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**College of Tropical Agriculture
and Human Resources**
University of Hawai'i at Mānoa



Kamehameha I statue at Hāwī, Hawai'i, with garlands of plumeria.

Plumeria in Hawai'i

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Cover: 'Pauahi Ali'i'

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Preface

This publication is based in part on CTAHR Research Bulletin 158, *Plumeria cultivars in Hawaii*, by James T. Chinn and Richard A. Criley (1982), which is out of print. It has been reformatted from the original, edited slightly, and revised to reflect changes in botanical nomenclature. It does not include the many new plumeria cultivars developed since 1982; those will be covered in a future publication. The present publication also incorporates a modified version of the author's 1998 CTAHR publication, *Plumeria*, which gave a brief overview of the plant and its culture.

The cultivar 'Iolani', included in RB-158, has been deleted because the original plant and its progeny succumbed to the plumeria stem borer. The cultivar named 'Angus Gold' in RB-158 is now known as 'Pauahi Ali'i'.

This document is not available in printed format but can be viewed and downloaded at the CTAHR Web site, <http://www.ctahr.hawaii.edu/freepubs>, under the category Ornamentals and Flowers.

Revised Taxonomy of *Plumeria*

Hortus Third (1976) revised the botanical classification of the most common species of plumeria. The genus *Plumeria*, a member of the Apocynaceae (dogbane family), was revised to contain *P. rubra* L., *P. obtusa* L., and their hybrids. The names *acuminata*, *acutifolia*, and *lutea* were previously used as species names, but they are now recognized as botanical forms of *P. rubra*. In revising the names given in RB-158 for parentage of Hawai'i's cultivars for the present document, the following distinctions were used:

Plumeria acuminata Ait. becomes *Plumeria rubra* forma *acutifolia* (Poir.) Woodson. White to yellow.

Plumeria obtusa L. is correct but a variety *obtusa* is also recognized. White.

Plumeria rubra L. forma *rubra*. Red.

Plumeria rubra forma *lutea* (Ruiz & Pav.) Woodson. Yellow with pink flush.

Plumeria rubra forma *tricolor* (Ruiz & Pav.) Woodson. White with yellow throat, pink rim.

Plumeria and Its Culture

Plumeria is known by other common names, including frangipani, melia (Hawaiian), and temple tree, and has many named cultivars. It is native to tropical America. In Hawai'i, plumeria is grown as an ornamental and is not found in the wild. It has widespread use in tropical landscapes around the world and is frequently associated with temples and graveyards.

Characteristics

Plumeria is generally a small tree growing to as much as 30 ft. Its broad, usually round-headed canopy is often about as wide as the tree is tall. The species and hybrids vary somewhat in tree size, compactness, and branching character, leaf and flower size and color, and deciduousness. The leaves are usually glossy green but may be dull green; they are generally ovate, may be blunt-tipped (*P. obtusa*) or pointed (*P. rubra* var. *acuminata* or var. *acutifolia*), and range from 2 to 4 inches wide and 8 to 12 inches long. In deciduous types, the leaves fall during wintertime, and new leaves emerge during or following the spring flowering period. *P. obtusa* and its hybrids tend to retain their foliage year-round. The flowers are tubular, expanding into a “pinwheel” of five petals that averages 2–3 inches diameter and may be white, red, yellow, pink, or multiple colors. Flowers of most cultivars are highly fragrant and bloom from March to October. The hybrids differ in their profusion of blooms, with some producing more than 200 flowers per cluster and others only 50–60 flowers.

Plumerias only occasionally produce seed. When pollinated, the flower produces two hard, narrow, pointed pods up to 7 inches long containing 20–60 winged seeds. Maturation of the seed pods is usually in early spring from a previous season's pollination.

Location and landscape uses

Plumeria is a common ornamental in yards and other planned landscapes. It is easy to grow in hot, dry areas and is found in Hawai'i from sea level to 2000 ft elevation. It requires full sun and grows best in well drained, slightly acidic soil. It has moderate wind resistance and salt tolerance. For best growth and flowering in the landscape, irrigation is needed during dry pe-

riods. The trees reach maturity (full size) in about five years. Plumeria can be grown to a relatively large size in large tubs.

Propagation

The usual way to propagate plumeria is by cuttings, because this method maintains the selected cultivar. Tip or branched cuttings 1–2 ft long should be allowed to “cure” in a dry place for at least two weeks before planting. Plant them in well drained soil in the landscape or in a pot. Do not water too much or too often while rooting is occurring. Treatment of the base of the cutting with a rooting compound (0.3% indolebutyric acid) enhances rooting but is not a requirement for rooting. The young root systems are brittle, and transplanting, if necessary, must be done carefully. Do not leave plants in small containers too long, or the circling roots will cause problems of weak establishment when the plant is transplanted into the landscape.

Plumeria can be propagated from seed collected from a tree, but seed is not commercially available. Seed from plants with white flowers produces mostly white-flowered seedlings. Similarly, dark red will produce red, and yellow will produce yellow, but pinks and multicolored plants are more likely to produce a range of colors in the seedlings. Flower quality is unpredictable, although it will tend to reflect the parent plant.

Collect seeds when the pod splits open and sow them shallowly in pots or trays. Dry seeds will keep for about three months in a plastic bag before beginning to lose viability. Seeds germinate in about two weeks. Transplant seedlings to individual pots when one or two pairs of true leaves have developed, and move the plant up to a larger container until it is large enough to plant out.

With plants started from cuttings, flowers can be expected within the first year, depending on the original cutting size and the time of year that it was taken, although only limited production will occur. Seedlings take three years or more to produce flowers.

Culture

When plumeria is grown for commercial flower production, it is planted 10 ft apart within rows 12–15 ft apart and pruned to keep the canopy low, encourage branching, and make harvesting the flowers more convenient. Branched cuttings are selected for propagating, and the branch axil is set low to the ground to result in a shorter-statured plant. Once established in

the ground, a plumeria can reach 10–12 feet in 6 years, given adequate fertilizer and moisture.

Fertilize plumeria with 10-30-10 every three to four months at about 1 lb per inch of trunk diameter, distributing the fertilizer around the plant to 2 feet beyond the foliage line.

Pruning is easiest in winter, following leaf drop, but heavy pruning sacrifices the spring bloom. Stems that are shriveled and bent have been infested with the plumeria stem borer and should be removed back to their juncture with a main branch (or lower if there is internal discoloration) and destroyed.

Many old trees in home landscapes have responded well to the pruning practice known as pollarding. Pollarding is a method in which a framework of branches is established with yearly pruning back on each to a point called the pollard head. This head develops a number of growing points as a result of the pruning, and each year a new group of shoots is produced. In plumeria, the new shoots may develop flowers late in the year if pollarding is done during the dormant season. Pollarding during the summer growing season will produce a series of short branches that will not set a flower head but will go dormant in fall and grow out as longer branches the next year, many of which will flower in late summer.

Pests and diseases

Plumeria has few disease problems. The plumeria rust (*Coleosporium plumeria* Pat.) is of fairly recent occurrence in Hawai'i. It consists of orange blistering or powder on the underside of leaves, and it develops after prolonged wet periods. The leaves may fall if the rust is severe. Both *P. rubra* and *P. obtusa* are susceptible, but some of the uncommon species appear to be resistant. While fungicides specific for rust control are effective, they are not normally used, as the disease rarely is severe enough to damage the plant.

A black sooty mold develops on stems and leaves when scale insects, whiteflies, or mealybugs are present. These insects exude a sweet, sticky honeydew upon which the fungus flourishes. Although unsightly, the fungus does not harm the tree (although the insects weaken it). Ants nourish the insects and carry them up into the trees. The control for the sooty mold problem lies with control of the insects.

Plumeria may be attacked by the long-horned beetle (plumeria stem borer), thrips, a blossom midge, greenhouse and spiraling whiteflies, and

mites. Normally, existing predatory insects keep populations of most of these in bounds. The borer is especially destructive, as its damage is done inside the stems where insecticides are ineffective. Immediate removal of affected branches and their destruction is the only present recommendation, because spraying with insecticide would need to be carried out too frequently to prevent egg-laying by the adult beetle. A new formulation of the insecticide imidacloprid is available that can be sprayed on the branches and foliage and offers up to four weeks protection against borer larvae feeding. Plumeria is most susceptible to this insect when under stress.

Special notes

Plumeria flowers are excellent lei flowers and are especially common and traditional for home-made leis. To harvest the flowers, grasp individual blossoms at the base and remove them from the plant with a gentle tug. Blooms may be strung lengthwise on strings about 38–40 inches long, or the lei may be formed by stringing the flowers crosswise through the lower part of the flower tube. Flowers can be kept for several days in a plastic bag in 48–55°F temperatures. All parts of the plant exude a milky sap when damaged. The sap may irritate eyes and skin.

Selecting plumerias

Many criteria can be used to select plumerias for a residence or a landscape. Lei flower producers are mostly concerned with productivity.

Use

The plumeria may be used as an accent or specimen plant or for flower production (leis, hair adornments, or simply for their fragrance). *P. obtusa* (Singapore plumeria) is frequently used in mass plantings. Availability of named plumerias is sometimes limited. Shallow circular or lei-shaped vases known as “pansy rings” are available to display picked flowers.

Growth character

Some cultivars are upright and compact, while others are lanky and open and others sprawl. Dwarf types are becoming available with good evergreen foliage, but the flower qualities are poor. The *P. rubra* types are deciduous, while *P. obtusa* and other white-flowered *Plumeria* species are evergreen. Ease of rooting is also a consideration in selection.

Flower qualities

Flower qualities include color, size, petal fullness and overlap, fragrance, keeping quality, and tendency to fade.

Flower productivity

On some cultivars, up to 60 percent of the branch tips will set a flower cluster, while others set flowers only on 10 percent of their branches. Some cultivars have only a spring peak of bloom, while others will produce a second or even a third set of blooms in a long growing season. In general, compact plants with short branches bloom more heavily, while lanky plants produce more sparingly. A single inflorescence may bear flowers for five months, although the last flowers are small and infrequent.

Plumeria cultivar names are registered with the Plumeria Society of America (P.O. Box 22791, Houston, TX 77227-2791).



A plumeria with a very open canopy and long branches (this cultivar, 'Courtade Pink', is not treated in this publication).



A compact plumeria canopy is desirable from many points of view, including appearance in the landscape and ease of harvesting blossoms; this is 'Kimo'.



This 'Dwarf Singapore' tree has a very compact growth form.

Plumeria Cultivars in Hawai'i

The plumeria selection and breeding program maintained by the author in the University of Hawai'i's College of Tropical Agriculture and Human Resources (CTAHR) began with a survey of plumeria cultivars established in Hawai'i. About 35 named selections were found and collected for breeding stock. Most were easily distinguished from each other by flower color, size, or shape and by vegetative traits. Occasionally, the same clone or similar plumerias were found to be referred to by more than one name; e.g., 'Common Yellow' (now registered with the Plumeria Society of America as 'Celadine') and 'Graveyard Yellow', or 'Maui Beauty' and 'Manoa Beauty'. Since the popularity of plumerias as lei flowers had increased sufficiently to merit commercial production, the cultivars in the CTAHR collection were described in Research Bulletin 158 (1982). No attempt was made to list all possible common names, nor were all common plumerias included in that publication.

The plumeria (also known as frangipani) has been cultivated for its flowers in Hawai'i since the late 1800s. Hundreds of open-pollinated seedlings have been flowered and selections made for suitable lei flowers. These selections constitute the majority of the plumerias grown today and form the basis for further improvement through breeding. Desirable characteristics of plumeria cultivars include good keeping quality, heavy flower production, and attractive color.

In 1860, Dr. William Hillebrand introduced the first plumeria cultivar to the Hawaiian Islands. This yellow flowered import was then called *Plumeria acuminata* Ait., and due to its high production of long lasting, fragrant flowers and relatively low maintenance requirements, it became popular for planting in cemeteries and home gardens. Unfortunately, through continued association with cemeteries, the name 'Graveyard Yellow' was coined; today, however, most people refer to it as 'Common Yellow'. Two other introduced cultivars established in Hawai'i, *P. rubra* 'Cerise' and *P. obtusa* 'Singapore', were imported in the early 1900s.

In the descriptions of plumeria cultivars that follow, the term "parentage" refers to the cross, if known, the female parent, if known, or the likely species to which this cultivar should be assigned. Since hybrids do occur

readily among *Plumeria rubra* forms and *P. obtusa*, there are cases where even a species name is difficult to assign. In such cases the appellation is "hybrid of unknown origin." Where selections were made from seedling plantings or from contributed collections, a "source" may also be listed.

In general, it has been the policy that introductions of the University of Hawai'i are given to the Hawaii Association of Nurserymen for increase and public sale. Therefore, it is necessary to consult with a local nursery if seeking a specific cultivar of plumeria.

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*Criley (1998) is reproduced in the present document; it and Criley (2001) can be obtained in pdf format at www.ctahr.hawaii.edu/freepubs.

Key to Cultivars by Flower Color

The following key to 40 major plumeria cultivars grown in Hawai'i is based on the most prominent color in the petal. Additional information on each cultivar, including descriptions of the petals and leaves, is presented afterward. Color determinations were based on the Munsell Hue Scale of the Nickerson Color Fan. When synonyms occur, the more frequently used name is given first, with the others in parentheses.

Strong red

Dark red center and moderate reddish brown bands on back

- a. 3½–4-inch diameter; wide petals slightly overlapping; slight spicy scent; leaves 11–12 inches long, green with red anthocyanin **'Hilo Beauty'**
- b. 2½-inch diameter; narrow petals moderately overlapping; slight spicy scent; leaves 8–9 inches long, green with dark red anthocyanin **'Scott Pratt' ('Kohala')**

Moderate strong red

1. Small, brilliant yellow center and strong red bands on back

- a. ¾-inch diameter; narrow petals slightly overlapping; slight sweet scent; leaves 12–13 inches long **'Cerise'**
 - b. 3-inch diameter; narrow petals slightly overlapping, tips twisted downward; slight sweet scent; leaves 13–15 inches long **'Japanese Lantern' ('Flower Basket')**
 - c. 3-inch diameter; wide petals moderately overlapping; mild sweet scent; leaves 13–14 inches long **'Donald Angus'**
2. Small, pale orange-yellow center and moderate reddish-brown bands on front and back

- a. 2½-inch diameter; wide petals moderately overlapping; slight spicy scent; leaves 12–13 inches long, green with dark red anthocyanin **'Irma Bryan'**
- b. 2-inch diameter; wide petals moderately overlapping; grainy pigmentation; slight spicy scent; leaves 10–11 inches long, green with red anthocyanin **'Keiki' ('Miniature Lavender')**

Strong reddish-yellow

Large, brilliant yellow center and moderate red bands on back; 3-inch diameter; narrow petals slightly overlapping; strong sweet scent; leaves 16–17 inches long **'Kauka Wilder'**

Blend of strong red, strong pink

Small, brilliant yellow center and strong red bands on front; 3½-inch diameter; wide petals moderately overlapping; strong sweet scent; leaves 18–19 inches long **'Duke'**

Deep pink

1. Large, brilliant yellow center and strong red bands on back; ¾-inch diameter; narrow petals slightly overlapping; mild sweet scent; leaves 13–14 inches long **'Kaneohe Sunburst'**
2. Small, brilliant yellow center and strong red bands on back; 3-inch diameter; wide petals moderately overlapping; mild lemon scent; leaves 16–17 inches long **'Plastic Pink' ('Royal Hawaiian')**

Moderate pink

Small, brilliant yellow center and strong red bands on back

- a. ½-inch diameter; wide petals moderately overlapping; slight sweet scent; leaves 15–16 inches long **'Grove Farm'**
- b. ¾-inch diameter; wide petals moderately overlapping; slight lemon scent; leaves 13–16 inches long **'Mela Matson'**

- c. 3¼-inch diameter; wide petals moderately overlapping; mild lemon scent; leaves 15–16 inches long **‘Moir’**
- d. 3½–4½-inch diameter; long, elliptical petals slightly overlapping; base color salmon-orange; faint spicy carnation scent; leaves 15–16 inches long **‘Dean Conklin’**

Pale pink

Small, brilliant yellow center and moderate pink bands on back; 3¼-inch diameter; narrow petals moderately overlapping; slight sweet scent; leaves 18–19 inches long **‘Tillie Hughes’**

Blend of moderate pink, white

Small, brilliant yellow center and deep pink bands on back

- a. 3¼-inch diameter; wide petals moderately overlapping; slight sweet scent; leaves 16–19 inches long **‘Espinda’**
- b. 3¼-inch diameter; wide petals moderately overlapping; slight lemon scent; leaves 15–18 inches long **‘Maui Beauty’** (**‘Manoa Beauty’**)
- c. 2½–3-inch diameter; wide petals moderately overlapping; slight sweet scent; leaves 17–18 inches long **‘Loretta’**
- d. 3-inch diameter; wide petals, grainy pigmentation, white venation, moderately overlapping; slight sweet scent; leaves 17–18 inches long **‘Tomlinson’**
- e. 2½–3-inch diameter; wide petals extended straight out or slightly downward, moderately overlapping; slight sweet scent; leaves 13–14 inches long **‘Carmen’**
- f. 2-inch diameter; wide petals, wavy margins, moderately overlapping; slight sweet scent; leaves 13–14 inches long **‘Ruffles’** (**‘Vanda’**)

Brilliant yellow

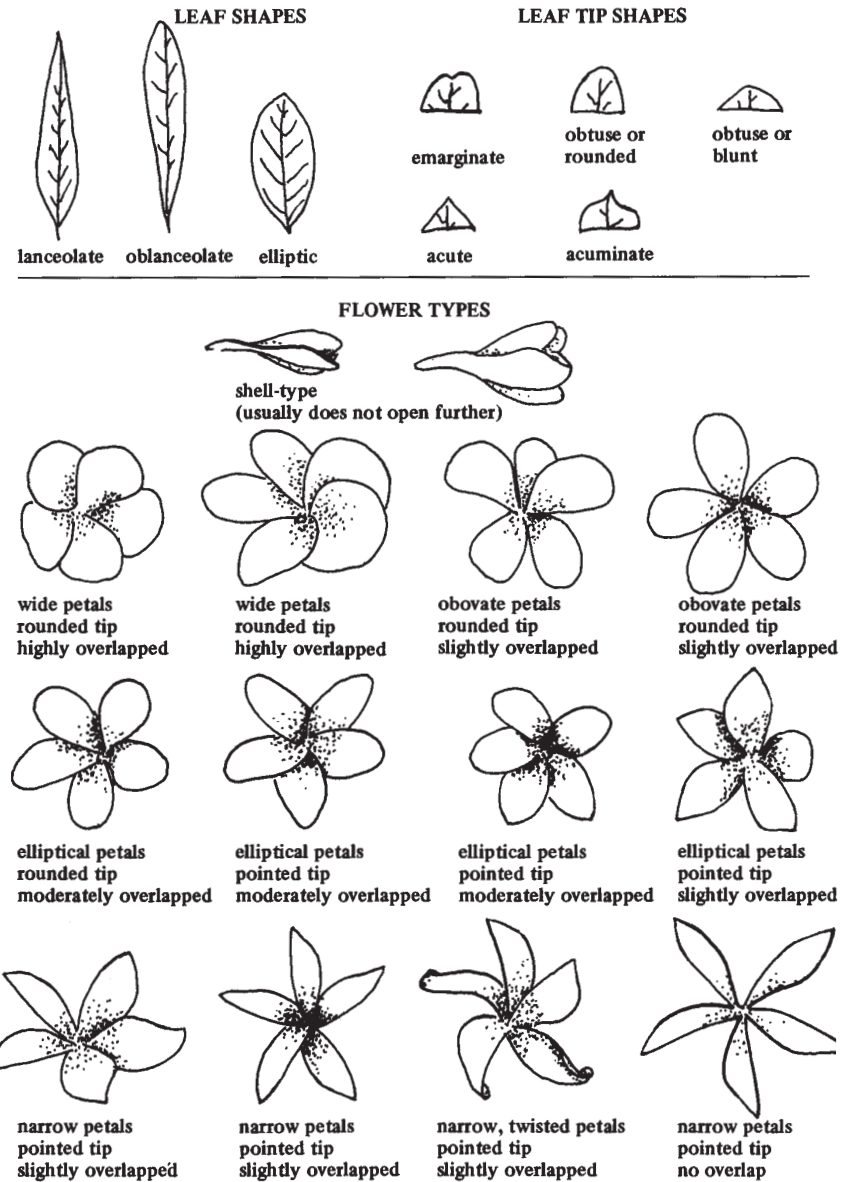
1. Narrow, strong red bands on front and back
 - a. 4¼-inch diameter; long and narrow petals, twisted and slightly overlapping; mild lemon scent; leaves 15–16 inches long **‘Pu‘u Kahea’** (**‘O’Sullivan’**, **‘Fiesta’**)
 - b. 3½-inch diameter; wide petals moderately overlapping; slight sweet scent; leaves 16–17 inches long **‘Nebel’s Rainbow’**
 - c. 3½–4-inch diameter; long, reflexed petals moderately overlapping; orange throat; spicy fragrance; leaves 14–15 inches long **‘Lurline’**
2. Wide, strong red bands on front and back 3¼-inch diameter; narrow petals slightly overlapping; lemon scent; leaves 13–14 inches long **‘Pauahi Ali’i’**
3. Wide, strong pink bands on front and back 3-inch diameter; wide petals highly overlapping; slight lemon scent; leaves 13–14 inches long **‘Kimo’**
4. White margin around petals
 - a. Wide margin; 3½-inch diameter; narrow petals slightly overlapping; strong lemon fragrance; leaves 15–18 inches long with long acuminate tips . **‘Common Yellow’** (**‘Graveyard Yellow’**, **‘Celadine’**)
 - b. Narrow margin; 2¾-inch diameter; wide petals moderately overlapping; slight lemon scent; leaves 13–14 inches long **‘Gold’** (**‘Peterson’s Yellow’**)

White

1. No color bands on front or back
 - a. 4½-inch diameter; wide petals slightly overlapping; slight sweet scent; leaves 17–19 inches long **‘Sherman’** (**‘Polynesian White’**)
 - b. 3½-inch diameter; wide petals, no overlapping; strong lemon scent; leaves 13–14 inches long, dark green, glossy, with obtuse tips **‘Singapore’**

- c. 1½-inch diameter; wide petals highly overlapping, forming a cupped flower; lemon scent; leaves 6–7 inches long, light green, semiglossy, with acute tips **‘Dwarf Singapore’**
 - d. 1½-inch diameter; wide petals moderately overlapping; scent similar to gardenia; leaves 15–16 inches long **‘King Kalākaua’** (‘Miniature White’)
2. Pink bands on back
- a. 3½–4-inch diameter; wide petals moderately overlapping; slight sweet scent; leaves 17–19 inches long **‘Hausten White’** (‘Willows White’)
 - b. 3¾-inch diameter; wide petals moderately overlapping; slight sweet scent; leaves 14–15 inches long **‘Elena’**
 - c. 3½-inch diameter; wide petals highly overlapping; slight sweet scent; leaves 16–17 inches long **‘Samoa Fluff’** (‘Tahitian White’)
 - d. 4½-inch diameter; wide petals slightly overlapping, with pink tips and strong yellow center; light pink band on back of petal; spicy scent; leaves 16–18 inches long **‘Daisy Wilcox’**
3. Strong red bands on back
- a. 3½-inch diameter; narrow petals with twist along length, sometimes trough-shaped; slight sweet scent; leaves 14–15 inches long **‘Madame Poni’** (‘Star’, ‘Corkscrew’, ‘Curly Holt’, ‘Waianae Beauty’)
 - b. 1-inch diameter; partially opened bud; base color white; narrow petals partially unfurled; strong sweet scent; leaves 12–13 inches long **‘White Shell’**
 - c. 1-inch diameter; partially opened bud; base color yellow-orange; narrow petals partially unfurled; strong sweet scent; leaves 12–18 inches long **‘Peachglow Shell’**

General shapes of plumeria leaves, leaf tips, and flower types.



'Pauahi Ali'i' ('Angus Gold')

Flower brilliant yellow with wide, dark red bands on front and back, dark red center

Petal narrow, pointed tip, slightly overlapping; wide, strong red bands on front and back; heavy texture

Size 3¾ inches in diameter

Scent lemon fragrance

Stalk strong red, smooth, upright, loose flower clusters

Keeping quality very good

Leaves green with acute tips

Plant habit sprawling, dense branching; suitable for landscaping with training and pruning

Bearing habit May to September, light to moderate flower production

Parentage *P. rubra* f. *rubra* × *P. r.* f. *acuminata*

Remarks This cultivar is suitable for home flower production. Named in honor of Bernice Pauahi Bishop on the occasion of the 150th anniversary of her birth.



'Carmen'

Flower moderate pink and white with small, brilliant yellow center

Petal wide, round tip, moderately overlapping; wide, moderate to strong red band on back, white areas in middle; reflexed straight out or downward; heavy texture

Size 2½ to 3 inches in diameter

Scent slight sweet scent

Stalk greenish-red, hairy, upright, tight flower clusters

Keeping quality very good

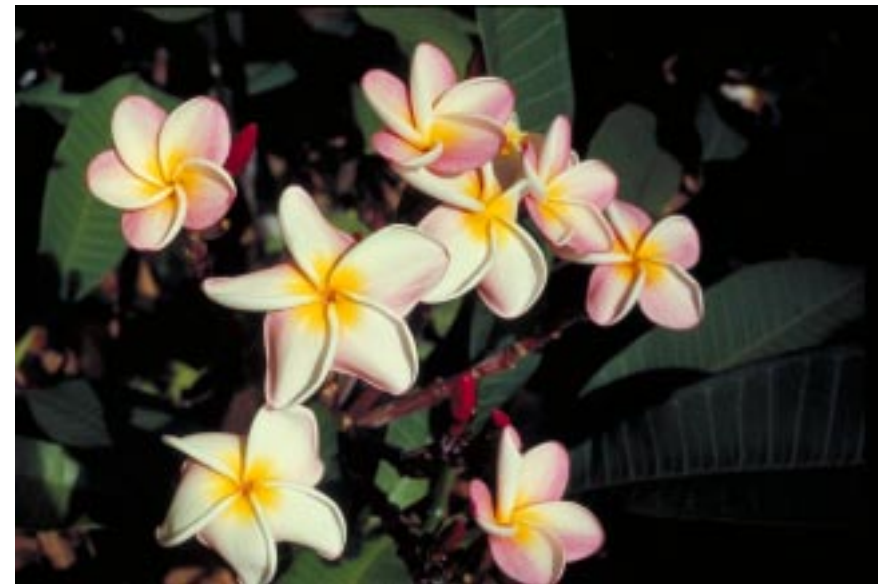
Leaves light green with acute tips

Plant habit sprawling, dense branching; suitable for landscaping with pruning and training

Bearing habit March to October, moderate to heavy flower production

Parentage *P. rubra* f. *rubra* × *P. r.* f. *acuminata*

Remarks This cultivar produces many seedpods as well as an abundance of commercial quality flowers.



'Cerise'

Flower moderate red with small, brilliant, moderate yellow center; strong red bands on back

Petal narrow, elliptical, twisted, pointed tip, slightly overlapping; narrow, strong red band on back; fair texture

Size 3¼ inches in diameter

Scent slight sweet fragrance

Stalk dark red, hairy, pendent, loose flower clusters

Keeping quality fair

Leaves light green with acuminate tips

Plant habit upright, open branching; suitable for landscaping

Bearing habit April to October, moderate flower production

Parentage *P. rubra* f. *rubra*

Remarks Recommended for home gardens, this cultivar produces large clusters of flowers.

**'Common Yellow'**
(**'Graveyard Yellow'**, **'Celadine'**)

Flower brilliant yellow, usually with broad white margin around petal

Petal narrow, pointed tip, slightly overlapping; selected forms with broader, oval petals; good texture

Size 3½ inches in diameter

Scent strong lemon fragrance

Stalk green, smooth, upright, tight flower clusters

Keeping quality very good

Leaves light green with acuminate tips

Plant habit sprawling, open branching; suitable for landscaping with pruning and training

Bearing habit April to September, light to moderate flower production

Parentage *P. rubra* f. *acuminata*

Remarks Seedpods are readily set on this cultivar, which is recommended for home and commercial plantings.



'Daisy Wilcox'

Flower opens light pink, quickly fading to white with strong yellow throat; tip of petal light pink; light pink band on back of petal

Petal obovate with broad, rounded tip; slightly irregular overlapping; heavy texture

Size 4½ inches in diameter

Scent spicy

Stalk reddish, smooth with small pedicels; upright, tight flower clusters

Keeping quality good

Leaves medium green

Shape oblanceolate with acute tips

Size 4½ inches wide and 16–18 inches long

Plant habit somewhat lanky, but upright

Bearing habit April to October, moderate flower production

Parentage *P. rubra* f. *acuminata*

Remarks More desirable as a decorative flower used singly or in clusters than as a lei flower because of its size. Not a particularly good landscape specimen.

**'Dean Conklin'**

Flower basically salmon-colored with large, moderate orange center, reddish margin, and light pink tip; moderate red outer band on back, blending to light pink inner band

Petal wide, long, somewhat elliptical, round tip, twisted, slightly overlapping; corolla tube about 1 inch long; medium texture

Size 3½–4½ inches in diameter

Scent faint, spicy carnation scent

Stalk reddish, pedicels about 1 inch long, upright, open flower clusters

Keeping quality medium, probably not a good lei type

Leaves medium green

Shape tips acuminate, recurved

Size blade 15–16 inches by 4 inches at greatest width, petiole 3 inches

Plant habit large, vigorous plant, heavy branching; suitable for landscaping

Bearing habit late March to November, heavy flower production

Parentage *P. rubra* f. *acuminata* hybrid of unknown origin

Source UH selection from Donald Angus collection

Remarks Named for the late Dean Conklin, plant enthusiast and member, Board of Directors for Friends of Foster Garden. Released by CTAHR for the 1977 dedication of the Dean Conklin Plumeria Grove in Koko Crater Botanic Garden.



'Donald Angus'

Flower moderate strong red with large, moderate orange-yellow center; strong red bands on front and back

Petal wide, oval, round tip, moderately overlapping; wide, strong red bands on front and back; heavy texture

Size 3 inches in diameter

Scent mild sweet fragrance

Stalk dark red, smooth, upright, tight flower clusters

Keeping quality very good

Leaves light green with acute tips

Plant habit upright, open branching; suitable for landscaping

Bearing habit March to November, moderate flower production

Parentage 'Common Yellow'

Remarks This cultivar produces large bunches of red, well shaped flowers of good lei quality; recommended for home gardens and for commercial orchards on a trial basis. Released by CTAHR in 1970. Named in honor of Donald Angus, a patron of the plumeria germplasm collection of the University of Hawaii.

**'Duke'**

Flower strong red and strong pink with small, brilliant yellow center; somewhat grainy pigmentation; radiating dark red lines on front

Petal wide, round tip, moderately overlapping; strong red band on front; fair texture

Size 3½ inches in diameter

Scent strong sweet fragrance, becoming stronger on storage

Stalk dark red, smooth, upright, tight flower clusters

Keeping quality fair

Leaves dark green with acute tips

Plant habit upright, dense branching; suitable for landscaping

Bearing habit April to November, heavy production of flowers

Parentage *P. rubra* f. *rubra* × *P. r.* f. *acuminata*

Remarks 'Duke' produces many large flowers and is recommended for home gardens. As it is susceptible to scales and aphids during the early winter months, a spray program may be needed.



'Dwarf Singapore'

Flower white with small, brilliant yellow center; no pink or red bands on front or back

Petal wide, round tip, highly overlapping; no color bands; moderate texture

Size 1½ inches in diameter

Scent lemon fragrance

Stalk green, smooth, thin, upright, tight flower clusters

Keeping quality good

Leaves light green, semiglossy, with acute tips; narrow venation raised underneath

Plant habit upright, dense branching, low growing; suitable for landscaping

Bearing habit April to November, moderate to heavy flower production

Parentage reported to be an F₁ hybrid between 'Singapore' and 'King Kalākaua'

Remarks This unique new low growing cultivar resembles a shrub, with many small, cupped flowers in tight clusters. Insects are not usually a problem. It is recommended for home gardens. Released by CTAHR in 1970.



'Elena'

Flower white with large, brilliant yellow center; narrow pink band on back

Petal wide, pointed tip, moderately overlapping; narrow, moderate pink band on back; heavy texture

Size 3¾ inches in diameter

Scent slight sweet fragrance

Stalk greenish-red, smooth, upright, tight flower clusters

Keeping quality very good

Leaves light green with acuminate tips

Plant habit upright, dense branching; suitable for landscaping

Bearing habit March to November, moderate flower production

Parentage *P. rubra* f. *acuminata*

Remarks This cultivar has exceptionally good texture in its petals, making its keeping quality equal to that of 'Common Yellow'. It is recommended for home gardens and commercial orchards. Released by CTAHR in 1970.



'Espinda'

Flower moderate pink with small, brilliant yellow center

Petal wide and oval with round tip, moderately overlapping; deep pink band on back; good texture

Size 3¼ inches in diameter

Scent slight sweet fragrance

Stalk deep red, hairy, upright, tight flower clusters

Keeping quality good

Leaves light green with acute tips

Plant habit upright, open branching; suitable for landscaping

Bearing habit March to October, heavy flower production

Parentage *P. rubra* f. *acuminata*

Remarks This cultivar is suitable for commercial production.

**'Gold' ('Peterson's Yellow')**

Flower brilliant yellow with narrow white margin around petals, small amount of white at tip

Petal wide, lanceolate, blunt tip, moderately overlapping margin rolled inward; good texture

Size 2¾ inches in diameter

Scent slight lemon scent

Stalk reddish-green, smooth, upright, low flower number

Keeping quality good

Leaves dark green with acute tips

Plant habit upright, open branching; suitable for landscaping

Bearing habit March to October, light to moderate flower production

Parentage *P. rubra* f. *acuminata*

Remarks Intermediate hybrids with 'Common Yellow' are difficult to distinguish except by their smaller flowers with less white in the margin.



'Grove Farm'

Flower moderate pink with small, brilliant yellow center

Petal wide, elliptical, round tip, highly overlapping; strong red bands on front and back; heavy texture

Size 4½ inches in diameter

Scent slight sweet fragrance

Stalk greenish-red, hairy, slender, pendent, loose flower clusters

Keeping quality good

Leaves light green with short acuminate tips

Plant habit upright, open branching; suitable for landscaping

Bearing habit March to October, moderate to heavy flower production

Parentage *P. rubra* f. *rubra* x *P. r.* f. *acuminata*

Remarks The size and fullness of the flowers are very attractive; however, they may be too large for the lei trade.

**'Hausten White' ('Willows White')**

Flower white with small, brilliant yellow center; pink bands on back

Petal wide, round tip, moderately overlapping; narrow, moderate pink band on back; heavy texture

Size 3½–4 inches in diameter

Scent slight sweet fragrance

Stalk light green, hairy, upright, tight flower clusters

Keeping quality good

Leaves light green with acuminate tips

Plant habit upright, dense branching; suitable for landscaping

Bearing habit March to October, moderate to heavy flower production

Parentage *P. rubra* f. *acuminata*

Remarks This is recommended as a home and commercial source of large lei-type flowers.



'Hilo Beauty'

Flower strong red with large, strong red center

Petal wide, elliptical, round tip, slightly overlapping; moderate reddish-brown bands on front and back; heavy texture

Size 3½–4 inches in diameter

Scent slightly spicy, becoming stronger on storage

Stalk dark red, hairy, upright, tight flower clusters

Keeping quality as good as 'Common Yellow'

Leaves green with red anthocyanin, acute tips

Plant habit upright, open branching; suitable for landscaping

Bearing habit March to September, moderate flower production

Parentage *P. rubra* f. *rubra*

Remarks This is the largest of the strong red plumerias. Since cuttings tend to rot easily, allow ends to dry and callus before planting in soil with good drainage.

**'Irma Bryan'**

Flower moderate strong red with small, pale orange-yellow center

Petal wide, elliptical, pointed tip, moderately overlapping, slightly wavy edges; moderate reddish-brown bands on front and back; fair texture

Size 2½ inches in diameter

Scent slight spicy, becoming stronger on storage

Stalk dark red, hairy, upright, tight flower clusters

Keeping quality fair

Leaves green with dark red anthocyanin, acute tips

Plant habit upright, dense branching; suitable for landscaping

Bearing habit April to September, light to moderate flower production

Parentage *P. rubra* f. *rubra*

Remarks Trees are similar in growth habit to 'Scott Pratt'. Earliest to flower of the red plumerias.



'Japanese Lantern' ('Flower Basket')

Flower moderate strong red with small, brilliant yellow center

Petal narrow, elliptical, pointed tip twisting downward; narrow, strong red band on back; poor texture

Size 3 inches in diameter

Scent slight sweet

Stalk dark red, smooth, pendent, loose flower clusters

Keeping quality poor

Leaves light green with acuminate tips

Plant habit sprawling, dense branching; suitable for landscaping where dense shade is desired

Bearing habit March to November, heavy flower production

Parentage *P. rubra* f. *rubra*

Remarks As with 'Cerise', large clusters of flowers are abundantly produced. During December, flower production is moderate.



'Kaneohe Sunburst'

Flower deep pink with large, brilliant yellow center; dark red radiating lines

Petal narrow, elliptical pitch, pointed tip, slightly overlapping; narrow, strong red band on back; good texture

Size 3¾ inches in diameter

Scent mild sweet fragrance

Stalk greenish-red, smooth, upright, loose flower clusters

Keeping quality fair to good

Leaves light green with acute tips

Plant habit upright, dense branching; suitable for landscaping

Bearing habit March to October, heavy production of flowers

Parentage *P. rubra* f. *rubra*

Remarks Seedpod production is heavy. This cultivar is recommended as a commercial source of lei flowers.



'Kauka Wilder'

Flower strong reddish-yellow with large, brilliant yellow center

Petal narrow, elliptical, pointed tip, slightly overlapping; wide, moderate red band on back

Size 3 inches in diameter

Scent strong sweet fragrance

Stalk dark red, hairy, upright, loose flower clusters

Keeping quality poor

Leaves light green with acute tips

Plant habit upright, open branching; suitable for landscaping

Bearing habit March to August, moderate flower production

Parentage *P. rubra* f. *rubra*

Remarks The open branching creates semi-shade for plants growing below; flowers possess the strongest sweet fragrance of any plumeria observed. One of earliest to bloom in the year.

**'Keiki' ('Miniature Lavender')**

Flower moderate strong red with small, pale orange-yellow center

Petal wide, elliptical, pointed tip, moderately overlapping; narrow, moderate red band on back, grainy pigmentation on front; fair texture

Size 1¼–2 inches in diameter

Scent slight spicy

Stalk dark red, hairy, upright, tight flower clusters

Keeping quality fair

Leaves green with dark red anthocyanin, acute tips; stiff

Plant habit semi-dwarf, sprawling, open branching; not recommended for landscaping

Bearing habit March to October, light flower production

Parentage *P. rubra* f. *rubra*

Remarks Novel for its semi-dwarf stature and small flowers, this cultivar is not recommended as a commercial source of flowers.



'Kimo'

Flower strong orange-yellow, moderate pink bands on front and back

Petal wide, round tip, highly overlapping; wide, moderate pink band on front and wide, strong pink band on back; heavy texture

Size 3 inches in diameter

Scent slight lemon fragrance

Stalk dark red, smooth, upright, tight flower clusters

Keeping quality good

Leaves light green with acuminate tips

Plant habit upright, open branching; suitable for landscaping

Bearing habit April to November, moderate flower production

Parentage seedling from 'Gold'

Remarks This new cultivar, selected from a seedling population on the basis of its flower shape, color pattern, and keeping quality, is recommended for home gardens. Released by CTAHR in 1970.

**'King Kalākaua' ('Miniature White')**

Flower white with small, brilliant yellow center

Petal wide, pointed tip, moderately overlapping; medium texture

Size 1½ inches in diameter

Scent similar to gardenia

Stalk light green, smooth, upright, tight flower clusters

Keeping quality good

Leaves green with acuminate tips

Plant habit sprawling, open branching; suitable for landscaping with pruning

Bearing habit March to September, moderate flower production

Parentage *P. rubra* f. *acuminata*

Remarks The flower may be too small to suit lei makers, but it is suitable for a home garden as a source of lei flowers.



'Loretta'

Flower moderate pink and white with moderate red spot in small, brilliant yellow center; grainy pigmentation

Petal wide and oval with round tip, moderately overlapping; deep pink grainy band on back; good texture

Size 2½–3 inches in diameter

Scent slight sweet scent

Stalk dark red, hairy, upright, tight flower clusters

Keeping quality good

Leaves light green with acuminate tips

Plant habit upright, very dense branching; suitable for landscaping

Bearing habit March to October, moderate flower production

Parentage *P. rubra* f. *acuminata*

Remarks This cultivar is recommended for home landscaping and as a source of lei flowers.

**'Lurline'**

Flower purplish-red tip and outer margin, with bright yellow-red inner margin; yellowish-red to red mid-petal with orange throat; red to purplish-red reverse side outer band, merging with light reddish-yellow inner band

Petal long, wide, elliptical, moderately overlapping, round tip; reflexed; ¾-inch corolla tube; medium to thick texture

Size 3½–4 inches in diameter

Scent spicy fragrance

Stalk heavily budded, sturdy peduncle with 1-inch pedicels; greenish-red, hairy, upright, tight flower clusters

Keeping quality very good

Leaves medium green; venation not prominent

Shape tips acuminate

Size blade 14–15 inches long by 4–4¼ inches wide, with 3-inch petiole

Plant habit upright, open branching

Bearing habit March–April through November, heavy flower production

Parentage open-pollinated seedling of 'Gold'; sibling to 'Kimo'

Remarks Named in honor of and with the permission of Mrs. Lurline Matson Roth. Released to Hawaii Association of Nurserymen by CTAHR in 1973.



'Madame Poni' ('Star', 'Corkscrew', 'Curly Holt', 'Waianae Beauty')

Flower white with wide, vivid greenish-yellow bands radiating from the center; dark red stripes within these bands; strong red bands on back

Petal narrow, tapering tip, no overlapping; strong red band on back; twist usually running length of petal; good texture

Size 3½ inches in diameter

Scent slight sweet scent

Stalk strong pink, smooth, upright, loose flower clusters

Keeping quality good

Leaves light green, narrow, tapering acuminate tips

Plant habit upright, open branching; suitable for landscaping

Bearing habit March to September, moderate flower production

Parentage unknown hybrid origin

Remarks Novel for its twisted petals, this cultivar has no particular insect or disease problems. It is recommended for residential plantings and for commercial orchards on a trial basis.



'Maui Beauty' ('Manoa Beauty')

Flower moderate pink with small, brilliant yellow center

Petal wide, round tip, moderately overlapping; wide, strong pink band on back; heavy texture

Size 3¼ inches in diameter

Scent slight lemon scent

Stalk strong red, hairy, upright, tight flower clusters

Keeping quality very good

Leaves light green with acute tips

Plant habit upright, open branching; suitable for landscaping

Bearing habit March to October, moderate to heavy flower production

Parentage *P. rubra* f. *rubra* × *P. r.* f. *acuminata*

Remarks This cultivar is susceptible to the long-horned beetle, which kills branches by its boring. It is recommended for home lawns and commercial nurseries with an insecticide program.



'Mela Matson'

Flower moderate pink with small, brilliant yellow center; grainy appearance

Petal wide, oval, brown tip, reflexed downward; wide, dark pink band on back; medium texture

Size 3¼ inches in diameter

Scent slight lemon scent

Stalk greenish-red, hairy, upright, loose flower clusters

Keeping quality good

Leaves light green with acute tips

Plant habit upright, open branching; suitable for landscaping

Bearing habit March to October, moderate to heavy flower production

Parentage *P. rubra* f. *rubra* × *P. r.* f. *acuminata*

Remarks This cultivar is recommended as a commercial source of lei flowers.

**'Moir'**

Flower moderate pink with small, brilliant yellow center

Petal wide and elliptical with pointed tip, moderately overlapping; wide, deep pink band on back; fair texture

Size 3¼ inches in diameter

Scent mild lemon scent

Stalk dark red, smooth, pendent, loose flower clusters

Keeping quality good

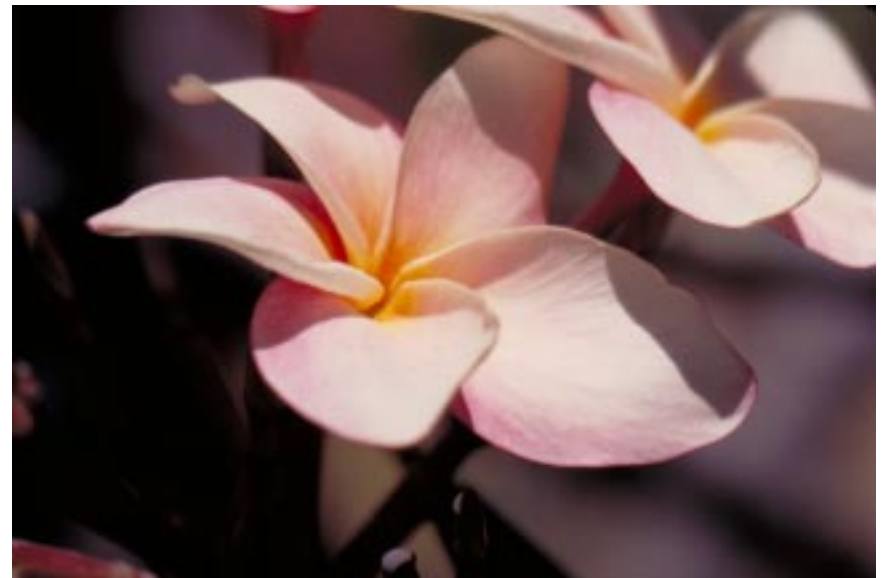
Leaves light green with short acuminate tips

Plant habit upright, open branching; suitable for landscaping

Bearing habit March to October, moderate flower production

Parentage *P. rubra* f. *acuminata*

Remarks This cultivar is suitable for lei flowers for the homeowner.



'Nebel's Rainbow'

Flower brilliant yellow with moderate red bands on front and back

Petal wide, round tip, moderately overlapping; narrow, grainy moderate red band on front; strong red solid band on back; heavy texture

Size 3½ inches in diameter

Scent slight sweet fragrance

Stalk strong red, smooth, upright, loose flower clusters

Keeping quality very good

Leaves green with acute tips

Plant habit upright, open branching, stout branches; suitable for landscaping

Bearing habit March to September, heavy flower production

Parentage unknown hybrid seed

Remarks This cultivar produces a good lei flower and is recommended for residential and commercial flower production.



'Peachglow Shell'

Flower corolla tube, pale orangish-yellow with strong, reddish bands on back

Petal narrow, round tip, partially unfurled (only back of petal shows); good texture

Size partially unfurled flower measures about 1 inch in diameter

Scent strong sweet fragrance

Stalk greenish-red, pubescent, slightly pendent, loose flower clusters

Keeping quality very good

Leaves medium green, lanceolate shape with acuminate tips, attenuate base, prominent veins

Plant habit upright, dense branching

Bearing habit may vary but tends to be May to October, good flower production

Parentage *P. rubra* f. *acuminata*

Remarks This cultivar, recommended for home gardens, is similar in shape to 'White Shell' but differs in the amount of yellow pigment showing.



'Plastic Pink' ('Royal Hawaiian')

Flower deep pink with small, brilliant yellow center

Petal wide, obovate, round tip, moderately overlapping; strong red band on back; fair texture

Size 3 inches in diameter

Scent mild lemon fragrance

Stalk moderate red, hairy, upright, loose flower clusters

Keeping quality very good

Leaves light green with acute tips

Plant habit upright, open branching; suitable for landscaping

Bearing habit March to October, moderate to heavy flower production

Parentage *P. rubra* f. *rubra*

Remarks This cultivar is used by the lei trade.

**'Pu'u Kahea' ('O'Sullivan', 'Fiesta')**

Flower brilliant yellow with strong red bands

Petal long, narrow, pointed tip, slightly overlapping; narrow strong red bands on front and back

Size 4¼ inches in diameter

Scent mild lemon fragrance

Stalk strong pink, smooth, pendent, loose flower clusters

Keeping quality good

Leaves light green with acute tips

Plant habit upright, dense branching; suitable for landscaping

Bearing habit April to November, moderate flower production

Parentage *P. rubra* f. *rubra* × *P. r.* f. *acuminata*

Remarks flowers are novel for their wavy petals that resemble vanda orchids and are most noticeable during summer and fall months.



'Ruffles' ('Vanda')

Flower moderate pink with large, brilliant yellow center

Petal wide, round tip, moderately overlapping; strong pink bands on front and back; margins very wavy; fair texture

Size 2 inches in diameter

Scent slight sweet scent

Stalk greenish-red, smooth, pendent, loose flower clusters

Keeping quality fair

Leaves light green with acuminate tips

Plant habit upright, open branching; recommended for landscaping

Bearing habit April to October, moderate flower production

Parentage *P. rubra* f. *rubra* x *P. r.* f. *acuminata*

Remarks The flowers are suitable for leis and table arrangements. This cultivar is recommended for home gardens.



'Samoa Fluff' ('Tahitian White')

Flower white with small, brilliant greenish-yellow center; moderate pink bands on back

Petal wide, round tip, highly overlapping; narrow, moderate pink band on back; good texture

Size 3½ inches in diameter

Scent slight sweet fragrance

Stalk greenish-pink, smooth, upright, tight flower clusters

Keeping quality very good

Leaves light green with acuminate tips

Plant habit upright, dense branching; suitable for landscaping

Bearing habit April to October, moderate flower production

Parentage *P. rubra* f. *acuminata*

Remarks This cultivar, with many large full flowers of good lei quality, does not discolor as fast as 'Common Yellow'. The flowers occasionally have three or four petals. Among the earliest white cultivars to flower.



'Scott Pratt' ('Kohala')

Flower strong red with small, strong red center and fine black radiating lines

Petal narrow, elliptical, round tip, moderately overlapping; moderate reddish-brown band on back

Size 2½ inches in diameter

Scent slight spicy, becoming stronger on storage

Stalk dark red, hairy, upright, tight flower clusters

Keeping quality not as good as 'Common Yellow'

Leaves green with dark red anthocyanin, shorter than those of 'Hilo Beauty'; acute tips

Plant habit upright, dense branching; suitable for landscaping

Bearing habit March to September, moderate production of flowers

Parentage *P. rubra* f. *rubra*

Remarks flower production of this cultivar is fair to moderate during spring and summer. It is usually among the first to bloom, often producing flowers before the leaves. Seedpods are rarely seen on it.

**'Sherman' ('Polynesian White')**

Flower white with large, brilliant yellow center; no color bands

Petal wide, round tip, slightly overlapping; no pink or red bands on front or back; fair texture

Size 4½ inches in diameter

Scent slight sweet fragrance

Stalk green, smooth, tendency to be pendent, loose flower clusters

Keeping quality poor

Leaves light green, unusually long and large, with short acuminate tips

Plant habit upright, dense branching; suitable for landscaping

Bearing habit May to August, moderate flower production

Parentage *P. rubra* f. *acuminata*

Remarks This cultivar grows into a large symmetrical tree with dense shade and large, showy flowers that turn brown quickly after being picked. It is, therefore, recommended only for home plantings.



'Singapore'

Flower white with small, brilliant yellow center; no pink or red bands on front or back

Petal wide, round tip, no overlapping; no color bands; moderate texture

Size 3½ inches in diameter

Scent strong lemon fragrance

Stalk green, smooth except for corky lenticels, upright, tight flower clusters

Keeping quality poor

Leaves dark green, glossy, with obtuse tips; venation raised underneath

Plant habit upright, dense branching, branches gray-green and knobby; suitable for landscaping

Bearing habit May to October, moderate flower production

Parentage *P. obtusa*

Remarks Known more for its dark green leaves and evergreen characteristics than for its easily discolored flowers, this cultivar is recommended for home gardens only. It is susceptible to aphids and scales, and an insecticide or light oil spray is advised to prevent sooty mold on the lower branches.

**'Tillie Hughes'**

Flower pale pink with small, brilliant yellow center

Petal narrow, round tip, moderately overlapping; wide, moderate pink band on back; good texture

Size 3¼ inches in diameter

Scent slight sweet fragrance

Stalk greenish-red, smooth, pendent, loose flower clusters

Keeping quality fair

Leaves light green with short acuminate tips

Plant habit upright, dense branching; suitable for landscaping

Bearing habit March to October, moderate to heavy flower production

Parentage *P. rubra* f. *acuminata*

Remarks This cultivar is suitable for commercial flower production.



'Tomlinson'

Flower moderate pink and white with small, brilliant yellow center

Petal wide, round tip, moderately overlapping; deep pink margin around tip, distinctive white venation in center, deep pink band on back; fair texture

Size 3 inches in diameter

Scent slight sweet fragrance

Stalk strong red, hairy, upright, tight flower clusters

Keeping quality very good

Leaves light green, narrow, with acuminate tips

Plant habit sprawling, dense branching; suitable for landscaping with some pruning and training of branches

Bearing habit April to October, moderate flower production

Parentage *P. rubra* f. *rubra* x *P. r.* f. *acuminata*

Remarks This cultivar is suitable for commercial flower production. Its cuttings root easily in loamy soil.

**'White Shell'**

Flower white with strong red bands on back

Petal narrow, round tip, partially unfurled (only back of Petal shows); strong red band on back; good texture

Size 1 inch in diameter (partially unfurled bud)

Scent strong sweet fragrance

Stalk greenish-red, smooth, thin, pendent, loose flower clusters

Keeping quality very good

Leaves light green with acute tips

Plant habit upright, dense branching; suitable for landscaping

Bearing habit March to October, moderate flower production

Parentage unknown hybrid origin

Remarks The flowers remain partially unfurled, resembling seashells. This cultivar is recommended for home gardens.

