

## PRODUCTION OF DAHLIAS AS CUT FLOWERS

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Beginning cut flower growers, dazzled by brilliant photographs, often order dahlia tubers from bulb company catalogs for Spring planting. The hopeful grower normally pays five or six dollars per plant and either receives one single tuber or a small clump of tubers that resemble little brown yams. The grower carefully plants the tubers six inches deep in early May in full sun and hopes for the best. In just a few weeks the dahlia shoots emerge from the soil and grow long, leggy foliage throughout the summer. These thin stems often fall over and grow sideways across the bed. Finally in August the plants form buds and begin to produce flowers. The stems are often only six or eight inches long and only five or six weak blooms develop on each plant before the first frost kills the foliage in October. Later in the winter, when the night temperature drops to 15 degrees F, the dahlia tubers in the soil are killed. They do not come back the next Spring. The grower wonders why he thought that he could possibly earn any money by growing and selling dahlias?

Dahlias are one of the most poorly understood flowers in Virginia. Nearly everyone likes them. Certainly our Virginia florists would buy them if they could get them. Many of our commercial cut flower growers believe, however, that dahlias "don't do well here."

The keynote speaker at the Virginia Cut Flower Growers Conference at Virginia State University in April of 2002 was Margaret Gitts with Swan Island Dahlias in Canby, Oregon. The Gitts family has been raising dahlias in Oregon for over 40 years and they currently manage 40 acres of dahlias. They have developed tremendous catalog sales of dahlia tubers and provide cut stems to florists throughout the Northwest.

Margaret Gitts uses synthetic pesticides to control diseases and insects in her dahlia crops. Another commercial dahlia grower speaking at that same conference was Lynn Trott, the proprietor of Merryheart Flowers in Toano, Virginia which is in James City County. Lynn has grown dahlias since 1991 and for the last seven years has sold them to florists in the Williamsburg area. She grows over 80 varieties on about one acre of well managed beds. Lynn Trott is a totally organic grower. She controls diseases and insects using natural pest controls. The following article describes the methods that both of these dahlia experts use to produce reliable crops of beautiful stems for florist markets.



Lynn Trott says that dahlias need: (1) Sun for most of the day to bloom well - in a climate as hot as ours, late afternoon shade is ideal. (2) A lot of water after the leaves open and during the season for good growth. Since there is usually some period of drought during our season, it is recommended that soaker hoses or a drip system be installed at planting time. (3) Low competition, as dahlia feeder roots for the season's growth are very near the surface and do not compete well with other plants. (4) Slightly acid soil with pH of 6.5. (5) Well drained soil with lots of humus, which is decayed plant material. Clay soil can either be heavily amended with compost or organic matter, or, more easily, a raised bed of rich soil placed on top of the existing soil. (6) Mulch to preserve moisture and control weeds.

Margaret Gitts advises that one of the biggest mistakes made with dahlias is over feeding them. She says that high nitrogen fertilizers promote weak stems, small blooms or no blooms and tubers that rot or shrivel in storage. She recommends high percentage potassium and phosphorous fertilizers such as 0-20-20. First applications should be made within 30 days of planting and repeated four weeks later. Lynn Trott applies bonemeal at the rate of 1/2 oz. per square foot and lightly forks it into the top few inches of soil, four to five weeks before planting. She also recommends a dressing of compost in the fall and in mid-summer.

Both of these growers emphasize that dahlia tubers need to be planted in warm soil no earlier than the middle of May. Lay the tuber horizontally 4-6" deep and about 18" to 24" apart. DO NOT WATER TUBERS AFTER PLANTING. Wait until the sprouts have appeared above the ground before applying water. Tubers rot easily before they put up sprouts and grow roots. Do not be in a hurry to apply mulch around the young plants.

Lynn hoes out the weeds for the first few weeks until she begins to pull up fine feeder roots. She then stops hoeing, puts in her irrigation system, soaks the ground thoroughly and applies 4" of leaves, straw, peat moss or grass clippings as mulch. After dahlias are established, a deep watering one to two times a week is necessary during hot, dry weather.

These experienced dahlia growers recommend that most dahlia plants be pinched back to promote shorter, bushier plants with better stems for cutting. Some dahlia varieties are naturally short and do not need to be pinched. Pinch or cut the center shoot of tall varieties just above the third set of leaves or at a plant height of 20". Cage them to support their brittle stems or stake and periodically tie up plants as they grow. Lynn Trott warns that tying them up reduces the amount of sunlight that gets into the plant and reduces bloom set. A roll of concrete reinforcement wire that costs about \$100 at a local hardware store can be used to make 20 cages that are 18 inches in diameter and are perfect for supporting either dahlias or tomatoes.

As the dahlia plants grow, they are susceptible to both insect and disease problems. In certain locations slugs can become a problem eating ragged holes in the leaves during the night. Commercial slug baits are available that will kill them. Slug populations can also be reduced by eliminating places where they can hide during the day. During hot dry weather, spider mites may appear on dahlia plants. Several effective miticides such as Avid are sold that control them.

Margaret Gitts recommends the use of Orthene as a general control for insects that attack dahlias. The primary disease found on dahlias is mildew. Both Benlate and Funginex control mildew and a broad spectrum of other fungus diseases. Growers are advised to read the label carefully before using any of these pesticides. Lynn Trott has grown dahlias successfully for several years without using any synthetic pesticides. She says that the secret to having healthy dahlias is to maintain

high levels of organic matter or humus in the growing beds. She makes compost from leaves that she collects at the local landfill and applies it liberally to all of her dahlia beds.



Our two expert growers disagree about harvesting cut dahlia stems. Stems harvested at Swan Island Dahlias are placed in VERY HOT WATER (approx. 160-180 degrees) and allowed to cool for at least one hour. Margaret says that this treatment will set the blooms and make the flowers last for 4-6 days. When Lynn cuts her dahlias she (1) Dips the stem immediately in cool water (2) Strips the leaves off of the lower end of each stem (3) Puts the stem immediately back in water and (4) Fills the containers to the brim and allows the flowers to set for 1-2 hours to set the blooms. Both ladies recommend that dahlias be cut in the early morning before the dew has evaporated. They both use floral preservatives to extend the vase life of their cut stems.

The conventional method of growing dahlias year after year is to dig up the tuber clusters of each plant in the late fall, one week after the first killing frost. The tubers are stored over winter in a protective medium in a cool place that does not freeze. Lynn stores her tubers in cardboard boxes that are filled with vermiculite. Margaret also stores tubers over winter in cardboard boxes lined with newspapers and packed with slightly dampened peat moss, sand or pet bedding material. If the tubers are not packed in some kind of medium they may shrivel up and die. Lynn Trott unpacks some of her stored tubers in early winter, and plants the tubers in soilless medium until sprouts grow. She cuts, roots and grows the sprouts on in her greenhouse so she has dahlia plants ready for planting in mid-April. These hardened off transplants grow quickly give her early yields of dahlias for marketing. She also plants her stored unsprouted tubers later in the Spring.

An alternative method of growing dahlias is to prune the plants to ground level in the fall after the first killing frost and remove the plant debris. The bed is then covered with at least 6" of mulch and left over winter. Remove the mulch in mid-April, amend and fertilize the soil and allow the plants to grow back up on their own. This method saves a great deal of labor and produces large dahlia bushes the following summer. Many growers have found that just raking ten inches of yard leaves over their dahlia beds in early November gives them adequate winter protection.

Growers have found that there are only certain dahlia varieties that really produce the long stems that florists require for making arrangements. These varieties are usually designated with a pair of scissors beside them in the catalogs. It is a good idea to experiment with a variety for a few years to make sure that the florist buyers will accept it before propagating it heavily. Under proper management, a single well-established dahlia bush can produce up to 20 marketable stems. A bunch of 10 stems are sold for \$4.00 to \$6.00 wholesale and up to \$10.00 retail, direct to customers at a farmers market. It is quite possible to earn income by growing and selling dahlias.



Sources:

Dahlias: A Brief History and Notes by Lynn Trott

How to Grow Dahlias published by Swan Island Dahlias

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