

‘Hapa White’, ‘Hapa Pink’, and ‘Hapa Red’ Interspecific Hybrid Hibiscus Cultivars

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Hibiscus mutabilis, also known as confederate rose, cotton mallow or Dixie rose-mallow, is native to southeastern China (Flora of China Editorial Committee, 2006; Scheper, 2003; Welch, 2009). *Hibiscus mutabilis* is grown as an ornamental throughout the southeastern United States and is hardy in U.S. Department of Agriculture (USDA) zone 7 to 9 (Scheper, 2003). It is popular for its large, soft, gray-green foliage during the summer, and large, showy flowers produced late in the season when few other plants are in bloom (Blythe, 2012; Russ, 2007). *Hibiscus moscheutos* and closely associated species of section *Trionum* are native to the eastern half of the United States (Small, 2004). Hybrids of these American species are widely available because they are winter hardy in much of the eastern United States, have attractive, tropical-looking flowers in a range of bloom sizes from 5 to 30 cm in diameter, and flower from early summer through late fall (Malinowski et al., 2012). Examples of artificial hybridization between *H. mutabilis* ($2n = 92$) and the endemic North American species in *Trionum* section ($2n = 38$) such as *Hibiscus coccineus* and *H. moscheutos* have been reported, but the resulting F_1 plants were seed sterile (Kuwada, 1961, 1962; Winters, 1970).

The goal of the hybridization efforts at the USDA-ARS Thad Cochran Southern Horticultural Laboratory in Poplarville, MS was to develop hibiscus cultivars with improved garden performance, reduced plant height, improved biotic and abiotic stress resistance, and prolific production of flowers of diverse colors. To that end, two *Hibiscus* species, *H. moscheutos* and *H. mutabilis*, were hybridized because hybridization among different species and genera is one of the most important breeding methods for improving ornamental plants (Kuligowska et al., 2016).

Three seedling selections, ‘Hapa White’, ‘Hapa Pink’, and ‘Hapa Red’, have been released from this research. These cultivars are interspecific hybrids with white, red, or

pink flowers that thrive in diverse landscape environments. The three cultivars all bloom over an extended season as compared with the parental species. This extended flowering is due in part to the clones being sterile, setting neither seed nor seed pods. Growers who have evaluated the three releases report that overwintering losses are reduced and spring vigor is improved as compared with their traditional crops of *H. mutabilis* hybrids in the same environment.

Origin

The three selections, ‘Hapa White’ (HMM10-008), ‘Hapa Red’ (HMM10-001), and ‘Hapa Pink’ (HMM10-004), are interspecific hybrids resulting from crosses of *H. mutabilis* and *H. moscheutos* hybrids. The three clones were selected from a group of seedlings hybridized and grown at the Thad Cochran Southern Horticultural Laboratory in Poplarville, MS. Seeds were produced from a cross pollination between unnamed *H. mutabilis* seedlings as female parents and *H. moscheutos* hybrid seedlings of commercial origin as the male parents and were grown out in 2009. Initial selections were made in the summer of 2010. The three selections were subsequently propagated and tested for 5 years under field conditions in Mississippi and for container production by nurseries in Florida, Oklahoma, and Texas.

Description

Color designations are according to the Royal Horticultural Society Colour Chart (Royal Horticultural Society and Flower Council of Holland, 2001). Hardiness ratings are based on Plant Hardiness Zone Map,

USDA Misc. Publ. 814. Plants of ‘Hapa White’ are semicompact, upright spreading with abundant production of white (155C) flowers of moderate size (14.5 cm) with a small red swath of color (61B) at the base of each petal producing an eye in combination with surrounding petals (Fig. 1A). Individual petals are 6.8 cm in length and 5.7 cm wide. Sepals are 3.4 cm long. Pistils are 1.5 cm long and filaments are 7 mm in length. Plants of ‘Hapa Red’ are semicompact, upright spreading with abundant production of red (66A) flowers of moderate size (13.5 cm) with a small red swath of color (53A) at the base of each petal producing an eye in combination with surrounding petals (Fig. 1B). Individual petals are 6.8 cm in length and 6.4 cm wide. Sepals are 2.9 cm long. Pistils are 1.4 cm long and filaments are 7 mm in length. Plants of ‘Hapa Pink’ are semicompact, upright spreading with abundant production of pink (N66C) flowers of moderate size (15 cm) with a small red swath of color (60C) at the base of each petal producing an eye in combination with surrounding petals (Fig. 1C). Individual petals are 7.0 cm in length and 7.0 cm wide. Sepals are 3.0 cm long. Pistils are 1.3 cm long and filaments are 8 mm in length. ‘Hapa White’, ‘Hapa Red’, and ‘Hapa Pink’ are cold hardy hibiscuses (USDA Cold Hardiness Zones 7–9), grown as perennials for the beauty of their flowers, which bloom over an extended season from June through September as compared with the parental species. This extended flowering is due in part to the clones being sterile, setting neither seed nor seed pods. The selections are intermediate in growth habit with increased basal branching, increased flower numbers and quality as compared with the parental species.

Culture

Plants of ‘Hapa White’, ‘Hapa Red’, and ‘Hapa Pink’ develop rapidly in containers with ultimate plant size dependent on container volume and environmental conditions with plants in a No. 3 nursery pot growing to 0.5 m high \times 0.3 m wide from a liner within 3 months under optimum conditions. Under landscape conditions, plants should mature to \approx 1.5 m high \times 1.5 m wide with minimal care. Plants of ‘Hapa White’, ‘Hapa Red’, and ‘Hapa Pink’ die to ground level each winter when subjected to freezing temperatures building a large multistemmed clump after several seasons of regrowth. Plants start



Fig. 1. Flowers of *Hibiscus* (A) ‘Hapa White’ (B), ‘Hapa Red’, and (C) ‘Hapa Pink’.

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flowering in late June. The three hibiscus cultivars are well suited to a variety of landscape uses such as a specimen plant, a color accent in shrub borders, a contrast plant in mixed landscape plantings or as a flowering plant in living screens. Plants perform best in full sun with moderate moisture and fertility. Their broad environmental adaptation and tolerance of common insects and diseases make them ideal plants for low maintenance plantings. Plants of 'Hapa White', 'Hapa Red', and 'Hapa Pink' are generally pest free from aphids, scales, and rust while moderately vigorous with a spreading upright growth habit and white, pink, or red flowers. In cold hardiness zones 7 and 8, plants die to the ground in winter, developing a strong root system that regenerates new shoots each spring.

Propagation

The three selections are easily propagated by softwood stem or branched-shoot cuttings treated with 1500 ppm indole-3-butyric acid under intermittent misting systems. The best rooting material should be taken from actively growing stock plants. The response of

the clones to growth regulators or propagation by tissue culture techniques (West and Preece, 2004) has not been evaluated.

Availability

Further information or a list of nurseries propagating the clone is available on written request to Hamidou Sakhankho (hamidou.sakhankho@ars.usda.gov) or P.O. Box 287, Poplarville, MS 39470.

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