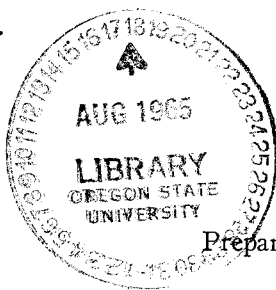


Dahlia Culture

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Dahlias are a native flower in Mexico. Hernando Cortez found them to be a long-established favorite in the gardens of the Aztecs when he invaded Mexico in 1519 to establish the colony of New Spain. Seeds of these Mexican flowers reached Spain in 1789. About this time, the name "Dahlia" was given them in honor of Andreas Dahl, the famous Swedish botanist who established plant order from a condition of chaos in the plant world.

Soil

Dahlias may be grown in almost any garden soil, but they do respond to a little extra care. A good site is one where the plants receive several hours of sunlight each day and have good drainage.

The soil should be kept loose while the plants are growing, especially during the early part of the season. Light, sandy soils need the least preparation if they contain enough organic matter to hold the required amount of moisture. This organic matter can be supplied by use of a fall-sown cover crop which is turned under in the spring or by use of manure, peat moss, or any kind of vegetative refuse such as leaves or lawn clippings.

Heavy clay soils can be improved by the addition of furnace ashes or fine cinders worked into the entire garden or just into the hills. Lime also tends to loosen the soil, but it should not be applied more often than every four or five years and never with barnyard manures. A good cover crop of rye also loosens and lightens the soil.

The dahlia is a heavy feeder and therefore needs a large, efficient root system.

Fertilizers

Nitrogen is needed for the heavy bush growth of dahlias and for large flowers. If too much nitrogen is applied, weak growth, late blooming, and poor keeping quality of the tubers results.

Phosphorus is essential to all plant functions and is a very important fertilizer. It hastens blooming, stiffens stems, increases root development, and balances any excessive nitrogen applied.

Potash increases root development and the general vigor of the plant.

A good fertilizer practice would be to apply five or six pounds of a 0-20-20 fertilizer per 100 square feet or a handful under and around the hole where each tuber is

to be planted. This should be done two weeks prior to planting. Mix the fertilizer so that it does not come in direct contact with the tubers.

If nitrogen is needed, it can be applied later as the buds form. Scatter it lightly about a foot away from the plant. Ammonium sulfate or ammonium nitrate would be a good fertilizer to supply any needed nitrogen.

Propagation

Dahlias may be propagated by seeds, cuttings, or division of the roots.

Single-flowered dahlias produce lots of seed. It is from seed that new varieties are produced. Early-sown seed will make plants that bloom freely in late summer. Tubers formed by the best of these seedlings can be saved and will give better results the next year.

Propagation by cuttings is done early in the year. Tubers are placed in light soil or sand and given some bottom heat. When the third or fourth set of leaves form, the cuttings are taken and placed in clean, moist sand in a propagating bench. In two or three weeks the cuttings will root and can be potted in small pots. These should be grown in a 60° to 65° temperature until all danger of frost has passed and then hardened off gradually and planted out in the open ground.

Division of the roots is probably the easiest method of propagation. This should be done with a sharp knife. The eyes from which shoots emerge are not in the tuber but on the crown. Care must be taken to make sure that each division has at least one eye and a tuber to help start off the young plant. If the roots are placed in a warm, moist place a short time before division, it will make the job of division much easier.

Planting

The planting of dahlias, whether you use plants or divisions, should not be done until the soil has warmed up and danger of frost has passed.

Extreme hardening of the plants may occur if planting is done too early, soil is cold, plants are too dry, there is excessive water present, roots are injured, or plants are not properly hardened off before setting out. It is not easy to bring a hardened plant back into a healthy growth.

For field planting, a furrow or trench about five or six inches deep is quite satisfactory. Lay the root in the trench and cover it with two or three inches of soil. The rest of the soil can be filled in as the plant grows.



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Large varieties are placed 36 inches apart in the row and smaller types from 16 to 24 inches apart.

Potted plants are set about one inch deeper than they have been growing. If potted plants are soaked a few minutes before planting out, they will need no further watering at that time and puddling of the soil will be eliminated.

Frequent, rather deep cultivation in the early part of the season is beneficial to the plant. Later, the depth can be decreased.

Do not let the plants suffer for want of moisture. When you water, do a thorough job and then wait until there is need for another application before watering again.

How to handle cut flowers

The life of dahlia cut flowers can be lengthened considerably if certain precautions are taken at the time of cutting. Cut only fully matured flowers for best keeping qualities.

Cut flowers early in the morning before they start to wilt or in the evening after they have revived from the effects of the sun and wind. Cut with a sharp knife so that the water-carrying tubes are not crushed.

Flowers should be cut at least eight hours before they are to be used. Place the stems in deep, cold water in a cool, draftless room. If an inch of the stem can be cut off under water, it will take up water better. This also applies when you use the flowers later. Use only clean water and clean containers for best results.

Digging and storing tubers

When the dahlia plant is blackened by frost or continued cold rains, it is ready to lift. The top can be cut down to about six inches and the plant lifted carefully to avoid injuring the tender tubers. Remove as much of the soil as possible without injuring the tubers and allow them to dry for a few hours in the open air. Store in a cool, dry, frost-proof place. If the air is very dry, the clumps should be packed in barrels or boxes in peat moss or sand, or wrapped in newspapers. The packing material should be dry when used. It will take up moisture at first and then have a tendency to prevent drying out at the end of the storage season. Some va-

rieties will shrivel under these conditions while others will remain firm.

Insects and diseases

Insects are not usually a great problem for Oregon dahlia growers.

Cucumber beetles may be a pest, but a dusting with methoxychlor, Diazinon, or Malathion will control them.

Red spider mites sometimes become troublesome. Tedion, Kelthane, or Malathion can be used in their control. The most serious diseases of dahlias are caused by viruses.

Mosaic disease is typically characterized by yellowish or pale-green bands along the mid-veins and branch veins of affected leaves. Certain varieties of dahlias develop dead streaks on the mid-vein and a distortion of the leaf. Plants are often stunted, have many lateral shoots, short flower stems, and poor flowers.

Plants affected with mosaic do not recover; however, certain varieties are strong enough to carry the disease and still be good enough for garden display and for cut flowers.

Mosaic is not seed borne, but cuttings and root divisions from diseased plants will be diseased. Mosaic is also spread in the field by aphids feeding on diseased plants and then working on healthy dahlias.

There are three possible controls of dahlia mosaic: (1) grow only tolerant varieties; (2) control aphids; and (3) propagate only from selected healthy plants and grow them away from diseased dahlias.

Ring spot has become a serious virus disease. The leaves of the affected plant will have a disfiguring ring, chevron, or watermark pattern showing as a yellow band or white or brown lines. Here again, the degree of injury will vary with the variety. Certain ring spot symptoms in dahlias are evidence of infection with the virus disease known as spotted wilt. Maybe all ring spot diseases are variants of this disease. Spotted wilt affects a wide range of plants; tomatoes are the ones more generally raised. This creates a problem for many gardeners.

The best control for spotted wilt is the use of stock free of ring spot symptoms or by using seedling plants.

Use Pesticides Safely

Use only recommended pesticides at approved rates. Observe time limitations on the use of pesticides to avoid illegal residues at harvest. Avoid exposure to hazardous chemicals by wearing an approved mask, gloves, and water-repellent clothing. Store pesticides out of reach of children. Dispose of empty pesticide containers immediately by burning or burying deeply in a remote area.