

Frequently Asked Questions About Daylilies

Daylily Hardiness in Wisconsin

Tale of Foliage Habit and Hardiness

Daylilies are one of the most common garden plants sold worldwide and certainly are some of the best garden subjects for the gardener to grow. Unfortunately, there are many companies selling these plants that do not grow or have adequate knowledge of the product they sell. The following are some commonly asked questions about daylilies at Solaris Farms concerning these issues:

- 1) Why do prices vary so much (\$6.00 to more than \$150)? Quite simply, it usually boils down to supply and demand. Daylilies that are scarce and in high demand tend to be more expensive. Newly registered or released plants tend to cost more because the hybridizer is trying to recoup some of the expense of developing a new cultivar. Quality and size of the plants being sold will also have an impact upon the cost of the plants. Cheap daylilies may be great garden subjects, but in many cases newer registrations will outperform older plants in many respects. Some general plant nurseries will sell older (in many instances low quality) cultivars for high prices--preying on the inexperience of the general public or inability to find fair information.
- 2) Are there any daylilies that rebloom in Wisconsin? Yes, but most are yellow, melon, gold or a related color variation. Almost all daylilies will rebloom in climates with a longer and warmer growing season. Unfortunately, Wisconsin's short summers seldom allow for consistent rebloom. Many catalogs list plants as rebloomers--accurate if you live in a more southerly climate. Very few cultivars are considered worthy for this trait in our climate. Many hybridizers are working toward producing northern rebloomers, but progress has been slow to date.
- 3) If there are so few rebloomers, are there plants that will bloom longer than the average two week period of most cultivars? Yes!!! There are many modern-day hybrids that exhibit 3 to 6 week blooming periods. Most of these plants have heavy scapes with great branching and bud counts. It is often quite easy to pick these cultivars out in a garden, just by looking at the number of buds or bud scars on the scapes.
- 4) Do USDA Hardiness Zones apply to a daylily's hardiness? Not likely. USDA Hardiness Zones were created for plants that have persistent woody parts above the ground in the winter. Many nurseries use the USDA Hardiness Zones to describe the hardiness of the daylilies they sell. Unfortunately this form of rating a plant's hardiness is not accurate for daylilies, since the crowns are below ground for the winter. Daylily hardiness is more likely affected by other factors, rather than air temperature. Soil moisture, water on the soil, frost heaving, mulching, snow cover, wind and other factors that affect the characteristics of the soil are far more likely to affect hardiness. Using the USDA hardiness zones to describe daylily hardiness will likely only bring frustration.

5) What is a diploid vs. a tetraploid daylily? Diploid daylilies are the plants (or any organism for that matter) that have a single complement of chromosomes in their cells. Considered "normal," the diploid chromosome arrangement is the most common found in nature. Tetraploids have a double set of chromosomes in their cells. Some tetraploids occur naturally, but more often these plants were produced from parents that were chemically treated diploids. These converted diploid plants (now tetraploids) are then hybridized with other tetraploids to produce new tetraploid cultivars.

6) So, are tetraploids better than diploids? The answer is in the eye of the beholder. Tetraploids, in general, are larger plants that produce heavier scapes and flowers with greater substance. They also may exhibit characteristics in their flowers that are accentuated in color and pattern. Diploids may also exhibit these same characteristics, but hybridizers recognize that much greater effort is required to see new 'breaking' results. Diploids often have more refined and lacy looking flowers, but this is only a generalization.

7) Are Tetraploids hardier than diploids? No. Much of this depends upon foliage habit, as well as inheritance of hardy characteristics. At this time there are proportionally less hardy Tets than dips due to the many plants being hybridized in the south.

8) Where do daylilies get their cultivar names? The hybridizer that registers a cultivar must give it a name that fulfills a set of botanical naming rules. Names can be descriptive of the cultivar, fanciful, topical, or commemorative of place or person, etc. The names should officially pass AHS approval before marketing a daylily. Some previously registered daylilies are now being renamed without AHS recognition, which will ultimately cause confusion in the marketplace. A name registered with the AHS is not patented or copyrighted. In order for a name to be copyrighted or a plant patented, a different governing agency must be used. See FAQ 22 for further information.

9) Where are most daylily hybrids produced today? Florida and other southern states are the major producers of many of the newest cultivars. Growth and propagation are rapidly increased due to a much longer growing season, therefore allowing new cultivars or generations of seed-propagated plants to be offered for sale at an accelerated rate. In recent years a renewed movement to hybridize daylilies in the north has been undertaken by many smaller hybridizers (less well known). This movement has been spurred by the knowledge that more hardiness must be bred into daylily lines for gardeners in the north to enjoy the plant to its greatest potential.

10) What is a seedling daylily? A seedling daylily is a plant raised from seed. Seedlings are not copies of the adult plant and are like the offspring of any living organism--containing genes from two parents. Seedlings are not registered cultivars and generally remain so until they have been grown long enough to prove they are productive over a series of years.

11) Why do I see so few of the newest hybrids for sale at garden centers or used by landscapers? Daylilies, like many plants, require time and money to propagate. Many garden centers and landscapers look for the greatest potential for economic advancement, thus choosing older less expensive cultivars that are available via wholesale for lesser amounts of

money. Unfortunately, better performing daylilies that have more attractive flowers are often available for the consumer, but are seldom offered by the mass marketing plant companies.

12) How do 'tissue culture' plants differ from standard division plants? Tissue culturing is a method used to propagate a plant quickly and in large quantities. Cells from a selected cultivar are taken and grown in a lab to produce hundreds or even thousands of small plants. These plants, in theory, are clones of the original plant. This should allow more plants of a selected cultivar to be available at a lower cost to the consumer. Unfortunately, many of these tissue cultured plants have not produced the exact clonal copy of the parent plant. In other words, the tissue culture origin plants bloom with flowers that look inferior to the donor plant, or don't grow as well. Some labs claim that they have now perfected methods to produce good tissue culture daylilies. We have not found this to be accurate at this point in time. Standard divisions are produced from simply dividing a daylily clump into separate parts--each being a part of the original plant. Producing saleable plants from division takes longer, but has proven very reliable in keeping the cultivar's defining characteristics.

13) Are there any white or blue daylilies? At this time no true white or blue daylily flowers are available on the market. However, great strides have been made in both areas. A number of flowers with blue hues are now appearing on the market, but none have entirely blue flowers. The whites should all be considered 'near whites'. Typically white daylilies look white from a distance, but upon closer observation they will inevitably have a yellow or pink cast to them. Some appear whiter than others.

14) Why are all pink daylilies not really pink, but rather salmon, apricot, or some other mixture? Pink appears to be a color with a wide range interpretation to the human eye and mind. Yes, many of the pinks do appear salmon, apricot or melon colored, but others are quite clear in their color. Pink flowers are also impacted by varying weather conditions and soils, which may cause them to look different shades on various days. Perhaps the question should be, why is it so difficult for me to find the shade of pink that my mind desires? A very tough question to be answered!

15) Should I cut the foliage down when I transplant/divide my daylily? Yes. This practice allows the plant to grow new roots that can support the water needs of the foliage. If the large leaves of summer growth are allowed to remain on the plant at the time of transplant or division, the roots will not have the capacity to move enough water keep the foliage green. Large, untrimmed leaves will draw on water supplies contained in the roots, ultimately weakening the plant.

16) Should a daylily's scapes and leaves be trimmed back once flowering has ceased? Scapes may be removed for aesthetic purposes, but no real advantage is gained in growth by doing so. If seed pods are growing on the scapes, these may draw energy from the overall reserves of the plant and removal may be a good idea, unless you are trying to produce seed for planting. Removal of green leaves after flowering is detrimental to the plants health because they continue to make energy long after the plant completes flowering. Once foliage has died down in the fall season it may be removed or left on during the winter as a self-mulching

device. Removal of foliage in spring is advised to remove diseased material and to rid the garden of overwintering pests.

17) Should I 'dead head' old flowers on the daylily scapes? If they are in your own garden, YES! If they are in someone else's garden, never remove old blooms, since doing so may cause wanted seed production to be halted for those flowers. Dead heading does nothing to make the plant healthier, but certainly makes the currently open blooms more attractive. Some people don't dead head because the spent flowers still have color and give the plant a colorful appearance from a distance. Our advice would be to only look at other people's plants and never touch the spent flowers, unless they are in your garden.

18) Why do many hybridizers describe plants as having 'good plant characteristics'? A daylily that has deep green foliage and keeps this clean foliage throughout the growing season makes the plant a wonderful backdrop for its flowers. Some daylilies easily get streaked leaves or become yellow as the season goes on which detracts from the display at flowering time or afterwards. Some plants also produce fine large fans each year and make very uniform growth adding to the attractiveness of the clump, while others will make fans of many different sizes and will often have the appearance of grass growing within the plant--most undesirable. How a plant grows its fans is also a characteristic that can be either detrimental or positive to how the plant appears in the garden. A daylily with gorgeous flowers and a poor plant habit will largely go unnoticed in the garden or may even be a distraction.

19) Is a fast-growing daylily better than a slow-growing daylily? If you are selling daylilies for profit a fast-growing daylily is often the best way to make money quickly. If you are growing daylilies for display in a garden a fast-growing daylily may be an annoyance for a number of reasons. Some cultivars that increase rapidly will become overgrown clumps within a few years and flowering will diminish with overcrowding of fans, requiring division. Division of almost any plant is hard work and a rapidly increasing plant will require more effort, more often. Rapid increasers often produce plants that 'pile up' on each other and begin to look poor after a few years, once again requiring division. Slower growing plants that make large fans typically do not need to be divided as often, allowing the gardener to enjoy it in one place for longer periods. Slower growing plants obviously will not be as easy to commercially distribute, but often make some of the finest specimens in the garden. Very slow increasers may take many years to produce fine looking clumps and this may not be advantageous for anyone growing the plant. The answer to this question is dependent upon the gardener's needs and intentions.

20) Is it better to start with a large clump of daylilies or a smaller 2 to 4 fan division? Large clumps are often in need of division and there would be no advantage in planting a large clump as purchased. During transplant it is best to break large plants into smaller 2 to 4 fan divisions to allow new roots to easily grow into the surrounding soil. If left in a large clump, roots must attempt to grow through old plant material which acts as a wall. Two to four fan divisions easily grow new roots into the surrounding soil and are much more prosperous.

21) What is an EMO, CMO and DEF in daylily descriptions? EMO = Early Morning Opener. Not all daylilies open early in the morning and some gardeners like their flowers to be open as early as possible for viewing reasons. CMO = Cold Morning Opener. In Wisconsin we

have many cold mornings and many cultivars will not open well or at all in cold weather. CMOs are a good plants to have if your mornings are inconsistent during July bloom season. DEF = Day End Flower. An acronym coined by us in reference to a flower's ability to look good at the end of the day. A daylily flower is basically on the road to decay from the moment it opens. Some flowers look terrible by the end of the day, when most people are in their gardens viewing plants. A DEF will look as good, if not better at the end of a bright, hot day (wind and dry weather may also be a component of determining a good DEF).

22) What is the procedure for registering a daylily? After a daylily has been trialed and has proven to be worthy, the hybridizer may choose to register the plant with AHS. The decision to register a plant solely lies with hybridizer and is quite subjective (both good and inferior plants are registered each year). To register the plant, a form that describes predetermined characteristics (height, flower size, foliage habit, etc.) must be submitted to the AHS. On the form the hybridizer also indicates the name they would like the cultivar to have. The name must fulfill requirements set by the International Code of Nomenclature for Cultivated Plants and be unique within the genus. Naming can be quite problematic due to the high number of *Hemerocallis* already registered, thus some research should be done ahead of time using the AHS cultivar database. Registration cost is \$15.00 per submission. For further information we recommend that prospective registrants visit the AHS' "How to Register a Daylily" page. Once the AHS has officially reviewed and accepted the registration, the cultivar will be listed on the AHS cultivar database. Registration is not the same as patenting and has no legal force that accompanies it. The process simply serves as an information reservoir, not a commercial promotion (although that is arguable).

Daylily Hardiness in Wisconsin

It is no longer safe to say that all daylilies are hardy plants. In fact, many catalogs list plants as suitable for particular zones without suitable evidence or understanding of USDA Zones. Many of today's modern cultivars are hybridized in the deep south and many of the northern hybridized plants are using the same genetics of the southern hybridizers to produce plants that one might think will be northern hardy. Our experience, and that of many other growers in our area, indicate that much long-term hardiness has been lost in modern cultivars. In other words, a northern hybridized plant using southern parents may survive a year or two or three, but at some point our climate will weaken them or kill them outright. Just because the plant reportedly grows in a similar or colder zone, perhaps in Ohio, Michigan, Illinois, Minnesota, etc., does not correlate to hardiness in another location (especially evergreen or semi-evergreen foliage plants). Many varied opinions may be found concerning foliage habit vs. hardiness. Generally, plants that have evergreen and semi-evergreen foliage habits have been very unreliable in eastern Wisconsin for hardiness. This is not likely due to temperature, but rather acclimation to cold temperatures in fall, variances in water supply during fall and winter, snow cover, growing degree days, icing, spring warm up and freeze-thaw cycles. Most dormant foliage plants, hybridized in the north, have shown excellent survival and performance characteristics in our climate. Evergreen, semi-evergreen and southern dormant (typically do not go dormant in the north) hybridized plants should be well protected in winter, if gardeners would like to grow them in our area. Northern hybridized dormant plants typically need no extra protection. USDA Zone hardiness indications attached to daylily cultivars have shown little

relevance to hardiness in our experience and should be regarded with apprehension. Buyer beware! We've experienced a number of winters in the past ten years that have killed many or most evergreen/semi-evergreen daylilies on our farm. The conditions that appear to be most detrimental to survival are:

1) fall and winter drought

2) winter rain

3) ice formation on soil surface from melting snow

4) rapid freezing and thawing of soils due to warm and cold periods in winter. These have not been unusual occurrences in Wisconsin. Therefore great care should be taken when selecting cultivars for our gardens. Planting daylilies no later than mid to late August in our area is recommended so that plants have time to establish adequate root systems before the stresses of cold weather arrive. Planting after September 15th will reduce success rates for even hardy daylilies. Planting in summer or late summer is advantageous in that hardy dormant plants will generally perform extremely well the following year. Of course, spring planting is also acceptable, but plant performance is not particularly good during the first growing season. An exception are daylilies with evergreen foliage habits. These should always be planted in spring to insure a good establishment during the summer months. With this said, evergreen daylilies still may not survive the winter rigors of Wisconsin. In summation, purchasing a dormant plant in our climate is a more likely measurement of expected hardiness. Good sun, water and establishment time will likely develop a plant that will become a good hardy performer.

Tale of Foliage Habit and Hardiness

Modern daylilies exhibit three types of foliage habits--dormant, semi-evergreen, and evergreen. Foliage habit still appears to be a good indicator of plant hardiness in Wisconsin. Many daylily hybridizers and growers do not agree with this assessment, but observations in our fields support the idea that 'dormants' are certainly much hardier in our climate. These three habits are not always well defined. Some plants seem to fall somewhere in between. Please also see daylily culture.

Dormant daylilies have foliage that begins growth when temperatures are warm enough to support healthy plant progress in cool climates. They also stop growth late in the season when cool temperatures and day length can no longer support their increase and energy use. "Dormants" appear to require a winter down time in order to prosper. They are well suited for Wisconsin and poorly equipped for Florida and warm climates. Dormants generally lose vigor in areas that do not experience freezing temperatures. Spring foliage on dormant plants is generally more robust and healthy than semi-evergreens and evergreen varieties. Flowering and bud counts also tend to be better on dormant plants in Wisconsin, but the opposite in warm climates.

Evergreen daylilies are best suited to warm climates like that of Florida. These plants exhibit continuous growth, even during cold weather. Evergreen foliage can often be seen growing beneath snow, unfortunately these tender leaves often freeze and turn to mush. "Evergreens"

generally weaken themselves during winter months in cold climates by continual growth, without the benefit of proper day length and temperatures. Growing and losing foliage to cold temperatures repeatedly is not a beneficial tactic for daylilies in Wisconsin or other cold climates. "Evergreens" are the plant of choice in the south and many beautiful flowers are born on this type of plant. Florida produces many new evergreen daylily hybrids every year. Some will grow in Wisconsin, many will freeze out or rot in the spring. Some evergreens may survive a number of years in a garden and then die after a winter with different conditions than the previous years. This has been noted at Solaris Farms on numerous occasions and the unusual conditions that kill the plants is excessive water on frozen ground, which is quite common in our area. How can the consumer tell if an evergreen is hardy in the north? If you are adept at studying hybridizing pedigrees, you may be able to determine an evergreen's chances in the cold by looking at its parent's hardiness (an educated guess). Most consumers wait for someone to test the cultivar in a cold climate before spending a good chunk of change. Solaris Farms uses both methods, and has found that neither is foolproof. Apparently not just temperature affects the hardiness of a particular cultivar, but a combination of conditions during winter months. Exposure, moisture, frost heaving, soils, and establishment of the plant before cold weather all appear to play a role. I have purchased evergreen plants from Minnesota, Ohio, Indiana, Michigan, and Wisconsin growers with assurance they are hardy in our climate, and have lost any number of them. What's the difference? Probably less snow cover, exposure, soil type, winter moisture and greater frost heaving. Timing of precipitation, fall cool down and spring warm up appear to make a greater difference in hardiness than temperature alone does. The consumer must also be aware that many growers and sellers grow daylilies in greenhouses or in mulched beds, and of course this will not give the buyer an accurate account of hardiness. Many plants may have proven hardy for another northern grower only due to a positive microclimate provided for the plant. Plants out of Florida or southern climates are a gamble, but sometimes the flowers are so gorgeous they are worth the unexpected. Mulching these plants over winter often helps survival. So, can a gardener expect to be able to grow an evergreen daylily in Wisconsin or other northern climates? Yes and No, depending upon your microclimate and other variable conditions. This plant may end up being a long-term presence in the garden or only be visitor for a couple of years (which is usually the case).

Semi-evergreen daylilies are creatures that lie somewhere between an evergreen and a dormant. I have many plants from other hybridizers registered as "semi-evergreens" that exhibit evergreen foliage and a few that appear dormant. Semi-evergreen plants, in theory, should not go completely dormant, but will slow or stop growth during very cold weather. I'm not sure if I have ever seen a truly semi-evergreen daylily! My opinion is that most semi-evergreen registrations were made to entice consumers from diverse climates into purchasing truly evergreen plants. This makes sense if you believe that semi-evergreens will grow in both the north and the south. Another scenario might be that the hybridizer is unsure of the foliage habit, thus registering it as a semi-evergreen.

In summation, evergreen and semi-evergreen foliage habit plants often respond poorly to our climate and should be treated with reservation. After many variable winters of growing daylilies in Wisconsin it has become apparent that dormants are best suited to the typical Wisconsin climate, but some evergreens are acceptably hardy in our gardens. If a gardener must have a plant other than a dormant, mulching and winter protection are advised. A thought about

award-winning daylilies and hardiness. The Stout Silver Medal is given to one daylily cultivar each year that has exhibited outstanding qualities across the United States. In recent years a number of high level award winners have proven to be very poor performers in our climate. Among the plants that have failed to perform or live have been Ed Brown, Elizabeth Salter, Moonlit Masquerade, Bill Norris, and Ida's Magic. These observations have been confirmed in many other area gardens as well. None of these plants are dormant in foliage habit. The same may be said for many other AHS awarded plants. Gardeners in other parts of the nation obviously have conditions that allow many of these plants to perform at their potential. Please be aware that plant descriptions in catalogs, websites and other media may not apply to our area. USDA Zones are often used to describe plant hardiness, but this does not seem to apply to daylilies. Please see the FAQ4 on this.