

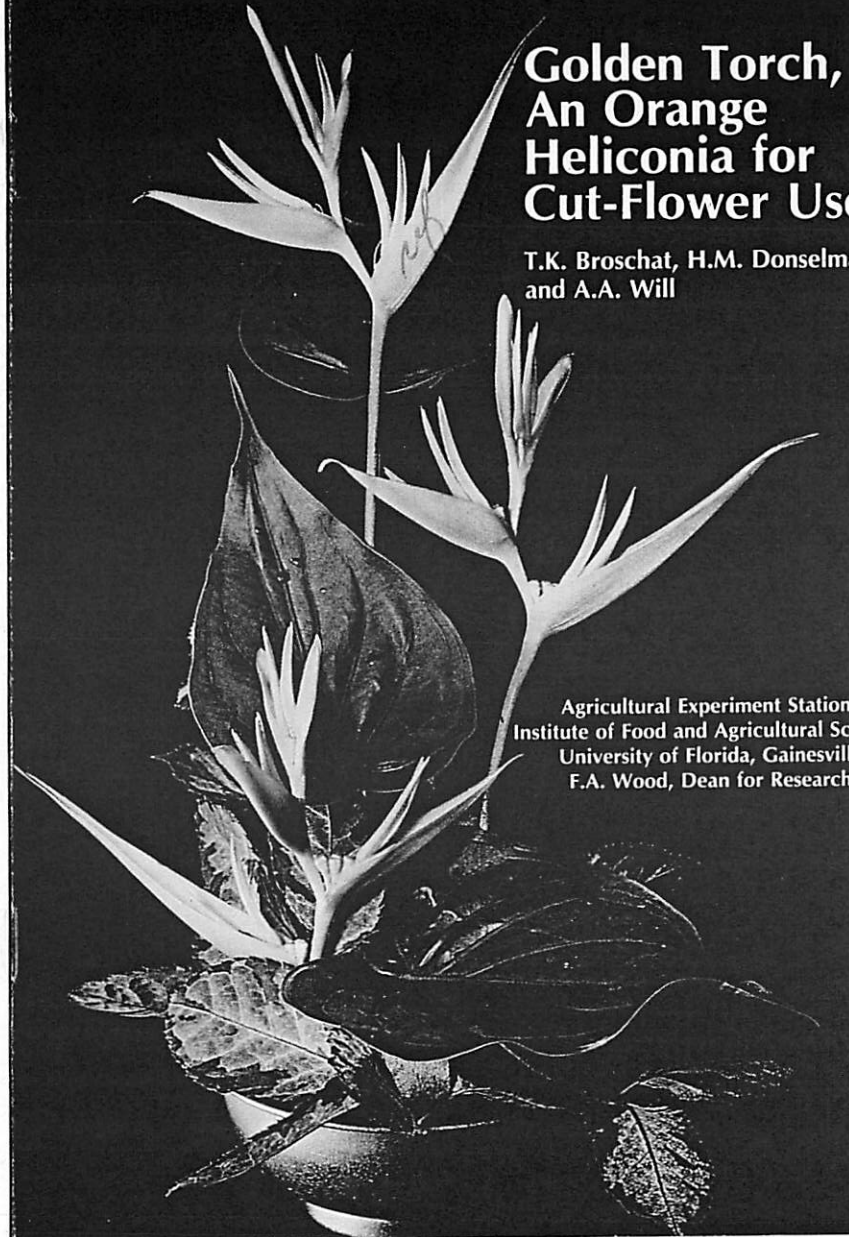
May 1984

Circular S-30

Golden Torch, An Orange Heliconia for Cut-Flower Use

T.K. Broschat, H.M. Donselman
and A.A. Will

Agricultural Experiment Stations
Institute of Food and Agricultural Sciences
University of Florida, Gainesville
F.A. Wood, Dean for Research



This public document was promulgated at a cost of \$929.40, or 23 cents per copy, to inform nursery operators and other Floridians about heliconias.

All programs and related activities sponsored or assisted by the Florida Agricultural Experiment Stations are open to all persons regardless of race, color, national origin, age, sex, or handicap.

ISSN 0734-8452

Broschat, T.K. 1984

Golden Torch

Timothy K. Broschat, Henry M. Donselman, and Albert A. Will

Timothy Broschat and Henry Donselman are Assistant and Associate Professors of Ornamental Horticulture, respectively, at the University of Florida Agricultural Research and Education Center, Fort Lauderdale, and Albert Will is a botany instructor at Broward Community College, Central Campus, Fort Lauderdale, Florida.

Introduction

The genus *Heliconia* (Heliconiaceae) includes about 150 species of mostly Neotropical herbaceous plants. They have banana-like foliage and range in height from 0.3 m to 6 m. Some species have reddish or multi-colored foliage, making them useful landscape plants for tropical regions. Heliconias have erect or pendulous terminal inflorescences consisting of stiff, boat-shaped bracts which are often brightly colored. Depending on the species, up to 20 tubular florets are produced sequentially in a bract, each lasting several days before senescing. Among heliconias with erect inflorescences, *H. latispatha* × *H. psittacorum* shows considerable potential as a commercial cut flower crop, having attractive flowers, long, straight, clean peduncles, continuous prolific flower production, excellent post-harvest characteristics, and few insect and disease pests. The inflorescences somewhat resemble those of bird-of-paradise (*Strelitzia reginae*) except that in *H. psittacorum* and related species the bracts are also colorful. Flowers of this heliconia are less massive than those of bird-of-paradise and are more easily incorporated into smaller floral arrangements.

Origin

The exact origin of 'Golden Torch' is not known. Our plants were obtained from Andromeda Gardens, a private garden in Barbados, W.I., by A. A. Will in 1978. It is believed that Golden Torch is a hybrid (*H. latispatha* × *H. psittacorum*) that originated either in Guyana or Trinidad, but has since been distributed throughout the Caribbean region and to Hawaii where limited commercial cut flower production already exists. Golden Torch has been evaluated at the Agricultural Research and Education Center, Fort Lauderdale, Florida, from 1978 to 1983 in 20-liter containers and in raised ground beds under full sun and shadehouse conditions.

Description

Golden Torch heliconia ranges in height from 1.0 to 1.8 m, depending on plant density, fertility level, and irrigation intensity, with plants growing taller under crowded, well-watered, high fertility situations. Foliage of Golden Torch is a lighter, less glossy shade of green than that of *H. psittacorum*. Leaves of Golden Torch average slightly wider (14 to 15 cm) than those of *H. psittacorum*. Four or five leaves are produced per shoot, followed by a terminal inflorescence with three or four bracts. The first bract is the largest, and in Golden Torch averages slightly larger than those of *H. psittacorum* varieties (15 to 20 cm vs. 12 to 14 cm). Bracts of this variety are deeper than they are wide, whereas the opposite is true for *H. psittacorum* varieties. Florets are not readily visible on young inflorescences as they are on *H. psittacorum*. The entire inflorescence of Golden Torch is uniformly yellow-orange in color. Flowers of this hybrid are male-sterile with no pollen produced.

Performance

Flower production of Golden Torch grown outdoors in southeastern Florida generally begins by April or May unless the previous winter was exceptionally cold. Temperatures below 10°C cause injury to Golden Torch, but above this temperature, growth and flowering are continuous. The optimum temperature range for heliconia production is 21 to 35°C, with greater growth and production at the higher temperatures. Under typical south Florida summer growing conditions, a harvestable flower is produced 9 to 10 weeks after emergence of a new shoot. Rate of spread is rapid, with shoot densities exceeding 700/m² in two-year-old beds where only flower-bearing stalks were removed.

In southeastern Florida, production generally peaks in the months of July through September, declining in October and November and ceasing altogether once night temperatures drop below 10°C. Production in established 1.5-year-old beds averaged 84 flowers/m² in southeastern Florida under full sun and high fertility (3.6 kg of 18-6-12/m²/yr). Growing plants under 63% shade reduces flower production by about 50%. Production in heated greenhouses can be year round if 23°C minimum temperatures are maintained, since photoperiod has no apparent effect on growth or flowering.

Postharvest life of cut inflorescences placed in deionized water averages 14 to 17 days at 23°C for this cultivar. Insect and disease pests of heliconias are few. Aphids often colonize the nectar-laden flowers, but these are easily controlled with common insecticides. Nematodes can cause damage to other varieties of *H. psittacorum*, but the relative susceptibility of Golden Torch to nematodes is not

known. No other insect or disease problems have been encountered under south Florida production conditions.

Culture

Golden Torch heliconias should be grown in ground beds no wider than 75 cm. Wider beds result in less light penetration to the soil in the center of the bed, with resultant stretching of shoots produced there. Beds should be slightly raised for good drainage and should be surrounded by solid barriers not less than 30 cm in depth to prevent the rhizomes from spreading throughout the aisles. Well-drained, slightly acid media should be used in the beds, and inclusion of dolomitic limestone in addition to macro- and micronutrient fertilizers is essential. Fertilization at the rate of 3 kg of 18-6-12 per m²/per year results in rapid growth and flowering, but does not detract from flower quality.

Clumps of plants about 20 cm across should be planted on 30 cm centers in the beds. The medium should be kept uniformly moist, but not waterlogged. Water stress is indicated when the leaves begin to curl about the midvein. Sites regularly receiving winds greater than 15 to 20 km/hr should be avoided, as wind can cause abrasion damage to the flowers. Flowers can be cut when they reach the desired state of maturity, since further opening of the bracts does not occur once the flowers are cut. Golden Torch flowers can be cut when one to three bracts are opened, depending on the effect desired. In order to allow more light to penetrate through the dense canopy of heliconia beds, it is necessary to remove the entire stalk once it flowers. Stalks can be cut near ground level or pulled out, as they will snap off just below the soil surface. New shoots will replace removed stalks, flowering about 9 to 10 weeks later. After cutting, heliconia flowers must be maintained at temperatures above 10°C to prevent injury. Commercially available floral preservatives have no effect on postharvest life of Golden Torch flowers.

Heliconias are considered a weed in many areas where they are native, spreading long distances by seeds and locally by rhizomes. Flowers are pollinated exclusively by a genus of hummingbirds whose bill is adapted for extracting nectar from the flowers. Since no hummingbirds with bills long enough to probe *H. latispatha* × *H. psittacorum* flowers exist anywhere in the United States, seed set has never been observed here. Although these plants spread rapidly by means of underground rhizomes, they can easily be contained by planting in beds surrounded by a solid barrier 30 cm deep. Plants which are allowed unrestricted growth will form continuous patches, rather than dispersed plants, and thus are easily controlled. Because

of their extreme susceptibility to cold temperatures, *H. latipatha* × *H. psittacorum* will not survive unprotected in any but the most tropical areas in south Florida. For these reasons it is quite unlikely that any *H. psittacorum* variety could ever become a serious weed in Florida.

Availability

Information regarding the availability of Golden Torch heliconias may be obtained from the authors.

Acknowledgments

The assistance of Sally Boshell and Richard Schill in evaluating Golden Torch heliconias is greatly appreciated.