

The Beautiful Ornamental Flowering Plant Varieties of Dahlia

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Abstract

Dahlia is a beautiful flowering plant grown for cut flower production and for garden decoration. Dahlia is a genus of bushy, tuberous, herbaceous, perennial plants native of Mexico and central America. Dahlia is a member of the family Compositae with large number of cultivars. There are forty two species of Dahlia with hybrids commonly grown as ornamental flowering garden plants. Dahlia flower forms are variable in shapes, types and colour. These grow with one head per stem with the size varying as small as 5 cm diameter or up to 30 cm. Sandy loam or loam soils, moderately fertile are best suited for good growth of Dahlia and it also requires pH range of 7.0 to 8.0 with good water holding capacity. Dahlias flowers are of various types, forms, colours and size. Dwarf varieties are good for making borders and mixed borders. Giant and large sized Dahlias are good for garden display and terrace gardens.

Dahlias are also utilized for ornamental purposes as for flower arrangements for making bouquet and event decorations. Dahlia are used in different parts of India for exhibition, garden display and decoration. The medicinal and nutritional uses of Dahlia have also been reported. Economic and Social value of Dahlia have also been recognized, for landscaping, pharmaceutical industry, food and raw material for dye.

Keywords: Dahlia, Tuberous, Bulbous, Commercial, nutritional.

Introduction

Dahlia plant culture spreads from Spain to different European countries (Tarhon, 1993) and it was brought to Madrid in 1790 (Cristea, 2014). There are forty two species of Dahlia with hybrids commonly grown as ornamental flowering garden plants. Dahlia flower forms are variable in size, types and colour.

Dahlia is a perennial semi-rustic plant that gives the best results in hill and submontane areas where it blooms from July to late autumn (Băla, 2007). Dahlia represents the richest species as a garden and a balcony flower. The genus includes about 30 perennial species with tuberous roots belonging to the Asteraceae family (Lord, 2003). Over the past hundred years, more than 50,000 varieties of Dahlia, with different colours, shapes and sizes of inflorescences are grown in gardens (Sho Ohno et al., 2011).

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Origin of dahlias

Dahlias were originated in Mexico and it belongs to the compositae family having large number of cultivars. Dahlia were introduced to India as early as 1857 under the auspices of the Agri - horticulture society of India, Calcutta. The original species of Dahlias are *Dahlia imperialis* with white with red tinge flowers, *Dahlia coccinea* with single red flowers, *Dahlia merckii* with lilac and yellow flowers and *Dahlia Juarez* with scarlet flowers. Modern garden hybrids are developed through hybridization among the species followed by selection.

Today, there are cultivars in the form of the waterlily, the paeony, the orchid, the chrysanthemum and the anemone, to say nothing of the main formations like the decorative (flat, broad petals), the cactus and semi-cactus types (rolled, pointed petals) and the ball forms (globular flowers) that have as their smallest relative the popular Pompon Dahlias that beguile so many gardeners.

Suitable growth conditions for dahlia

Dahlias are native to the mountains of southern Mexico and Central America, where summer days are warm (80-85°F) and **nights are cool (65-70°F)**. Growing conditions in the Pacific Northwest are similar, which makes it an ideal place to grow dahlias. They grow and flower in a cooler climate than the normal one.



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Plant them **in a full sun location** (giving them 6-8 hours of direct sunlight) and enjoy blooms all summer long. They will bloom and provide you with colour and an abundance of flowers for cutting and enjoying throughout the summer. The more you cut a dahlia plant the more it will bloom. Most dahlias require temperatures above 55 degrees Fahrenheit before they will start to form eyes.

Varieties of Dahlia	Species and cultivars of Dahlia flowers are of various kinds or types with the great variation in their shape, size and colours. There are forty two species of Dahlia but number of hybrids are also growing well. Dahlias are classified on the basis of their flower type and size.
Single Dahlias	single dahlias having a rose of overlapping petals that are flat or slightly cupped. The uniform petals on single Dahlias can be rounded or pointed. These dahlias are single flowering and can be over two inches in diameter.
Star shaped Dahlias	The blooms are small, consisting of two or three rows of somewhat pointed petals which are slightly incurved forming a cup around the central disc
Anemone Dahlias	Anemone flowers of Dahlia are dome shaped, central disc of tubular florets surrounded by the outer ring of petals.
Collaborative Dahlias	These are same as single but with the additional rings of small petals like a collar.
Paeony Dahlias	Semi double blooms of a few rows of petals . They may be large , medium or small size.
Decorative Dahlias	This is the largest category of Dahlias and gives a wide variety of colours and shapes. Decorative Dahlias have broad and flat petals. These versatile blooms are fully double flowering and they are either classified as formal and informal . Formal decorative Dahlias have petals that are evenly and regularly placed while informal types have flat petals that are slightly rolled at the top and are placed irregularly.
Double show and fancy Dahlias	These are fully double globular with small central florets . Flowers are over 10 cm in diameter.
Pompon Dahlias	These are just like double show and fancy. Dahlias are in shape of bloom except these are much smaller in size.
Dwarf bedding Dahlias	The height of the plants in this group of plants is between 30 and 60 cm which is much less than regular Dahlia plants.
Cactus and semi - cactus Dahlias	These blooms are double - flowering with long , rolled petals giving them a spiky look. These types of dahlias are having a variety of colours and range from miniature flowers to giant blooms. Cactus types are classified as incurved cactus, straight cactus and semi - cactus. Apart from these, there are many small groups of Dahlias which are not covered by any one of the above classes. These are referred as miscellaneous Dahlias.
The medicinal properties of Dahlia	There is a large number of minerals in the tuberous roots of Dahlia. Human and animal studies have shown that optimal intake of chemical elements (sodium, potassium, magnesium, calcium, manganese, copper, zinc and iodine) could reduce individual risk factors, including those associated with cardiovascular disease (Nsabimana et al., 2011). The Astec people used dahlia as a treatment against epilepsy (Mareş, 2004). The root is rich in starch - inulin , which can be converted into fructose, a sweetening substance, useful in diabetes diet (Fălticeanu and Munteanu, 2006). Nowadays, extracts from dahlia tubers are used in different tests to analyze the liver and kidney well function. (http://www.diane.ro/2009/07/legenda-florii-dedalie.html).

The bitter-tasting extracts of the flower petals have the following properties: they increase the appetite, the gastric secretion and the cell wall tone (Laza and Rácz, 1975)

Inulin was first isolated and stored from the *Inula helenium* plant from which has inherited the name. The nutritional and functional attributes of inulin are very valuable and consequently have many food, pharmaceutical and chemical applications (Lara-Cortés et al., 2014) and industrial (Drághia and Chelariu, 2011). Dahlia is valuable for inulin that has uses in medicine and in the food industry (Traynor și colab. 2006;Zubaidah și Akhadiana, 2013;<http://www.botanical.com>). Burescu (2002) mentions that inulin is a polysaccharide, resulting from the polymerization of fructose in colloidal solution in the vacuoles of plant cells belonging to the Asteraceae family.

Nutritional Value of Dahlia

The petals and tubers are edible! Dahlias have been considered a viable food crop throughout history, but for some reason, eating dahlias hasn't quite taken off in popularity. To most, the idea of digging up these beautiful flowers to eat feels like heresy. Dahlia is a popular breakfast food, and all these whole grains can help in **building healthy levels of good cholesterol** in the body.

The medicinal and nutritional uses of Dahlia have also been reported. Tubers are rich in inulin & fructose and contain small quantity of medicinal compounds such as phytin and benzoic acid. (Whitley, 1985)

Flavanone-3-Hydroxylase an enzyme was detected in flower extracts of cyanic strains of Dahlia. (Forkman and Stolz, 1984)

Economic Value and uses of Dahlia

Nowadays, Dahlia was widely used even in economical purpose: in landscaping, in floristry as a cut flower, **for the pharmaceutical industry, cosmetic, food and as raw material for the extraction of dyes**. Both the tuberous roots and the flowers of this ornamental and medicinal plant are used for therapeutic purposes. Dahlia making up it's value in all economic perimeters across the top varieties.

The dahlias affordability is in large part due to its comparatively long growing season. While these blooms grow abundantly for several months, peonies peak just during late spring, meaning you'll pay more to bring them into your big day bouquet.

Objective of the Study

1. The objective of the present research is to analyze the varieties on the growth and quality parameters of Dahlia for flower production and other purposes, horticulture and floriculture industry.
2. Analysis for medicinal and pharmaceutical uses of good varieties of Dahlia.

Review of Literature

The root is rich in starch - inulin, which can be converted into fructose, a sweetening substance, useful in diabetes diet (Fălticeanu and Munteanu, 2006). The bitter-tasting extracts of the flower petals have the following properties: they increase the appetite, the gastric secretion and the cell wall tone (Laza and Rácz, 1975). Dahlia is valuable for inulin that has uses in medicine and in the food industry (Traynor și colab 2006.)

The production of flower pot Dahlia in the country has increased in recent years particularly due to the development of growing techniques that has set new demands in growing media, as well. Good flower production usually depends upon various factors including the types of growing medium used. (Urooj- ul - NissaBergji, Khan, F.U, Neelofar N. and Khan F, 2015) A good growing medium should provide sufficient anchorage or support to the plant, serves as reservoir for nutrients and water, allow oxygen diffusion to the roots and atmosphere outside the root substrate (Argo 1998 and Abad et. al. 2002). Natural soil and peat are the most used growing media for container production of annual and perennial ornamental plants (Tariq et. al. 2012). In the studies of evaluation of Dahlia genotypes for various growth, flowering and yield and quality parameters the genotype 'Sourav' showed significant role in difference for plant and leaf width among all genotypes. The genotype Joyal Singh took least number of days to its first flowering. (Manjula B.S., Pruthvi P. Hegde, Ganiseti Anitha. 2019) The varieties 'N T Pompon' and 'Jyotsna' were good in Maximum number of leaves at 30, 60, and 90 days. Variety 'Black out' have shown maximum value for plant growth. (Allan Kumar, Maheshwari L.M., Shukla A.K. and Kaushik R.A. 2009)

Conclusion

Dahlia being one of the most beautiful flower in the flower family is not only a look great flower but also has a great economic and social value in large lengths. The prosperity of this flower not only brings beauty but also bring great value to the biological sphere where it exists. The unexplored areas of research can be stepped into and more specific uses of Dahlia can be discovered further very soon. Dahlia enjoys great popularity among flower growers for the summer season due to the beauty of the flowers and the long period of decoration. Both the flowers and the tuberous roots of Dahlia have many uses in landscaping, but they have also gained ground as medicinal herbs, incosmetics, food or raw extraction to permeate and colouring various material. Because of the biochemical composition that is very varied but also for other functions, it is recommended to use dahlia for the extraction of inulinas a potential user in natural medicine and drug, considering the cultivated variety. Also, in the improvement work, it will be envisaged to obtain descendants that combine polygene for a high decorative value and an increased content of inulin.

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