

weeds, hold moisture, and sometimes save fertilizer. The fertilizer is applied as the bulbs are planted, placing the fertilizer about six inches deep and four to six inches either side of the bulbs. A 12 to 18 inch strip of foil is placed on the soil either side of the row so that an uncovered area two or three inches wide is left directly over the planted bulbs. The edges of the foil must be weighted down

to prevent tearing by the wind. The foil is left in place until the bulbs are dug. Water can be run down the row for irrigation if necessary. Fertilizer should be kept away from the foil because some fertilizer salts can destroy the metal. Mulching with other materials also would presumably be helpful in growing gladiolus.

## THE GENUS JASMINUM IN FLORIDA

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Species of the genus *Jasminum* have been grown as ornamental plants, mostly in the tropical and sub-tropical areas around the world, for many hundreds of years. The genus name *Jasminum* is also used as a common name for members of this genus and they are also called jasmine and jessamine, all of which are accepted common names. In fact, certain sweet scented species of *Jasminum* are so well known that several other plants which do not belong to the genus *Jasminum* but which have sweet scented flowers are also called jasmine or jessamine. The so-called Spanish or Catalonia jasmine is used in the manufacture of perfume in Europe.

Several species have been brought into Florida and a number of these are now used to a considerable extent in landscaping. The nomenclature of the *Jasminum* is badly confused so that the correct name is not always applied to a species. Because of this there are several species that are now being distributed under the incorrect name in Florida.

A simple way to separate the species growing in Florida would be to group them first on the basis of flower color into those having white flowers and those with yellow flowers. Each of the flower color groups can, in turn, be divided into those with simple leaves and those with compound leaves.

### WHITE FLOWERS

**SIMPLE LEAVES.** The furry or downy jasmine, *Jasminum multiflorum* Andr. (*J. pu-*

*bescens* Wild.), a native of India, is probably the one most planted in Florida. The pure white star-shaped flowers, about an inch across, are borne in few to many flowered clusters. The calyx teeth are about ½ inch long and covered with spreading yellow hairs. Though flowers are in evidence throughout most of the year, they are produced in greatest abundance during the summer and fall months. The flowers are not fragrant. It is a strong woody vine which will climb to a height of 20 or more feet by scrambling over its support. This plant is more commonly grown as a shrub than as a vine. Its deep green foliage is dense and the young leaves and stems are quite hairy or pubescent. The leaves are simple, opposite, acute, rounded or slightly heart-shaped at base and 1 to 3 inches long. This plant is usually severely injured by temperatures of 25° F. or lower but it comes back quickly from the roots and will bloom again in the fall.

The pinwheel or star jasmine, *Jasminum gracillimum* Hook., from North Borneo, is very similar in general appearance to the furry jasmine so that there is little choice or distinction made between them for ornamental plantings. It has a more graceful flowering habit, the branches are less pubescent and the somewhat larger flowers are fragrant and are borne in dense hanging heads. The calyx is sparsely covered with close not spreading pubescence (Fig. 1-E).

*Jasminum sambac* Ait., the Arabian jasmine, came to us from India where it is native. It is an old favorite which may be grown as a low climbing vine or trained as a shrub. The very

fragrant, pure white flowers, from 1½ to 2 inches across, are produced during the summer and fall months in few to many-flowered clusters. There are two varieties of this species, Grand Duke, which is double flowered, and Maid of Orleans, which has single or occasionally double flowers. The simple leaves, borne opposite or in threes, are elliptic or broad-ovate in shape, dark green, from 1½ to 3 inches long and prominently veined (Fig. 1-B). This plant is slightly hardier than the furry jasmine.

*Jasminum amplexicaule* Don. (*J. undulatum* Ker.), a native of India, has become increasingly popular since its introduction and probably is in greater demand today than any other jasmine planted in Florida. Unfortunately, this plant is now widely known and distributed under the erroneous botanical name of *Jasminum ilicifolium*. It is a strong growing woody vine which climbs by scrambling over its support. The flowers, in evidence during most of the year, are produced in few to many flowered clusters at the tips of side branches that develop from the leaf axils along the old stem. The bud is tinted pink on the outside but the flowers are white when open and are about 1½ inches across. The calyx teeth are prominent, sharp-pointed and stand at right angles to the tube as the flowers mature. The simple leaves are opposite, glossy dark green, ovate-lanceolate in shape and from 2 to 4 inches in length (Fig. 1-A). This plant is climatically adapted to the southern half of the peninsula.

*Jasminum gracile* Andr., the Australian jasmine, is similar in growth habit and general appearance of the foliage to *J. amplexicaule*; however, the dark green leaves are not as long and are wider in comparison with their length. This plant is commonly distributed under the erroneous botanical name of *Jasminum simplicifolium* in Florida. The pure white flowers, from ¾ to 1 inch across, are borne in clusters in the spring and at irregular intervals during the rest of the year (Fig. 1-C). It is adapted climatically to the southern half of the peninsula.

The goldcoast jasmine, *Jasminum dichotomum* Vahl. (F. P. I. No. 73067), from West Africa, has been introduced into Florida in re-

cent years. It is a vigorous growing, climbing woody vine with large, dark green leaves. The small, slightly fragrant, flowers are borne in much branched terminal clusters at intervals throughout the year (Fig. 1-D). Unopened flower buds are tinged dark red on the outside but open flowers are pure white on the inside of the petals. This species fruits freely in southern Florida and, under some conditions, may become a weed plant as a result of birds spreading the seeds. The plant is semi-hardy and should be planted only in the southern half of the peninsula.

**COMPOUND LEAVES.** The common jasmine or poets jasmine, *Jasminum officinale grandiflorum* (L.) Bailey, is native of an area extending from Iran to China. It is one of the best known species and is used in the manufacture of perfume. This plant is a scrambling low climbing vine that can easily be trained as a shrub. It has become naturalized in southern Florida and in this area blooms the year around. The pure white, strongly fragrant flowers, about 1½ inches across, are produced in loose clusters. The calyx teeth are linear, prominent and from ¼ to ½ inch long. The compound leaves are opposite and have from 5 to 9 elliptic or ovate acute leaflets ½ to 2½ inches long. This species is hardy throughout the state.

*Jasminum azoricum* L., the Azores jasmine, from the Canary Islands, is well adapted to southern Florida. It is a strong growing woody vine which will climb to 20 or more feet in height and produce a dense cover. The small, fragrant, white flowers, about an inch across, are borne in many-flowered cymes and are produced at intervals throughout the year. The opposite leaves are compound and consist of 3 dark green leaflets. The center leaflet is slightly larger and has a longer leaf stalk. The stems and leaf petioles are strongly pubescent. This plant fruits freely in southern Florida and on the Keys and, as a result, may become a weed plant.

*Jasminum bahiense* DC., the Bahia jasmine from Brazil, is very similar in appearance to *Jasminum azoricum* and by some is thought to be a variety of it, but the stems are almost

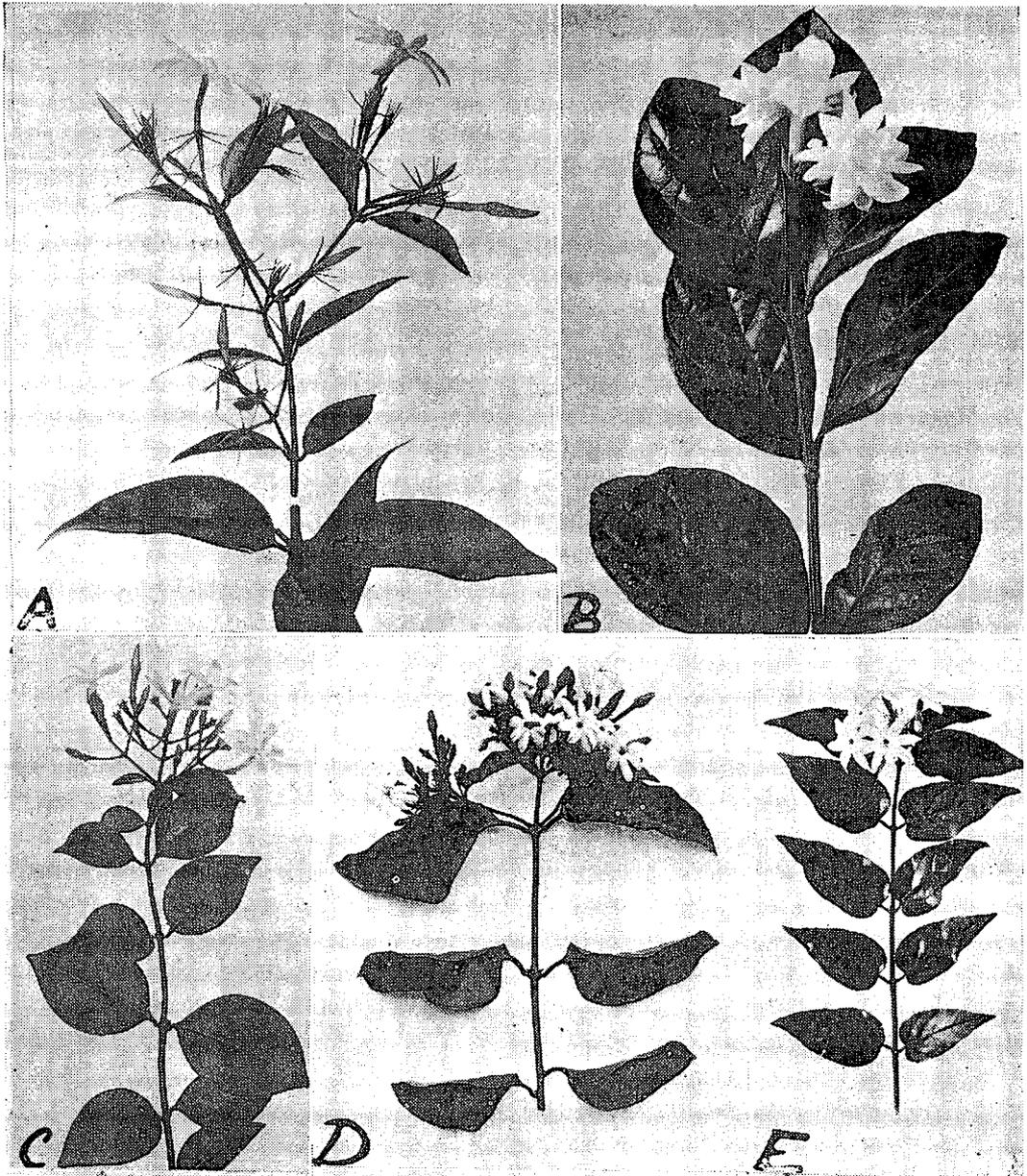


Fig. 1—Flowers and foliage of some jasmines grown in Florida. (A) *Jasminum complexicaule*. (B) The variety Grand Duke of *J. sambac*. (C) The Australia: jasmine, *J. gracile*. (D) *J. dichotomum* from West Africa. (E) The pinwheel jasmine, *J. gracillimum*.

completely glabrous and the leaflets are not much more than half as long but the petioles are twice as long as those of the Azores jasmine. The tubes of the flowers are barely  $\frac{1}{2}$  inch long and the flowers are barely  $\frac{1}{2}$  inch wide, while

the Azores jasmine has flowers that are at least  $\frac{1}{2}$  inch wide and many are about an inch across. It is not known whether the Bahia jasmine is in cultivation in Florida but it has become naturalized on the island of Key West,

where it is found in abundance in low swampy places.

#### YELLOW FLOWERS

**COMPOUND LEAVES.** *Jasminum mesnyi* Hance (*J. primulinum* Hemsl.), the primrose jasmine, a native of western China, is a shrub that grows up to about 10 feet in height, with drooping branches that reach the ground. The older branches are round but the small branchlets are definitely 4-angled. This plant is hardy throughout the state but flowers much more freely in the north and northwestern part of the state. The large bright yellow flowers with a darker eye are single to semi-double and are borne singly in the axils of the leaves. They are 1½ to 2 inches across and are produced in profusion in late February, March and early April. The opposite compound leaves have 3 oblong-lanceolate almost sessile leaflets. The leaflets may range from 1 to 3 inches in length.

The showy jasmine, *Jasminum floridum*

Bunge, from China, is a small shrub with open habit of growth which grows to a height of 3 or 4 feet. The slender branches are erect but some recurve and may droop to the ground. The young branchlets are angular. The alternate, compound leaves usually have 3, though leaves with 5 leaflets are sometimes present. The small, golden yellow flowers are borne in few to many flowered cymes in the late winter or early spring. This plant is hardy and may be grown throughout the state.

*Jasminum humile* L., the Italian jasmine, a native of tropical Asia, is a large shrub up to 20 feet in height with weak branches and open habit of growth. The branchlets are smooth and angled. The alternate leaves are glossy, dark green, with 3 to 7 ovate to lanceolate leaflets up to 2 inches long. The fragrant, yellow flowers, to 1 inch across, are borne in clusters in early spring. This plant is hardy and is adapted throughout the range of the state.

## Krome Memorial Institute

### A PRACTICAL APPROACH TO PREVENT THE MARKETING OF IMMATURE MANGOS

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For some time the practice of picking and marketing immature undeveloped mango fruits for fresh fruit consumption has been practiced by a number of growers and shipping establishments. To cite an example or two, it might be mentioned that during the 1948 season it was observed near Homestead that Haden mango trees were stripped of their fruit approximately five weeks before any fruits showed signs of ripening on the trees in this area. During 1949 bushels of Brookslate mangos were offered for sale in the Miami market during the month of June, while tree ripened fruits of this

variety were not observed in Dade County prior to August.

The following resolution relative to the marketing of immature Haden mangos was unanimously adopted by the Florida Mango Forum in session at West Palm Beach, June 30, 1948:

WHEREAS the growing of Haden mangos is a commercial pursuit in Florida, and

WHEREAS the Haden mango when mature is one of our most delicious fruits, but when picked before maturity is not fit to eat,

WHEREAS the sale of Haden mangos so picked constitutes a fraud perpetrated by the seller upon the consumer and destroys the market, now existing and potential, for mature Haden mangos, and

WHEREAS the practice of selling immature Haden mangos, both by owners and by thieves, is so prevalent as to create a chaotic condition in mango markets every season,

BE IT THEREFORE RESOLVED, that the Florida Mango Forum, in session June 30, 1948, urges the desirability of legislation to stop the selling of immature Haden mangos, and to that end it requests the State Experiment Stations to make the investigations to obtain the facts necessary to formulate a Haden Mango Maturity Law, and