

SOIL

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Dahlias prefer soil that.

Is well aerated and uniform in texture.

Contains a good amount of humus.

Drains well but holds sufficient moisture to sustain the vigorous plant growth.

Has an acidity of 6.2 to 6.5 - a bit on the acidic side.

Has balanced nutrients of nitrogen, phosphate, potassium, along with micronutrients.

The miracle of soil!

The theory is to feed the soil first. Healthy soil produces healthy plants.

Soil is made up of minerals. Ground up rock to which other material is then added.

Three types of soil - clay / sand / silt.

All soil is a combination of clay, sand, and silt but at different degrees.

Clay soil is rich in nutrients and quite fertile but needs to be broken up. It can become waterlogged and cracks when it dries out. Use organic matter to break up the clay and allow nutrient availability to plants. Never use sand for clay soil as it will turn your soil to cement.

Sandy soil is usually low in nutrients and doesn't hold water, so plants dry out easily. Use organic matter and compost to increase water retention and nutrients.

Silt soil is very light and easily compacted by walking or machinery. It can wash away easily and be eroded by wind. It has the most nutrients and holds the most water. This soil can be made more stable by adding organic matter.

Compost adds both organic matter and nutrients to soil.

Soil - A symbiotic relationship

The most important factor in growing healthy dahlia plants and producing great flowers is the soil.

Soil is alive.

A single tbsp. of healthy soil may contain a billion assorted microbes (small living things that include bacteria, fungi and algae); a mile or more of fungal filaments (serve as a bacteria highway); plus, the various microfauna organisms (microscopic organisms) such as nematodes (microscopic worms) and arthropods (invertebrate animals such as insects).

The invertebrates, insects and worms work hand in hand with microbes, fungal filaments and plants.

Most plants in healthy soil convert 40% of their energy into root exudates (soluble substances,

including sugars and amino acids) to feed and stimulate the soil microbes. These microbes process all the essential and trace elements required by the plant. In short, we have a **symbiotic ecosystem** providing messages, food, elements, and water to the plants. Everything is in a natural balance.

With this balance is the necessity of the correct soil ph for the plant to thrive.

Chemical Fertilizers, Pesticides, and Tilling

All of these affect the soil negatively and therefore impact the balance of the plant, soil symbiotic relationship.

Plants become more susceptible to diseases, nutrient deficiencies, and environmental stress like temperature changes and water fluctuations.

Uncovered soil during the winter months.

This opens the soil to environmental extremes. Rain washes away nutrients leaving the soil nutrient deficient. Use a cover mulch such as leaves to protect your soil during the winter. This also promotes the production of worms. You can also use a cover crop to add additional nutrients to your soil during the winter. Examples are Annual and Winter Rye grass or Hairy Vetch which is a legume. Plant as soon as dahlias are dug to receive the most from your cover crop.

What we can do

Become more conscious of all the life beneath our feet.

Use only organic insect control.

If you need that boost of chemical fertilizers then also continue to provide the natural fertilizers, compost, and organic matter to feed the soil.

Organic Fertilizers Simplified

Nitrogen Phosphorus and Potassium (NPK)

If using organic fertilizers, you need to be aware of the timeline for their usefulness and the requirements of different plants.

Dahlias are heavy feeders. Nitrogen is the most steadily lost nutrient in the soil so may need to be replenished more often. It may take a few attempts to get it right.

Nitrogen: Blood meal, fish meal (crab or shrimp), feather meal, seed meal (canola, cottonseed, soybean), alfalfa pellets.

Phosphorus: Bone meal, colloidal rock phosphate (noted as the best choice by many)

Potassium: Seaweeds like kelp meal, or liquid kelp as a foliar every few weeks, greensand.

You can also add a periodic addition of trace minerals.

More quickly released fertilizers:

Blood meal, bone meal, and seaweeds

Seaweeds

For additional educational material and other information visit our website

<http://www.victoriadahliasociety.org/>

Some soil information came from Tony Evangelista's article in the ADS 2016 bulletin.

He has now passed but his great educational articles will live on.