



Selecting Daylilies and Daylily Culture

We are always meeting and finding new gardening friends when we are around daylilies. Daylily people are willing to share information at the drop of a hat. One of the reasons for the great progress in the modern daylily is that hybridizers and growers have been so generous with their knowledge. Likewise, we would like to share with you some of the things that we have learned in the years since 1984 when we began growing our favorite plant. However, what we have to say might or might not work for you in your particular area or with your philosophy of growing. These are the practices that have worked for us in Sunshine Hollow Gardens. This is not a recommendation or suggestion to follow these stated practices.

SELECTING DAYLILIES

SELECTING PLANTS - How do I pick the beautiful from the ugly or the good from the bad? Well a simple answer to the first part of the question is: "Beauty is in the eye of the beholder". So pick what makes you happy or fits into your scheme of gardening or landscape design. The second part of the question is not so simple. There are good daylilies and bad daylilies in terms of how they will grow in your area and relating to "How much will they give you in return for your effort and money"? We are always looking for more "bang for our buck". So we look for daylilies that have extended bloom seasons, great branching and bud count and nice foliage. Will we accept less? Of course, if the bloom is fabulous. Here are some criteria that we use to pick plants to buy and grow listed in order of priority:

1. Must grow, over winter, and perform well in our area
2. Should extend the season by reblooming past its normal bloom season.
3. Should extend the season by being an early or late season variety
4. Should have good branching to display its flowers and carry more buds.
5. Should have a high bud count to ensure that it blooms lots of flowers.
6. Should have clean and green foliage throughout the summer season.
7. Should have flowers of good substance to stand up during the heat.
8. Should have clear bright colors (Not muddy or dull).
9. Should open well on cooler nights.

AWARD WINNERS - One way to choose plants that meet most of the above criteria is to select plants that have been given awards by the American Hemerocallis Society. The higher awards such as Award of Merit and Stout Medal should only be given to plants that perform well in most parts of the United States as determined by Garden Judges approved by AHS.

POPULARITY POLL WINNERS - Another way to choose plants is to examine the Popularity Polls conducted by the Regional Groups of the American Hemerocallis Society. These are plants that local members of each area feel are some of the best performing and most beautiful for your climate.



DORMANCY - One important factor to consider in selecting plants is their dormancy. The reaction of daylily foliage to cold weather is different between different varieties. Some varieties die down to the ground with the advent of freezing weather and stay below ground until enough sunny warm weather triggers their renewal of growth (Currently these daylilies are called “dormant”). The other extreme are daylilies that remain in active growth and try to put up new foliage in the winter anytime there are temperatures above freezing (Currently they are called evergreen). Somewhere in between are the semi-evergreen varieties that will continue growing in milder winters. Winter in most of the United States is cold. Most Daylilies are native to the colder climates found in countries like China and Korea so most varieties can take cold weather but there are many that are not adaptable to colder climates. Many of the larger breeding and hybridizing programs are located in the Deep South States. Hybridizers there prefer evergreen varieties since they perform better than dormant varieties in the Deep South. This has led to the introduction of many new varieties that are evergreen or semi-evergreen. In our opinion the biggest problem with plants that try to keep growing in the winter is the exhaustion of their food supply and the necrotic foliage resulting when hard freezes burn them back. This greatly weakens the plant making it more susceptible to “spring sickness”, crown rot and insects such as aphids. Although there are people who would argue on either side, we feel that dormant varieties will perform better in Tennessee and look cleaner and greener in the spring. Do we grow only dormant varieties? No, we grow about one-third semi-evergreen and evergreen varieties and two-thirds dormant varieties. Why? Because most of the varieties will grow out of their damaged appearance in the spring and many beautiful varieties are evergreen. Conversely, dormant varieties may not perform well in the areas of the Deep South such as Southern Florida and Texas. It is believed that this is because they do not receive enough cold weather to promote the winter dormancy that they require to maintain health.

PREPARING THE DAYLILY BED

PREPARING A BED - If there is good topsoil in the area where the bed is to be constructed, little needs to be done to change the soil except to remove rocks and roots and add organic matter, fertilizer, lime (If necessary) and mulch. For our soil, which is a clay loam to really sorry clay, we start by raising the soil level by bringing in soil or using the soil removed while making an accompanying trail alongside the bed (Of course, this should not be done if the bed is on flat ground or you will have a ditch beside the bed that holds water). Usually only a few inches (4 to 6 inches) is necessary to make a bed that will be well-drained and also raise the daylilies and make them more prominent in the landscape. To our clay soil we add two to three inches of masonry sand and work this in as deep as possible with a tiller. Then we add two to three inches of organic matter such as fine pine bark, peat moss, etc. and work this in deeply. This combination will turn a clay soil into a great soil for daylilies. It will be easy to plant in, well drained, and easy to dig and divide plants. Soil tests should be done to determine



whether the soil is too “acidic” or too sweet “basic” and to determine how much Nitrogen, Phosphorus, and Potassium or other trace elements should be needed for daylily growth. Most home soils in the East would be acidic and may or may not require Lime to “sweeten” them and lower the acidity. Tests are inexpensive and can usually be arranged through a farmer’s supply, farm co-op or a soil testing lab such as A and L Labs in Memphis, Tennessee (1-901-527-2780). Specify “daylilies” or “rooted perennials” when you name the crop you are growing. These tests will give you specifics on nutrients to add and your local farmer’s supply or gardening center can help with how to get these in the soil. These Nutrients should also be worked deeply into the soil prior to planting the daylilies. A tablespoon of slow release fertilizer such as Osmocote can be sprinkled in the hole when planting to give the plants a boost for their establishment. This can be obtained at most garden centers. The gardener also needs to keep in mind that most daylilies are tolerant of a wide range of soil conditions such as soil texture, fertility, acidity but three things they do not tolerate well are standing water, root competition, and lack of sunlight.

PLANTING DAYLILIES

PLANTING DAYLILIES - Planting daylilies can be done in a right way and a wrong way. The biggest mistake made when planting is to plant them too deep. Daylilies may be received in two ways, bare root or in pots. Planting methods are different for each. Planting bare root daylilies should be done after preparing the soil as above or they should be planted in an existing bed. First, Daylilies (unless planted immediately after dividing with the dirt left on the roots) should have their tops clipped back by about 50% to offset the shock of losing feeder roots when they were dug. Second, make a hole slightly larger than the spread of the roots. Third, make a mound in the hole for the roots to sit on being careful to make sure that the crown will be near the soil surface when the roots are covered. Fourth, place plant with roots spread over soil mound and place soil over the roots till covered two to three inches. Fifth, make sure that the crown of the plant (Junction of roots and foliage) is no farther than one to two inches below the existing soil surface. Sixth, pack the soil firmly around the roots and crown. If soil is moist, we do not water for several days until new foliage has begun to emerge from the plant. Seventh, we use two to three inches of mulch to keep out weeds and to keep roots moist in dry, hot weather.

MULCHING

MULCHING DAYLILIES FOR WEED CONTROL AND AESTHETICS- Mulching daylilies should be done for four reasons, First, to prevent weed germination, Second, to keep the soil cool and retain moisture and Third, to prevent erosion and Fourth, to make your beds attractive so that those who visit can see the daylily at its best. Mulching deters the germination of weed seeds. Weed seeds that do germinate are easier to remove from the soft soil created by a mulch



layer. Mulching, by preventing exposure of the bare soil to sunlight, keeps the ground cool in the heat of summer preventing root damage. Mulching forms a barrier to prevent moisture from escaping from the soil and prevents wind from drying the soil. Mulching prevents or deters soil movement during heavy rain events. Mulching makes the entire garden more attractive by covering bare soil and providing natural background color to the landscape. The contrast between green daylily foliage and brown bark or other materials is striking. In our book there are two types of mulching, cosmetic and functional. Cosmetic mulching is simply a thin layer of mulch (usually one to two inches) that hides the soil surface for good looks, like makeup. Although it does provide some protection from sun and wind it is not as good as functional mulching. Functional mulching (two to four inches) not only looks good but also gives all the benefits described above by preventing weeds, holding moisture and keeping the soil cool. Functional mulching takes more time and a lot more mulch but it also lasts longer and gives greater overall benefits.

IRRIGATING DAYLILIES

WATERING DAYLILIES - Watering daylilies should be done for four reasons, First, to help eliminate health problems such as spider mites and unattractive foliage, Second, to produce the biggest and best blooms possible, Third, to encourage rebloom in those plants that do rebloom, Fourth, to ensure that your plants go into the winter dormant season with a good food supply produced by healthy roots and foliage. Before we talk about irrigation, we should mention factors that will eliminate the need for some of the watering that otherwise might have to be done. Mulching prevents exposure of the bare soil to sunlight thus keeping the ground cooler. It forms a barrier to prevent moisture from escaping from the soil and prevents wind from drying the soil. Proper mulching will keep the need to water reduced during the hot, dry summer months.

WATERING METHODS - Watering can be accomplished by several methods. The most commonly used are overhead irrigation and drip or soaker hose irrigation. Overhead irrigation simply means applying water from above by the use of Rainbird type sprinklers or other type devices which spray the water into the air to fall on planting beds. Overhead irrigation is probably the most widely used by both commercial growers and gardeners.

ADVANTAGES OF OVERHEAD WATERING - Advantages of overhead watering are as follows: First, a large area can be covered from just one sprinkler head; Second, water can be applied at a known coverage by simply measuring the amount applied with a rain gauge; Third, Rainbird systems are fairly easy to set up with the modern plastic pipes available and plumbing can be put above ground or underground; Fourth, these type systems are relatively inexpensive to install with the use of plastic pipe and plastic Rainbirds. It is also easier to divide and move plants or renovate beds when watering devices such as soaker hoses and drip irrigation lines don't have to be removed.



DISADVANTAGES OF OVERHEAD WATERING - The disadvantages are that water is wasted both through evaporation and off-site watering. Also some diseases are encouraged by damp foliage and new blooms can be damaged by water directly applied. When water is placed on the surface of the plants and on the ground some water will be lost by evaporation due to sun, wind and the ability of the surrounding air to hold water vapor. The best time for overhead watering for daylilies for us is usually in the afternoon after blooms have done their best to shine and visitors have left for the day (4:00 P.M. to 6:00 P.M. Usually the wind has died down by then and evaporation is reduced. Watering at times such as late evening or at Night will cause the foliage to stay wet and may encourage some diseases. Luckily, most diseases promoted by watering have not been too serious on daylilies. There is a pretty significant loss of water due to the loss of water off-site, such as in walkways and other areas not needing to be watered.

DRIP OR SOAKER HOSE IRRIGATION - The other method of watering that is used is drip or soaker hose irrigation. The main advantages are that water is not wasted due to evaporation loss or offsite watering. The majority of water applied goes directly to the root zone of the plants. Plants we have used drip irrigation on respond dramatically since one gallon of water applied by drip to the root zone really goes deep in the soil whereas much of a gallon applied overhead is lost on the foliage, evaporates, or is applied to areas at the surface that have no root infiltration. Less water is required by this method and usually less water pressure is needed. Foliage is not wet and the possibility of plant diseases is reduced. An important advantage for Sunshine Hollow Gardens is that we can water during the day when visitors are in the Garden.

DISADVANTAGES OF DRIP OR SOAKER HOSE IRRIGATION - There are several disadvantages as with overhead watering. There are no easy methods to precisely measure how much water is applied. Drip lines or hoses usually have to be run about every two feet depending on the type soil. However if a bed is linear and contains one or two rows of plants this makes things much easier. Emitters can clog and are sometimes hard to locate. Drip lines or soaker hoses usually have to be removed before plants are dug or major bed renovation is done.

FREQUENCY OF IRRIGATING - Daylilies require a large amount of water to make scapes and full size blooms. Therefore, one of the most important times to ensure adequate water is during the bloom season. If there is not at least one inch of natural rainfall each week, plants should be irrigated. This will help insure that scapes reach their maximum growth and bud count and blooms are their true size. During the late summer and fall, if there is not at least one inch of natural rainfall each week, plants should be irrigated. Daylilies that are under moisture stress in the late summer and fall will go into the winter without good food reserves. When spring comes and dormancy is broken they will not have the strength to grow strong tops and new roots thereby causing the plant to take much longer to recover or possibly resulting in death. How much water do we apply? It is pretty much worthless to apply less than an inch or more by overhead or a gallon per emitter by drip. The reason is that unless the water



gets into the root zone it can't be taken up by the roots. About one inch of water is required to penetrate six inches deep into the soil. Shallow watering also promotes shallow root growth in most plants and most of the soils water reserves are deeper in the soil.

FERTILIZING DAYLILIES

FERTILIZING DAYLILIES - Fertilizing daylilies should be done once or twice per year after the plant is completely established in beds prepared as above. The best time to fertilize is in the early spring when the last freeze is past and in early fall not long after bloom season. In established beds, we have soil tests done every few years to determine the need for lime, fertilizer and trace elements (specify "rooted perennials or daylilies"). Soil tests should be done to determine whether the soil is too acidic or too sweet "basic" and to determine how much Nitrogen, Phosphorus, and Potassium, Lime or other trace elements will be needed for optimum daylily growth. Tests are inexpensive and can usually be arranged through a farmer's supply or a soil testing lab such as A and L Labs in Memphis, Tennessee (1-901-527-2780). On established plants, two small fertilizer applications per year (spring and fall) are better than one large application. Place the fertilizer in a ring around the plant about 6" from the outside of the plant. Water the beds for about 30 minutes immediately after fertilizer application to get the Nitrogen (N) portion of the fertilizer into the soil. If left on top of the soil it will volatilize into the air. Trace elements such as magnesium, sulphur, boron, copper, iron manganese and zinc can be added in various ways. Some fertilizers are blended with standard amounts of some of these elements. Some slow release fertilizers such as "osmocote" and "nutracote" contain amounts of these trace elements. The best bet is to go to a knowledgeable person in a garden center or farmers supply and get them to help determine what is needed from a soil test and how to get that to the plants. It is always best to get the soil in a bed amended properly with nutrients when it is first prepared so everything can be blended deeply in the soil. Top amendments will be slower to transfer into the soil and could be lost with soil movement due to washing. If the bed is mulched, nutrients are better protected from movement while they are being leached into the soil. Also if there is heavy earthworm activity in a bed this will help move nutrients down into the root zone of the plants. Usually after a bed is established, nitrogen is the element that will be added most often since daylilies are high nitrogen users. Most fertilizers are blends of chemicals that will give the plants nitrogen (N), phosphorus (P) and potassium (K). The ratios are shown in percent such as 24-24-24. This means that the fertilizer contains 24% of each element. In 100 pounds of fertilizer there would be 24 pounds of nitrogen (N), 24 pounds of phosphorus (P) and 24 pounds of potassium (K). Soil tests tell how much of these and other trace elements are needed per acre or per 1000 square feet (An area of 10 by 100 feet). Calculations must be made to determine how big your area is and then how much fertilizer and what kind must be applied to meet this need.



DAYLILY INSECT AND FUNGAL PEST CONTROL

DAYLILY INSECT AND FUNGAL PEST CONTROL - First let us say that the best way to control insect and fungal pests is to keep daylilies growing at an optimum. Well drained soil, raised beds with lots of organic matter, proper fertility, lots of water, and plenty of sunlight and air circulation will ensure that they do their best. However, there are times when nature throws us a “curve ball”. One example is when an early spring brings the plants up to be punished by bouts of cold weather. Then aphids attack with a vengeance with no lady bugs or other predators in sight. Or in the Deep South the heat and humidity cause the soil to be a bee hive of fungal activity and plants planted in the hot summer soil just rot away. Our major daylily pests are aphids (an almost microscopic soft bodied sucking insect), thrips (scrapes the plant tissue and then sucks up the sap-also nearly microscopic), spider mites (a type of arachnid which damages plant tissue and then sucks the sap), snails and slugs. On our exhibition beds each spring we apply a systemic insecticide which is taken up by the daylily plant and becomes part of the tissue. This is very effective on aphids, thrips and spider mites which feed on the sap of the different plant parts. Although an insect attack is rarely fatal, we want our exhibition beds to look great when people come to see the daylilies. There are several systemics we have used such as Cygon, Marathon and Merit, All these have systemic action. We rarely treat our growing beds where we dig plants for sale since we figure that plants to be sold to the general public should be hardy enough to survive on their own with little care. This results in our losing some plants and not offering some varieties on our sale list. Sometimes in the spring we will have a severe attack of aphids before any predators are present and when growing conditions prevent the daylilies from outgrowing the damage. When this occurs we will usually treat with a combination of Malathion and dormant oil to kill the aphids and their eggs. We have lost plants or had them severely damaged by early aphid attacks. Thrips on daylilies do mostly cosmetic damage that is prevented by treating with a systemic pesticide as mentioned above. Spider mite damage is also cosmetic in this area and can be controlled generally by adequate moisture. Where damage is more severe a systemic pesticide will help to control the damage. Snails and slugs cause damage to foliage and to the flower scape but are not fatal to the plant. Baits containing pesticides such as Deadline granules will help keep the population under control. There are many other physical methods such as beer traps, etc. that can be used. Removing the places where they hide also will reduce the population. Not using mulch around plants will reduce their hiding places but we feel that the benefits of mulch outweigh the problem of having more slugs.

DAYLILY WEED CONTROL

WEED CONTROL IN DAYLILIES - Controlling weeds in daylilies should be done for two reasons, First, to keep plants attractive so that those who visit can see



the daylily at its best and Second, to prevent the daylilies from having to compete for food, water and light thereby giving them a chance to do their best. We keep weeds down to a minimum by following a thorough course of prevention and cure. First, exhibition beds are mulched to keep the ground shaded and to physically prevent the conditions for weed germination. Mulching also keeps the ground cool and damp in the heat and drought of summer preventing root damage and protecting the moisture supply. There are two types of mulching, cosmetic and functional. Second, we use pre-emergence herbicides to prevent weeds from emerging from the ground. These have to be applied at the right time and unless it is a new bed where they can be worked into the soil they must be watered into the soil within a certain time period or the herbicide effect is lost. Applying these types of herbicides must be done before the weeds emerge because they will have no effect on weeds that have already germinated. We try to apply them twice a year, in late winter before summer weeds have germinated and in mid-summer to carry the protection into winter. Generally the activity lasts about 3 to 4 months. Trade names of products we have used for this purpose are Surflan, Treflan, Snapshot, and Preen. Most of these are available at some garden centers, farm supply stores and your farmer's co-op. Third, we use Roundup for spot weed control where it can be applied without direct contact to the daylily foliage. Areas such as trails, banks of beds, and in between plants with a shielded sprayer wand can be sprayed using the Roundup Herbicide that has 48% Glyphosate active ingredient at a spray mix concentration of ½% to 1% in water. Fourth, we use hand weeding in proximity to the plant itself were other methods have failed or would be damaging to the daylily.

DAYLILY GROOMING AND SANITATION

DAYLILY GROOMING AND SANITATION - What do we do to keep our plants looking good? As we mentioned earlier, we mulch our beds, fertilize annually, use weed control measures, manage pests with systemic pesticides and irrigate when plants need water. Other than the steps mentioned above which are all important, we follow several practices to keep our daylilies attractive and healthy. First, we try to remove spent blooms to keep them from detracting from the new blooms. We simply pinch or pull them off where they join the scape. Second, we try to remove any seed pods that set. This keeps the plant from putting its energy into making seed instead of making more blooms or reblooming. Third, we remove spent, bloomed out scapes from the plant making the plant more attractive even though it may be out of bloom. Fourth, we remove dead foliage from the base of the plant. Daylilies produce foliage continually throughout the growing season. New foliage continually comes up from the center of each crown, matures and eventually browns up and dies. Simply pulling this out toward mid to late summer improves the looks of a bed.



OVERWINTERING DAYLILIES

OVERWINTERING DAYLILIES - The best way to ensure that daylilies survive the winter is to follow two important steps. The most important of these is to pick varieties that are strong growers and that do well in the geographic area where they are to be planted. How do we know that they will do well? We don't always know and do end up buying some plants that do not perform well. But the best way to know, if possible, is to get the advice of someone else who is growing the plant in our growing area. Another good way is to check its award status. If it has won an American Hemerocallis Society Honorable Mention, Award of Merit, or Stout Medal then it "should" grow well in some other regions outside the one in which it was hybridized. However this doesn't always hold true so sometimes we end up buying the proverbial "Pig in a Poke". The second most important step is to follow good cultural practices as we have mentioned above to ensure that plants go into the winter in the best condition possible. Before we had irrigation for our plants and protection from damage by deer, our over winter losses were significant and even plants surviving were weakened and took longer to recover. By mulching our beds, fertilizing annually, using weed control measures, manage pests, preventing deer damage and irrigating when plants need water we have increased our winter survival greatly.

DAYLILY SPRING CLEANUP

DAYLILY SPRING CLEANUP - In Spring, dormant varieties will usually have a small pile of dead foliage left from when the hard freezes of winter burned them to the ground. Semi-evergreen and evergreen varieties will have both dead foliage and living or partly living foliage above ground. Early spring is the time of year to get all of this cleaned up and get ready for a new bloom season. On our exhibition beds we remove all of the dead foliage and any scapes which were left from last year. On semi-evergreen and evergreen varieties we usually pull or cut off some of the green necrotic leaves as well. The reason we do this is so the new foliage can come up from the crown easier. We look for signs of aphids at this time since they can do a lot of damage and really slow the new growth of the plants down. It is at this time of year that we usually apply a granular systemic pesticide which will help with aphids, thrips, and other plant feeding insects. However, if the aphid infestation is too great we will spray with Malathion to control the current population of aphids. Now is also the time to add new mulch before the heat and dry weather of summer. We also check our exhibition markers and make sure they are legible and in the right place.