

False-Bird-of-Paradise – A Striking Bloom

Flowers are an integral part of human life due to their diversity in beauty, form, texture, colour and fragrance. Production and consumption of tropical flowers are increasing in many countries around the world since they're perceived by many flower consumers as exotic and unusual, with a potential market in temperate countries. In this backdrop 'False-Bird-of-Paradise' also admired as Lobster's claw, Parrots flower, Parrot plantain, False plantain, etc. (botanically recognized as *Heliconia* species) is gaining popularity in Indian market counting West-Bengal as an emerging flower crop.

HELICONIA is derived from the Greek word 'helikonios'. Interestingly, it refers to 'Mount Helicon' in Greece, home to the Muses, goddesses of the arts and sciences in Greek mythology. The Muses were said to be eternally young and beautiful, thus the name "Heliconia" refers to the flowers' long-lasting and attractive qualities.

This 'Bolivian National Flower' (*Heliconia rostrata*; commonly known as 'Lobsters Claw') with about 250-300 species disseminated primarily in Neotropical areas from the North of Mexico to the South of Brazil.

Heliconia flowers

Heliconia has some resemblance with Canna plant (widely in Bengali known as 'Kalaboti'). *Heliconia* sp. flowers are actually highly modified leaves and bracts. The true flowers are hidden inside these bracts. The flowering stems are mostly pendulous. *Heliconia* sp. flowers are produced on long, erect (*H. humilis*, *H. psittacorum* cv. 'Golden Torch') or drooping panicles (type of inflorescence) (*H. rostrata*), consisting of brightly coloured waxy bracts with small true flowers inside the bracts. Bract colour may be of orange, purple, red, yellow, pink, green or their combinations. Their leaves look more or less like banana leaves and are generally green, but some are tinged slightly with colour (*H. metallica*) and sometimes the leaves and stems are coloured or patterned slightly (*H. indica*).

The *Heliconia* flower is a tropical flower that immediately beckons adoration which is convenient, since that is actually the meaning of the *Heliconia*. The most eye-catching element of the *Heliconia* are the bracts (showy floral part) of the bloom as each of it looks much like a parrot's beak, earning the *Heliconia* the affectionate nickname. This bright flower also can mean pride and sunshine, which makes it inevitable to add in bouquets and floral arrangement. This fantastic and unique flower will truly make any arrangement stand out. There are

some professionals who love to use this flower in different landscaping arrangements.

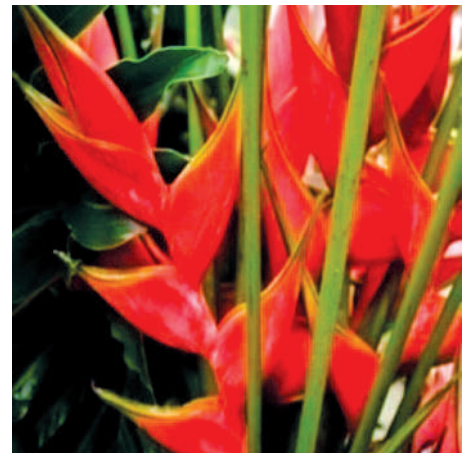
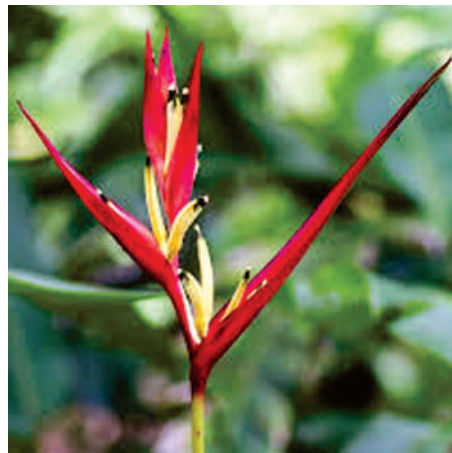
Cultivation

They should be planted in a draining soil with the top sticking out of the ground. Flourish well in loamy soils rich in humus, need sunlight, with temperatures not lower than 30°C. Key propagating materials are 'Rhizome' (continuously growing horizontal underground stem). To avoid insect-pest infestation, pre-treatment by bavistine solution may guarantee successful thrive. The eyes or buds, present in the *Heliconia* rhizome helps to grow new shoots in about four weeks, while roots grow from the rhizome. They need an abundance of water but couldn't stand in wet feet causing 'Root Rotting'. Since *Heliconias* are heavy feeders, a soluble balanced or granular time-release fertilizer can be used. Principal blooming season is end of March to early September.

Economics of cultivation

The 'King of Tropics' is indigenous to tropical climates, so it can be productively grown as a 'Cut Flower' for its outstanding post-harvest durability which is why it was eventually tagged as 'Specialty Flower' especially under West Bengal condition. Its exotic appearance and brilliant colours fetch premium price in the market. Leaves of some varieties of *Heliconia* are also sold as cut leaves for flower decoration.

Generally, the economics of flower production is calculated by taking into account total number of flowers produced in a year and the cost of flower at farm. In this regard, the economics of *Heliconia* production are found quite promising exclusively as intercrop. Based on the production of number of flowers produced per hectare and fetching of premium price in the market, *H. wagneriana* and 'Golden Torch' cultivar are the most promising types. As per the record of ICAR-Research complex,



Heliconia rostrata or 'Hanging Lobster Claw', *H. indica* var. 'Indica' (Foliage variety), *H. stricta* or 'Erect Lobster Claw', *H. psittacorum* x *H. spathocircinata* cv. 'Golden Torch', *H. wagneriana* var 'Rainbow Heliconia', *H. metallica* var 'Shining Bird-of-Paradise' (Foliage variety), *H. stricta* var. 'Dwarf Jamaican Red', *H. psittacorum* var. 'Lady Di', *H. humilis* or 'Toucan peak' (From top most left corner). (All are original photographs)

Old Goa the utmost revenue of ₹ 93,824/- per hect. In *H. wagneriana* followed by 'Sexy Pink' of ₹ 89,600/- could be obtained but *H. rostrata* fetched lowest income for its meagre blooming even after possessing exotic pending posture and brilliant hues. Another remunerative aspect of *Heliconia* cultivation as single crop as well as intercrop is the income generated through selling of suckers. The highest income by sucker selling was ₹ 65,744/- in 'golden Torch' followed by ₹ 59,328/- in 'Lady di' (Source: ICAR-Research complex) but *H. wagneriana* and 'Sexy Pink' weren't found worthy concerning sucker production. On an average, 600-700 plants of *Heliconia* can be planted in

1 hectare of land. The average price ranges from ₹ 5/- to ₹ 20/- depending upon the variety. Hence a minimum income of around ₹ 25,000/ha to maximum of ₹ 90,000/ha can be realized depending upon the variety of *Heliconia* plants.

Each clump can produce 5-10 flowering suckers/clump in one year. The sucker production depends on the variety and it ranges from 15-35 suckers per clump. Even 5-10 suckers/clump has to be periodically removed to maintain the spacing and lighting for plants. Hence, the average price of suckers is around ₹ 20-50/0 depending upon the variety. An average of ₹ 10/- per sucker can

yield upto ₹ 50,000/- per hectare through sale of sucker and it'll be an additional income to the farmers.

Hence, it could be concluded that the economic cultivation procedure of *H. wagneriana*, 'Golden Torch', 'Sexy Pink' and 'Lady Di' could be a profitable proposition for their flowering and sucker production potential.

Marketing prospects

In tropical floriculture, species such as orchids, *Anthurium* sp., *Heliconias*, Bird-of-paradise (*Strelitzia reginae*) and Ginger (*Zingiber officinale*) is a relatively small segment of the European flower market. These species don't cover the offer and are mainly sold as exclusive (tropical) flowers in mixed bouquets and flower arrangements. In the recent decades, *Heliconia* is introduced to the flower trade, recognizing itself as an ornamental variety of unusual elegance.

The key producing and exporting countries for tropical flowers are Colombia, Cota Rica and Brazil. Other large tropical markets are Germany, Italy, United Kingdom and France. However, at flower auctions in Holland (Royal Flora Holland) and Germany (Veiling Rhein-Maas), a small number of merchants specialize in tropical flowers.

For the market issues, a low level of research is found for the quantitative, qualitative and mixed research approaches. Contributions in relation to economic and financial analysis, address of profitability indicators, administrative planning and management actions are quite concentrated in some territory. No information is available on export and import of the commercially viable flower especially, detailed statistics on national and international trade in species of *Heliconia*. Concerning the complexity of producing and marketing *Heliconias*, research with qualitative and mixed research approaches with market-oriented research axes is quite essential. Owing to having economically and agronomically relevant *Heliconia* species and potential agro-ecological condition some states in India especially West-Bengal,

Tamil Nadu and Kerala could be the pioneer in the production and commercialization of *Heliconias*. In addition, specific statistics on the import and export as cut flower or transformed (industry used product), the social, economical, productive and environmental; dimensions of cultivation and minimization of knowledge gap among farmers could be considered as a backbone of popularization of *Heliconia*, an emerging tropical flower crop.

Availability of planting materials of *Heliconia*

They're conveniently multiplied and propagated easily by rhizomes and suckers. Quality planting materials are available at ICAR- Research Complex for Goa. Other than this, research institutions Agri-Horticultural Society of India (AHSI), Kolkata, West Bengal; ICAR-CIARI, Port Blair, Andaman and a few places of Kerala both suckers and rhizomes are available.

Transformation of *Heliconia*

Apart from its use as a specialty cut flower, *Heliconia* could be explored for its medical contribution. Currently, it has found that 2 species namely *H. rostrata* and *H. psittacorum* could act against the indirect hemolytic, proteolytic and coagulant activities of the venom of *Bothrops asper*. The petroleum ether extracts of rhizomes (PER) and inflorescences (PEI) of *H. rostrata* could be smart alternative of cytotoxic activity. On the other hand, the mechanical tensile properties of the fibers of *H. bihai's* stem prove *Heliconias* gift towards technological advancement along with its cut flower potential. In nutshell, it is an innovative product in various sectors of the industry.

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