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# BIRD OF PARADISE



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Bird of paradise (*Strelitzia reginae* Banks) is one of the most well known ornamental plants in the world. It is an evergreen perennial plant grown in the regions having moderate climatic conditions. It occupies a place of pride in a garden and is an important ornamental plant for landscaping. Fascinating blooms of the plant with highly attractive orange and blue flowers are sold as cut flowers. The flowers are long lasting and excellent for indoor display. It can also be grown under pot bound conditions.

It is indigenous to South Africa, where it grows wild. The genus *Strelitzia* belongs to *Strelitziaceae* and there are five species in the genus. *Strelitzia reginae* is the most popular orange flowered species commonly known as Bird of Paradise. Other species include *S. nicolai*, *S. alba* (*S. augusta*), *S. juncea* and *S. kewensis*

### Botany

'Bird of Paradise is an evergreen herbaceous perennial monocot plant, which reaches up to five feet height. The plant is trunk less, compact with clustering habit exhibiting slow growth with fleshy roots. Orange and blue flowers emerging from the hard beak like sheath called the spathe grows at right angles to stem and gives the appearance of bird's head. The flowers are large and are about 6 to 12 per inflorescence. The flowers, which emerge one at time from the spathe, consist of perianth with three brilliant orange sepals and three bright blue petals. Two of the blue petals are joined together to form an arrow like nectary. When the birds sit to drink nectar, the petals open to cover their feet with pollen. Occasionally, a second spathe will be produced from the primary one, giving a double tier of flowers. The fruit is a dehiscent capsule with many seeds. There are several features of the flower such as bright colours of the perianth and the brilliance of the petals that are considered as adaptations to bird pollination.

The orange tuft of hairs attached to seed appears to be an adaptation for seed dissemination by birds (Ornithophily).





Inflorescence

Seeds



### **Growth habit**

Bird of paradise is an easy crop to grow in a garden. It exhibits a slow growing habit forming clump plant and grows well in sunny to semi shaded areas. Once established it survives with very little water. It is wind resistant but sensitive to cold temperature.



Bird of Paradise in flowering

### **Propagation**

The plant is propagated from seed, divisions of clumps and tissue culture. Under natural conditions, birds pollinate

flowers. To increase seed set, the flowers are also hand pollinated by placing pollen on the tip of the stigma. It takes four to five months for the set fruit to ripen. Seeds have hard seed coat and have to be soaked overnight in water with orange tuft of hair intact. Germination is a slow process and takes 1-2 months depending on the season. Before sowing, the bright orange tuft of hairs attached to the seed is removed. Seeds are sown in seed trays filled with well-drained soil medium at a depth of 1.5 times the size of the seed. A constant temperature of 25°C is most suitable for germination. Seedlings with 2-3 leaves are used for transplanting.

It is vegetatively propagated by naturally developed branches known as Fans. Multiplication rate by this method is 0.5-1.5 divisions per branch per year. Division usually requires at least three months generating new roots. Clump divisions usually flower faster than the plants grown from seed.

### **Soil and Climate**

It thrives well in most soils, rich loamy soil and plenty of organic matter is preferable. In mild climate it grows and flowers profusely in the open, both in full sun or slight shade. Flower production occurs through out the year with two peak seasons. It has been reported that photoperiod has no effect on its flowering. Low light intensity caused by shading reduces flowering. Since each leaf normally bears one floral initial in its axils, the frequency of leaf emergence has a direct relationship to flower production. Mature bird of paradise plants produce a potential flower bud in the axils of every leaf.

### **Planting**

Best time for planting is during monsoon of August-September months. Pits of 60 x 60 x 60 cm are prepared and filled with soil and organic matter. Plants are carefully removed from the poly bags and planted in the prepared pits. Plants take long time to establish and therefore, should not be disturbed very frequently and deep planting delays flowering. Plants grown in partial shade grow taller and have larger



flowers. In full sun, plants are smaller and flowers are on shorter stems. Flowers are produced along the periphery of the plant. To accommodate this feature, spacing should be at least 1.5 m apart, which allows adequate space for flowering.

### **Manuring and Fertilization**

Bird of Paradise responds well to integrated nutrient management. Application of 110:35:70 kg NPK /ha/ year + 50% FYM in four split doses in the months of January, April, July and October enhances growth and flowering. Spraying plants with a solution containing 6 g super phosphate and 3 g potassium nitrate per liter of water at an interval of 10 days was found effective. Liberal watering during growing season will encourage plants to grow more profusely and ensure good flower yield. In summer, irrigation once in 3-4 days is practiced. In cooler months of the year, plants should be irrigated once a week. The use of organic mulch such as leaves, bark, wood chips, polythene sheet and saw dust can be used to conserve moisture.

### **PESTS AND DISEASES**

#### **Pests**

The Bird of Paradise has very few pest and disease problems, but scales, aphids and mealy bugs cause some damage. Scale is the major pest and small, brown scales are seen infesting, usually on the bottom of the leaves or along the stems. These can be controlled with systemic insecticides such as Rogor (2ml/l).

#### **Diseases**

Diseases affecting include bacterial wilt and root rot. Root rot is a seed-borne fungus that can be controlled by soaking the seeds in water for one day at room temperature followed by a 30-minute dip in water heated to 135°F. Drenching the soil with a combination of Streptomycin sulphate-300 ppm and Blitox @ 3g/L, has been found to be effective for controlling bacterial wilt.



## Harvesting and post harvest handling

The older the plants become, the more flowers they produce as more suckers are produced as the plant ages. A four year old plant produces approximately 42 spikes per plant per year while a five year old plant would produce about 50 spikes per plant per year. Flowers are cut when first floret opens from the boat shaped stout spathe containing series of florets. Cutting the flower stalk at an angle exposes a greater surface through which water is absorbed. Immediately after harvest of the spike, the base of the stalks are kept in a bucket containing 4" depth of clean water or floral preservative containing 10% sucrose +300 mg/L aluminium sulphate or citric acid. The cut end of the spikes (individually or bunch of ten stalks) should be plugged with cotton saturated in water or above floral preservatives. The blooms are covered with news paper and packed in CFB boxes for long distance transport or long term storage. Recutting two cm of the base of the stalk under water on alternate days or immediately after dry storage or transport to increase water uptake and enhance the vase life. Spikes are stored at 10°C up to 7 days followed by vase life of 7-10 days by above practices.

Bird of Paradise is a high value cut flower suitable for cultivation in semiarid regions of Karnataka. It is hardy crop with minimum water requirement once established. It is recommended for cultivation by small and marginal farmers in and around Bangalore.

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