

Intercropping Heliconia with coconut is remunerative

Heliconia is emerging as an important cut flower in India which can be grown as intercrop in coconut gardens. At present, marketing is concentrated in domestic markets of metros which itself is fetching high profit. The scope of exporting needs to be explored. The major constraint of exporting is the weight of inflorescence. A single inflorescence of many commercial varieties weighs even up to 750g. *Heliconia stricta* Iris is a potential variety for exporting as it has the qualities of grade one flowers such as more than 1 m inflorescence length and girth, plane arrangement of bracts, unique colour, lesser number of flowers inside the bract coupled with lesser inflorescence weight of up to 250g. The export market for Heliconias can be boosted by giving brand names and exporting to developed countries such as USA, Australia, UK where the demand for these tropical ornamentals is very high.

COCONUT is the major plantation crop in coastal humid tropics which is perennial in nature. In yielding phase, it utilizes only 25% of the land area and offers greater scope for intercropping. Landscaping the coconut plantation with traditional and underutilized flower crops is a new trend towards eco-tourism promotion. Intercropping with compatible flower crops in coconut gardens not only enhances the farm income but also ensures aesthetic values promoting ecotourism. Heliconia is a tropical cut flower which comes up well in organic rich soils. Their inflorescence is preferred for its diversity in form, colour, and size. Its demand for ornamental purpose has increased, both in national and international markets. Unlike other cut flowers, Heliconia comes up well in natural microhabitat of coconut canopy. 'Iris' is a commercial variety of Heliconia. The inflorescence comes in the range with fresh weight of stems (101-200 g), stem

diameter (10.1-30.0 mm), stem length (50.1-150.0 cm) and spike length (10.1-30.0 cm). A single inflorescence of 'Iris' can fetch ₹ 20-250 in national market. Large flowers of more than one meter length can fetch \$2-\$18 each in International markets. Growing of Heliconia for a period of three years increases the yield of coconut. The higher yield in coconut is mainly because of increased fruit setting which might be attributed to enhanced soil moisture retention with better nutrient balance in coconut rhizosphere.

CULTIVATION

Planting

Seven months old rhizomes with collar girth of more than nine centimetre can be used as planting material. After removing the leaves, rhizomes cut back at 1 m



Grading of flowers



Symptoms of K deficiency



Heliconias are excellent for decoration

leaves are stripped off and top most leaf blades are cut leaving the petiole. They are used in stage decorations, bouquet making, long arrangements etc. The vase-life of inflorescences is 10-12 days. Inflorescences of around 1 m length and 9 cm stem girth with two or more open bracts are selected for sale. Smaller inflorescences can be used for value-addition such as bouquets and table top arrangements. In order to remove the field heat, the cut end of the inflorescence stem is dipped in tap water for about an hour. These are then washed in water for removing soil and dust. The excess water is wiped off and inflorescences are graded based on their length. Inflorescence with fewer flowers inside the bracts are ideal for marketing as it reduces time and cost of cleaning and minimize occurrence of insects, odours from water accumulation and organic matter deterioration. At least 4-5 marketable inflorescences are produced in the first year of planting itself. It produces 45-50 inflorescences/clump/year in the subsequent years. It needs to be replanted after 3-4 years.

Grading

Inflorescences of Heliconia Iris can be graded based on their length, stem girth and spike width.

Grade	Length of inflorescence (cm)	Stem girth (cm)	Spike width (cm)
Grade I	>100	>9	>25
Grade II	75-100	7-9	20-25
Grade III	<75	<7	<20

Packing

Inflorescence can either be packed individually or in bulk. A minimum of 45 inflorescences are needed for bulk packing. In bulk packing, uniform-sized inflorescences are packed in a single box. Different materials such as aluminum foil, butter paper and news papers or recycled papers can be used for wrapping the inflorescence. In individual packing, boxes of 100cm×10cm×45cm size are used. A total of three boxes are packed inside a paper box of size 120cm×45cm×45cm. These boxes are provided with air vents on opposite sides. Bulk packing is the usual method adopted by Heliconia farmers. The packing cost can be substantially reduced if recycled paper is

used for wrapping the inflorescence. The inflorescence will keep its quality for 24 h under this method.

Packing of inflorescences using recycled paper can be done in two ways:

Bulk method: First two layers of recycled papers are spread at the bottom of the box. Six inflorescences are arranged in a layer such that three will be facing the opposite direction. The bracts of each layer of inflorescence are protected from vibration injury by covering with a sheet of recycled paper. A total of seven layers of inflorescences can be packed inside a box of 120cm×45cm×45cm size holding 42 inflorescences per box.

Individual method: In this method, individual inflorescence are wrapped separately with recycled paper. The bracts of individual inflorescence is covered and packed in layers of three in opposite direction. In this method, 5-6 layers of inflorescence can be packed inside a box of size 120cm×45cm×45cm holding 30-36 inflorescences per box.

Economics of Cultivation

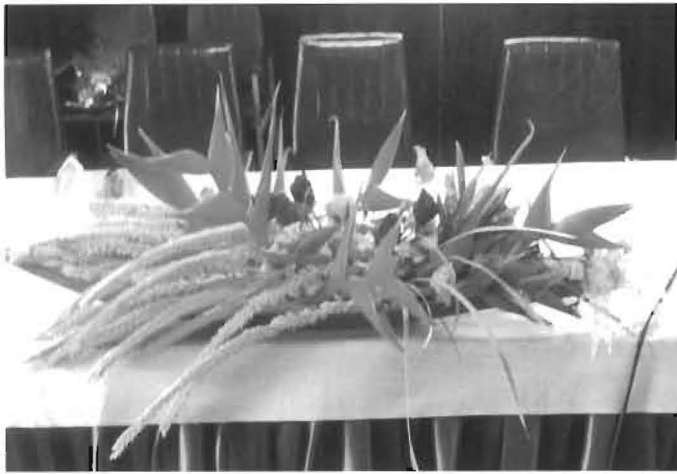
The economics of intercropping Iris for three years in one hectare of coconut plantations is given below:

Year	Input cost (₹)	Return (₹)		Net returns (₹)	Benefit: cost ratio
		Inflorescence @ ₹ 20/-	Rhizomes @ ₹ 60/-		
First	5,87,000	96000	-	-4,91,000	0.14:1
Second	10,20,000	21,60,000	9,00,000	30,60,000	3:1
Third	16,00,000	27,00,000	21,60,000	48,00,000	3:1

The initial cost of cultivation is very high due to the cost of planting material which may require financial support from banks etc. The cultivation of Heliconias open up scope for employment generation and youth empowerment through export and value-addition such as bouquet making, flower arrangement, stage decoration etc. Additional labour employment of 1000 mandays/ha during first year, 1800-2000/ha in second year and 2500 man days/ha in third year is expected.

For further interaction, please write to:

Drs K Nihad, V Krishnakumar and A Abdul Haris, Central Plantation Crops Research Institute, Regional Station, Kayamkulam.



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