available for planting in the landscape or decorating your doorstep.

Variety of Flower Forms, Colors, and Plant Habits

Chrysanthemums are classified according to the shape or arrangement of petals. A dazzling array of flower colors and forms are available. Single mums have a single row of petals and bright yellow centers (like a daisy) -- while decorative, pompon, and cushion forms appear as all petals and no daisy-like centers. The petals may be rolled or tubular or even hooked at the tip as found in the spoon, quill, or spider flower forms. Varieties also differ for petal size. For example, anemone types have long and flat outer petals while the inner petals are shorter -- creating a crested effect.

Each form or shape is available in at least a dozen different colors -- the choices are overwhelming! Since mums are primarily fall bloomers, it is not surprising that seasonal colors such as orange, gold, maroon and burgundy are popular; but plants are also available in white, pink, lavender, yellow and other more pastel hues.

Twenty years ago mums were generally a one to two-foot tall plant, both in the garden or in a container. Today there are tall cultivars, reaching over three feet tall, and dwarf cultivars, staying below a foot.

Plants may be upright and shrub-like or creep more like a groundcover. Read the label carefully to make sure the mature size and shape of the plant will fit your space.

Cold Hardiness Issues

Growing mums successfully depends on matching the intended use with the proper cultivar. Chrysanthemums have a reputation as not lasting in the landscape, especially over the winter in many parts of Iowa and the Midwest. However, if you want a colorful display for a few containers in the fall, simply plant them, water them occasionally, and pitch them in the compost pile when winter arrives. If you want or expect your mums to persist and bloom year after year like a typical perennial, then proper plant selection, placement, and care will increase chances of survival.

Hardy and non-hardy cultivars of mums are available to the public. Don't assume that the mums you buy in the pretty baskets and bows from a florist or supermarket are hardy -- these are usually not hardy in Iowa. Instead, look for "garden" or "hardy" mums. These plants are often put on display outdoors at garden centers, discount stores and some florists. Look for cultivars bred in Minnesota. Cultivar names that start with "Minn" or even the shrub-like "Maxi-Mum" types are from Minnesota and have the genetics to survive an Iowa winter.

But being genetically capable of surviving the winter doesn't ensure survival. If you want to keep these plants for many years to come -- plant them in a sunny, well-drained location. Don't put them in containers on your door step, then plant them in the ground in November, and expect them to over winter. They require a period of establishment in the ground in the months of September and October to establish good root systems in preparation for winter. Sunny sites with well-drained soils are essential. Plants perform poorly (and often die quickly) in shady locations with wet soils.

For the first year or two, mulch heavily and don't cut the plants back in the fall. Wait until early spring to remove or clean up the old stems. The four inches of added insulation will help ensure survival over the winter. After a couple of years, plants should be well-established enough to survive without the added protection.

Finally, keeping mums healthy will mean a little extra effort in spring and summer. Mum plantings generally benefit from pinching, or cutting them back slightly, in early summer. This promotes branching, compact habits and more blooms in the fall. Chrysanthemum plantings also benefit from regular fertilizer and moisture applications early in the growing season. By late summer, fertilizer applications should stop -- signaling to the plant it is time to bloom and prepare for winter.

Whether planted in a solid mass of a single color or many colors mixed together to form a living tapestry in the garden, fall just wouldn't be the same without chrysanthemums. No other flower can provide such a dramatic climax for your landscape before the arrival of winter.

Goldenrod Falsely Accused



Goldenrod is insect-pollinated. The pollen grains are relatively large, heavier than air and intended to be carried off by bees, butterflies and other pollinators.

By Linda Naeve
Program Specialist
Iowa State University Extension

Occasionally we hear or read about a person who was wrongly accused of a crime. When all the facts are analyzed and evaluated, they prove that someone else was responsible. Unfortunately, the reputation of the innocent individual is questioned for a long time after being cleared.

That same scenario plays out in the plant world. That is, one plant may be acquitted of the crime, but is still getting the blame. It occurs in early and late summer when hay fever sufferers blame certain plants for their misery.

Hay fever is an allergic reaction in certain people when they inhale pollen from specific plants. Although the pollen of several plants, such as trees, grasses and weeds, can cause allergic reactions, the plant species at fault and the symptoms are very unique and specific to individuals.

Before we start blaming specific plants for our runny noses, we need to get the facts straight and then narrow down our list of suspects. Pollen is barely visible, yet it varies considerably in size, depending on a plant's mode of pollination. Insect-pollinated plants produce large, sticky pollen grains that pose no risk to hay fever sufferers because even in windy weather it is too large to remain airborne. It is designed to stick to the bodies of visiting insects. The very tiny, light pollen of wind-pollinated plants are the predominant culprits. Their pollen can soar and remain in the air for a long time. Fact #1: Most trees and grasses and some weeds are wind-pollinated.

When determining what plants are to blame, consider the time of year when hay fever symptoms appear and are the worst, then look to see what is in bloom in your area. Fact #2: Several weeds and grasses are blooming at this time. A quick glance in the ditches and gardens narrows the list of suspects.

One of the most colorful plants we see blooming in roadside ditches and gardens in late summer is goldenrod (*Solidago* sp.). Hay fever symptoms seem to be worse when it is in bloom so it is often accused of causing hay fever. One look at goldenrod and a little logical thinking clearly eliminates it as a suspect. The many, small, bright yellow flowers on long cluster on the top of the plants are often covered with butterflies and bees taking advantage of the abundance of nectar. The brightly colored flowers are important to attract color-sensitive insects required for pollination. Fact #3: Goldenrod is insect-pollinated. The pollen grains are relatively large, heavier than air and intended to be carried off by bees, butterflies and other pollinators.

On the other hand, the tiny green flowers on ragweed make large amounts of tiny pollen that is carried from one plant to another by the wind. Research has shown that ragweed pollen can travel far. It has been measured in the air 400 miles out to sea and 2 miles up in the atmosphere, but most of it falls much closer to its source. Fact #4: Ragweed produces lots of airborne pollen making it is easy for people to inhale the tiny pollen grains.

Goldenrod can grow nearly anywhere, but is often found growing on the edges of woodlands and in sunny ditches and weedy areas where the soil has been disturbed. This is also the same habitat where common and giant ragweed thrives. However, since ragweeds are rather inconspicuous plants without showy flowers they are overlooked or ignored. They don't have colorful, nectar-filled flowers because they don't need to attract pollinators. Fact #5: Ragweed and goldenrod bloom at the same time and in close proximity.

So, after examining all these facts, it is clear to see that goldenrod is not the cause of hay fever -- it is guilty only by association. The real culprit is ragweed. It probably

causes more grief to hay fever sufferers than any other plant in the fall. Of all Americans who are allergic to pollen-producing plants, 75 percent are allergic to ragweed.

Fortunately, many people are now aware of goldenrod's innocence and have recognized its beauty and value. It is native to most of the United States and plant breeders have developed many varieties that are perfect for perennial gardens throughout the country. Goldenrod has even been adopted as the state flower of Nebraska and Kentucky.

Lawn Aerification - Who Needs It?

D.D. Minner
Turfgrass Specialist
Iowa State University Extension



Aerification is one of the most basic and essential tools used to manage lawns. There are many different types of aerification machines on the market today. The general premise behind aerifying is that holes, about the size of your finger, are poked in the ground to somehow make the lawn better.

The holes can be made with hollow tines that bring some soil and thatch to the surface or they can be made with solid tines that make holes without bringing material to the surface. A knife-type of tine also can be used to shatter dry soils and create many cracks in the ground that also serve for aerification. Most lawns receive a real benefit from solid, hollow and shatter tine aerification. The following discusses some of the situations where aerification is especially beneficial.

Heavy soils and compacted conditions – Iowa has some rather productive farm soils, unfortunately they don't always end up directly under your lawn. Any situation where heavy clay soil is the major component can be improved by core aerification. Often the native topsoil is removed during construction and it is never adequately returned before lawn establishment. The clay and subsoil condition becomes very hard from the surrounding construction. Compacted and heavy clay conditions simply do not allow sufficient space in the soil to grow roots or store water and air. Lawns with compromised root systems usually fail during hot and dry conditions in the summer. In this situation the benefits from aerification are increased space for rooting and reduced compaction.

Sodded lawns -- Root systems on sodded lawns sometimes remain in the upper layer that was sodded instead of penetrating into the soil that is on site, especially when soil conditions exist as described above. Roots stay in the good soil from the sod farm and avoid

the less desirable soil conditions on site. Sod may also come with a dense layer of thatch, especially if it is two years or older when harvested. Sod usually performs great for the first year, but may begin to suffer if it is not managed properly. Hollow tine aerification is an excellent way to break through the sod layer, remove thatch and mix the two soil types together. In this case the real benefits are thatch reduction and root penetration from the sod layer into the soil below. Deeper and more prolific rooting means better turf.

Worn areas – Intensely used areas first wear away the grass and then compact the soil, even on the most productive loam soils in Iowa. Lawn areas that are intensely used by people, vehicles and pets are prone to thin grass, exposed soil and hard conditions. The only way to turn this situation around is to use aerification to fracture the ground and then reestablish the grass. An aerifier hole makes a great environment to start grass even when traffic conditions continue. The grass that establishes in an aerifier hole has its crown protected below the surface of the surrounding soil and is more traffic tolerant. The tell-tale signs of beneficial aerification are often evident in areas of traffic and drought. The only grass growing in these areas will be in the aerifier holes. These benefits from aerification are visually convincing and it should be obvious that you need to do more of this "good thing."

Thatch – Thatch is a layer of living and dead roots, crowns and lower shoots that forms between the soil surface and green vegetation. Moderate thatch formation is a normal development in lawns. However, problems can occur when the thatch layer is excessive. Thatch is seldom directly responsible for turf death; however, it usually leads to other disease, water and shallow rooting problems that eventually kill grass. Hollow tine aerification is the best method to keep thatch checked at less than one-half inch thick. The hollow tine physically removes some thatch, but more importantly it distributes soil cores on top of the grass and thatch.

Once the soil is dispersed on the surface it distributes soil and microbes that help decompose the thatch faster. This is the lawn care version of a farmer plowing the stubble into the ground to facilitate decay of plant residue. We can't plow our lawn each year, but we sure can use hollow tine aerification to topdress soil over the surface and breakdown the organic layer developed from thatch build-up. Earthworms also do an excellent job of making holes, bringing up soil and managing thatch. Where worm activity is limited, aerification will certainly help.



Extension programs are available to all without regard to race, color, national origin, religion, sex, or disability

Dividing Iris

By Charlie Risinger
ISU Master Gardener Intern
Mills County



Iris are centuries old, and still very popular in gardens today. They bloom in a staggering array of colors. To increase stocks of irises that grow from rhizomes, such as Bearded Iris:

1. Lift clumps in late July through mid-August every few years. Dig the iris using a potato fork, being careful not to damage the rhizome.
2. Using a very sharp knife, cut off the younger rhizomes from the edge of the older central section, leaving one or two leaf fans growing from each division.
3. Trim the leaf fans back to within just a few inches from the rhizome. This will keep the wind from unsettling the newly replanted rhizomes, as well as prevent moisture loss while the new plants get established.
4. Discard the older, central section from the original clumps.
5. To replant the trimmed rhizomes, dig a shallow hole with a mound in the middle. Set the plants in with the roots spread around the mound. Place the fans facing outward to allow room for the plants to expand. Cover the roots with soil, but leave the tops of the rhizomes partially exposed. Water well. Keep the newly planted iris moist if the weather gets hot and dry, but avoid overwatering.
6. For the best flowering, Iris prefer a sunny location with moderate fertility. They grow well in drier conditions with the rhizome partially exposed to sun and air.
7. By dividing your Iris with this method, you will not only produce new plants, but also improve the flowering potential of overcrowded older plants.

Gardening is a kind of disease. It infects you, you cannot escape it. When you go visiting, your eyes rove about the garden; you interrupt the serious cocktail drinking because of an irresistible impulse to get up and pull a weed. ~Lewis Gannit



Upcoming Horticulture Events of Interest:

Mills County Master Gardener Seminar “Add Style to Your Garden With Statuary”

Date: Monday, September 14
Time: 7:00 – 8:00 PM
Place: Glenwood Resource Center
Visitor’s Center Conference Room
Cost: \$2.00



Connie & Ryan Bichel, owners of Garden Treasures in Glenwood, will show you how to enhance the beauty of your yard and garden spaces using statuary, fountains, and garden art.

Aronia Festival

Date: Saturday & Sunday, September 19 & 20
Time: 10:00am – 6:00pm Both Days
Place: Sawmill Hollow Organic Farm
2159 Kennedy Ave.
North of Missouri Valley, IA
Cost: This is a free event!

Speakers: Dr. Eldon Everhart, ISU Aronia Expert
Vaughn Pittz, owner of the farm

Co-Sponsors: Iowa State University Extension &
Sawmill Hollow Organic Farm

- Featuring tours and educational talks about aronia – ornamental & wildlife plantings.
- Sample aronia products – juice, jelly, and wine.
- Plants and aronia products will be available to purchase.

Small Acreage Workshops

Dates: Wednesday Nov. 4, 11, 18
Time: 6:30 pm – 9:30 pm
Co-Sponsors: Mills County ISU Extension &
Mills County Master Gardeners

Each night will offer three sessions/topics. You can choose to attend all three nights or just one or two. The scheduled topics include:

- Nov. 4 – Rural Family Life, Water & Septic, Legal Issues
- Nov. 11 – Trees and Windbreaks, Ponds and Water Features, Prairies and Native Grasses
- Nov. 18 – Equipment Needs for Rural Living, Alternative Forms of Power, Animals in the Country

Reserve these dates now and watch for details!

ISU Extension Offers High Tunnels Workshops

Can you envision enjoying fresh, locally-grown fruits and vegetables for six months rather than three? This is a reality, not a dream, as more producers around the country are using “high tunnels” to extend the growing season of horticultural crops.

“Vegetables, small fruits, tree fruits, cut flowers, herbs, and many other crops can be grown in high tunnels,” according to Dr. Eldon Everhart, horticulture specialist with ISU Extension. “This can be a profitable method to extend the season and produce high-value crops in Iowa.”

If you are interested in exploring the possibility of growing crops in a high tunnel, then you will want to attend the High Tunnels Workshops offered by ISU Extension. These 2-day, 7-hour workshops will cover high tunnel selection, site, construction, irrigation and climate control, pest and soil management, and business plan development.

The workshops will be offered at two locations. The first one will be at the Horticulture Research Farm near Gilbert, Iowa on September 29 and October 1 from 6 to 9:30 p.m. on both nights.

The other workshop will be at the Armstrong Research and Demonstration Farm near Lewis in western Iowa. It will be held on January 5 and 6, 2010 from 6 to 9:30 p.m. on both nights.

The cost is \$30 per person or \$50 per couple. Pre-registration is required and space is limited. To register, call or e-mail Linda Naeve, lnaeve@iastate.edu, 515-294-8946.

Ask the ISU Extension Gardening Expert

Why are some of my potato tubers green?

Potato tubers are actually enlarged underground stems. When potato tubers are exposed to light (either in the garden or storage), their skin turns green due to the formation of chlorophyll. The chlorophyll itself is not a problem. However, higher levels of glycoalkaloids also develop in the green tissue. Green tubers have a bitter taste when eaten. They may also cause an upset stomach and more serious health problems.

Tubers with small green areas can be safely eaten if the green portions are cut off and discarded. It would be best to discard potatoes that are largely green.

When growing potatoes in the garden, hill soil around the base of the potato plants to prevent the tubers from being exposed to light. After harvesting, store potatoes in a dark location.

How do I know when it's time to pick apples?

A taste test is the best way to determine when to harvest apples. Mature apples are firm, crisp, juicy, well-colored, and have developed the characteristic flavor of the variety. Color alone is not a reliable indicator of maturity. Red Delicious apples, for example, often turn red before the fruit are mature. Fruit harvested too early are astringent, sour, starchy and poorly flavored. Apples harvested too late are soft and mushy.

The leaves on my lilac are covered with a white substance. Is this a serious problem?

The white substance is likely powdery mildew. Powdery mildew is a fungal disease. It appears as a white, dusty growth on plant foliage. Many plants can get powdery mildew. However, it is especially common on lilac, phlox, zinnia and turfgrass.

Powdery mildew is favored by high humidity, cool nights and warm days. Plants growing in partial to heavy shade are most susceptible to powdery mildew.

Powdery mildew does not cause serious harm to lilacs. The damage is mainly aesthetic. Spraying with a fungicide is usually not recommended. When planting lilacs, select a site that receives partial to full sun. To bloom well, lilacs need at least six hours of direct sun each day. Also, powdery mildew will not be a serious problem in sunny areas.

When should I harvest gourds?

Harvest gourds when the stem attached to the fruit begins to dry and turn brown. Since the rind or skin is susceptible to bruising or scratching, handle the gourds carefully. Cut the gourds from the vines with a hand shears, leaving a few inches of the stem attached to the fruit. After harvesting, gently wash the gourds in warm, soapy water to remove any dirt. Then wipe the gourds with a soft cloth dampened in a household disinfectant. The disinfectant should destroy decay organisms which could lead to fruit rot. Finally, dry each gourd with a soft cloth.

Dry or cure the gourds by placing them in a warm, dry, well-ventilated location, such as a garage or shed. Place the gourds in a single layer on clean newspapers or shelves. Space them so they don't touch one another. Turn the gourds frequently and promptly remove any which show signs of decay. Large gourds can also be dried by hanging them from beams or rafters. Drying or curing will take several weeks. Approximately one to two weeks will be required for the outer skin to dry and harden. Internal drying will take several additional weeks. The gourds have been adequately dried when the seeds rattle inside.

SEPTEMBER GARDENING TO DO LIST



- Take geranium and coleus cuttings and root them indoors.
- Continue to water newly established trees, shrubs, and perennials.
- Harvest winter squash before hard frost. Skin of the squash should be tough with deep, solid color. Some cultivars will show an orange blush when mature.
- Continue to weed garden area and remove dead plants.
- Check trees for bagworms and fall webworms. Hand prune and destroy.
- Prepare thin and dead areas of the lawn for renovation. Mid-August to mid-September is the best time of the year to seed lawns.
- Plant spring-flowering bulbs in mid-September. Planting too early can cause bulbs to sprout top growth before winter. However, allow at least four to six weeks before the ground freezes for good root formation.
- Dig and store tender garden flowers for winter storage. Gladiolus corms should be dug when leaves begin to yellow. Caladiums, geraniums, tuberous begonias, and calla lilies should be lifted before a killing frost. Dig canna and dahlia roots after a heavy frost. Allow to air dry, then pack in dry peat moss or vermiculite, and store in a cool location.
- Control dandelions and other perennial weeds in established turf with a broadleaf herbicide.
- Consider preparing the soil for new garden areas. Kill or remove the grass, take a soil test, and amend the soil as needed. Shredded fallen leaves make a great soil amendment. Starting now gives you a jump on next season.
- Stop deadheading roses after the final wave of flowers or in late September. This allows rose hips to form and plants to start hardening off for winter.

New Publication Reveals Late Summer Flower Possibilities



Gardeners looking for late-summer-blooming plants can find ideas in the new ISU Extension publication "Flowering Plants for the Late Summer Garden."

AMES, Iowa – As the transition between summer and fall flowers begins, Iowa State University Extension reminds gardeners that they can still have colorful gardens. A new ISU Extension publication "Flowering Plants for the Late Summer Garden," PM 2079, shares a variety of flower and plant ideas and is now available from the ISU Extension online store, <https://www.extension.iastate.edu/store/>.

"Late August and early September are the hardest times to have color in your gardens," said Ann Marie VanderZanden, an ISU Extension horticulturist. "A lot of people don't know what to grow though, so this is a good resource for anyone who wants flowers from spring to fall."

The publication was put together by Kathleen Cue, a horticulture graduate student, and reviewed by VanderZanden. Cue knew many gardens have few flowers in late summer, and she realized the information from other resources was not always accurate or produced different regional results. With these things in mind, she gathered information from personal experience, data and garden tours to produce a publication full of flower and plant ideas that are proven to work in Iowa and Nebraska.

"It's very beneficial to home gardeners," said VanDerZanden. "The publication has a number of plants with different sizes, shapes and colors that are still reliable bloomers."

Resources for Horticulture information

ISU's Hortline at (515) 294-3108

(Monday-Friday, 10 a.m.-noon, 1-4:30 p.m)

ISU/Mills County Extension: 712-624-8616

www.extension.iastate.edu/mills/yardgarden.htm

Iowa State University Publications

PM 731	Harvesting and Storing Vegetables (\$1.00)
PM 1055	Turfgrass Renovation (free)
PM 534	Planting & Harvesting Times for Garden Vegetables (Free)
RG 0319	When to Divide Perennials (free)
RG 0311	Growing and Overwintering Tender Perennials (free)
RG 0305	Growing Chrysanthemums in the Garden (Free)

Horticulture Publications on-line

<https://www.extension.iastate.edu/store/ListCategories>