PLANTS AND PLANTING IN MEDITERRANEAN LANDSCAPES
(VOLUME 1)

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BROADLEAF EVERGREEN TREES

Chapter 1 BROADLEAF EVERGREEN TREES

Subchapter 1.1 Introduction

Trees that have evergreen leaves (also referred to as persisting leaves) are those whose photosynthesis process is active all year round and whose dead leaves do not fall before new ones have been developed. However, some trees, being of evergreen leaf, in colder areas, might partially lose their foliage for a short period of time and therefore referred to as semi deciduous.

Evergreen trees together with deciduous trees, take precedence since they are undoubtedly the most notable representatives of the flora of streets, parks, and gardens; either for their size, flowers, fruits, and foliage or for the shade and sensation of coolness that they provide.

The difference between evergreen and deciduous trees must be considered when creating a garden or when choosing the most adequate species for a street or avenue, depending on whether permanent shade is required or this effect is only necessary in spring-summer, allowing the sun to penetrate the rest of the year.

In general terms, it can be stated that evergreen trees are typical of tropical and subtropical climates, while deciduous trees are characteristic of temperate and cold areas. In addition, trees with beautiful blooms are more abundant in tropical and subtropical climates.

The decision to **use a certain species** of tree for a specific case can depend on **multiple factors**, among which the following should be considered:

For its structure and external morphology

- Size or height
- Width and shape of the crown
- The greater or lesser projection of shade
- Type and colour of the leaves
- Blooming season
- Production of flowers, its color and fragrance
- Production of ornamental or undesirable fruit

For its necessities or physiological limitations

- Resistance to frost and severe cold
- Resistance to excessive heat
- Resistance to drought
- Requirement of sunlight
- Resistance to winds
- Resistance in coastal areas
- Resistance to urban contamination
- Requirements of soil, pH, texture, humidity, etc.

- Extension of its root system
- Rate of growth
- Longevity
- Resistance to infestations and diseases
- Reaction to pruning

In order to choose the most suitable tree species, it is necessary to be familiar with the characteristics of each species, a knowledge that is acquired from years of observation or through the reading of specialized publications.

In **urban gardening, the tree** (whether in streets and avenues or in urban parks), must fulfill two fundamental functions: **the aesthetic, providing beauty and harmony, and environmental, improving environmental and ecological conditions**.

Trees plays a major role in gardening. Since they define, the upper or arboreal stratum (level 3), which gives meaning and perspective to the other two strata or levels of vegetation that make up a typical green area: the shrub-like plants (level 2) and the low scrubland or groundcovers (level 1). The tree can fulfill various functions:

- Hedges through species that can withstand trimming
- Background, generally with very large species
- Highlight architectural elements
- Form groups or copses
- Form enclosures that act as an acoustic or wind barrier
- Link and unify the visual landscape along streets, between squares and other green areas
- Highlight foregrounds or frame views, for instance using small species and geometric shapes

In all cases, extensive knowledge of how each species is necessary to successfully achieve the designed purpose.

In addition, big groups can help achieve the following effects:

- Reduce temperature
- Increase atmospheric humidity
- Break or minimize winds
- Capture and absorb atmospheric dust
- Buffer and mitigate noise
- Eliminate contaminating gases and carbon dioxide
- Release oxygen
- Filter solar radiation

Subchapter 1.2 Species

This chapter outlines **27 species of evergreen or semi-evergreen trees** used in Mediterranean landscape design. They have been selected primarily for their ornamental uused in Mediterranean landscape design. They have been selected primarily for their ornamental use, botanical interest, or other characteristics. As a result, an in-depth analysis is carried out in this chapter. Firstly, a table shows the different parameters and values that have been used to describe each species. Secondly, each botanic datasheet gathers the information of each individual tree species covering botanical and ecological aspects, uses, cultivation, and other characteristics of interest, including its commercialization and maintenance. This information is complemented by photographic information, which shows the general appearance of the tree species and different morphological details.

PARAMETERS AND VALUES USED FOR THE BOTANIC DATASHEET	
TAXONOMY	
TAXONOMIC RANKS	DIVISION, SUBDIVISION, TYPE, ORDER, FAMILY
VARIETIES	VARIETIES OF INTEREST
STRUCTURE	
SHAPE	GLOBE-SHAPED/ROUND, OVAL, COLUMNAR, CONE, EXTENDED, IRREGULAR, PARASOL, FAN-SHAPED, HORIZONTAL, PALMIFORM, PENDULAR, WEEPING
HEIGHT	AS APPROPRIATE- IN METERS OR CENTIMETERS
DIAMETER	AS APPROPRIATE -IN METERS OR CENTIMETERS
TEXTURE	LEAVES>10CM= COARSE. LEAVES OR LEAFLETS BETWEEN 2-10CM= MEDIUM. LEAVES OR LEAFLETS <2CM= FINE
SHADE	LIGHT, MEDIUM, DENSE
ROOT	TAPROOT, FASCICULATE, OBLIQUE, HORIZONTAL, AERIAL, ADVENTITIOUS
MORPHOLOGY	
TRUNK	
BARK	SMOOTH, VERTICAL FISSURES, LONGITUDINAL FISSURES, DIAGONAL FISSURES; ROUGH, SCALY, CORKY WITH PLATES
COLOR OF BARK	GREY, GREENISH GREY OR BLUISH GREY,SILVER, LIGHT GREEN, YELLOWISH, LIGHT BROWN, DARK, GREEN, RED, PURPLE, YELLOW, BLACK, MARBLED, TWO-TONED, THREE-TONED, LIGHT GREY, DARK GREY
FOLIAGE	
LEAF TYPE	EVERGREEN, DECIDUOUS, SEMI-DECIDUOUS OR SEMI-EVERGREEN
LEAF SIZE	LENGTH (cm)
SIZE OF LEAFLET SHAPE	LENGTH (cm)
COLOR OF UPPER SIDE (US)	PALE GREEN, LIGHT GREEN, DARK GREEN, BLUE/GREEN, GREY, PURPLE; PALE; YELLOW; VARIEGATED
COLOR OF LOWER SIDE (LS)	PALE GREEN, LIGHT GREEN, DARK GREEN, BLUE/GREEN, GREY PURPLE, PALE, YELLOW, VARIEGATED, RUST COLORED, SILVER
TEXTURE OF UPPER SIDE (US)	GLOSSY, ROUGH, GLABROUS, TOMENTOSE, HAIRY, ROUGH, SCALY, VISCOSE
TEXTURE OF LOWER SIDE (LS)	GLOSSY, ROUGH, GLABROUS, TOMENTOSE, HAIRY, ROUGH, SCALY, VISCOSE
COMPOUND LEAF	NO COMPOUND LEAVES YES. IMPARIPINNATE, PARIPINNATE, TRIFOLIATE, PALMATE, PALMIFORM, PALM, PINNATE, BIPINNATE
HARDNESS	CORIACEOUS, SOFT, SUCCULENT
ARRANGEMENT	OPPOSITE, ALTERNATE, WHORLED, ROSETTE
VENATION	PINNATE, PALMATE, PARALLEL, RETICULATE, ARCUATE, A3 MAIN VEINS
LEAF SHAPE	ROUNDED, LINEAR, LANCEOLATE, FALCATE, OVAL, OBLONG, ELLIPTIC, DELTOID, RHOMBOID, SPATULATE, ACICULAR GROUPS OF 2, ACICULAR GROUPS OF 3, ACICULAR GROUPS OF 5, ACICULAR GROUPS, ACICULAR IN 1 PLANE, ACICULAR IN SPIRAL, SCALE, PALMATE 7 LOBES, PALMATE 5 LOBES- PALMATE 3 LOBES, POLYMORPHIC, PANDURIFORM, PINNATIFIDA, SAGITATE, RENIFORM, CORDATE, ORBICULAR, OBOVATE, OBLANCEOLATE, LIRATE, HASTATE, RUNCINATE
LEAF MARGIN	ENTIRE, CILIATE, DENTATE, CRENATE, SERRATE, DOUBLY SERRATE, LOBED, DOUBLE LOBED

APEX	ACUTE, CUSPIDATE, OBTUSE, RETUSE, MUCRONATE
LEAF BASE	ATTENUATE, CORDATE, ROUNDED, CUNEATE, OBLIQUE, SAGITATE, AURICULATE, HASTATE, ASYMMETRIC
PETIOLE	LONG, SHORT, SESSILE, WIDE
FLOWER	
SIZE	CM OR MM
TYPE	UNISEX, HERMAPHRODITE
REPRODUCTION	MONOECIOUS, DIOECIOUS, HERMAPHRODITE, POLYGAMY, SYNOICOUS, STERILE
FLOWERING	SOLITARY, INFLORESCENCE IN CORYMB, IN CYMOSE, IN RACEME, IN SPIKE, IN UMBEL, IN CATKIN, IN SPADIX, IN FLORET OR CAPITULUM, IN PANICLE (+ INFLORESCENCE SIZE (IN CM OR MM))
FRAGRANCE	YES, NO, UNPLEASANT
FRUIT	
SIZE	IN CM OR MM
TYPE	FOLLICLE, PLURIFOLLICLE, LEGUME, LOMENT, SAMARA, DOUBLE SAMARA, PLURISAMARA,CAPSULE, ACHENE, TETRACHENE, POLYACHENE, NUT, ACORN, SYCONIUM, HESPERIDIUM, SOROSIS, BERRY, RACEME, POME, BALAUSTA, DRUPE, STROBILUS, PSEUDO STROBILUS, CONE
EDIBLE FRUIT	YES, NO
COLOR	RED, GREEN, YELLOW, BROWN, BLACK, PALE, WHITE, PURPLE
FRUITING SEASON	INTERVAL OF MONTHS: JAN, FEB, MAR, APR, MAY, JUN, JUL, AGO, SEP, OCT, NOV, DEC
PARAMETERS AND VALUES USED IN THE BOTANIC DATASHEET	
DEVELOPMENT	
GROWTH	VERY SLOW, SLOW, MEDIUM, FAST, VERY FAST
LONGEVITY	<25 YEARS, 25 YEARS, 50 YEARS, 75 YEARS, 100 YEARS, 150 YEARS, 200 YEARS, 250 YEARS, 300 YEARS, >300 YEARS
ECOLOGY	
CLIMATE	
ALTITUDE	INTERVAL OF ALTITUDE / ELEVATION ABOVE SEA LEVEL
IRRIGATION	++HIGH, MODERATE, LOW; ++LOW (very low/low < 350 mm. Very high/high > 750 mm)
MINIMUM TEMPERATURE AND INTERNATIONAL CLASSIFICATION	MINIMUM TEMPERATURES: DEGREES CELSIUS **CLASSIFICATION ACCORDING TO EUROPEAN REGULATION**: (SEE MAP) G2____ HOT GREENHOUSES IN SOUTHERN EUROPE G1____ COLD GREENHOUSES IN SOTHERN EUROPE H5____ THE PLANT SUPPORTS MINIMUM TEMPERATURES FROM 0ºC TO -5ºC H4____ THE PLANT SUPPORTS MINIMUM TEMPERATURES FROM -5ºC TO -10ºC H3____ THE PLANT SUPPORTS MINIMUM TEMPERATURES FROM -10ºC TO -15ºC H2____ THE PLANT SUPPORTS MINIMUM TEMPERATURES FROM -15ºC TO -20ºC H1____ THE PLANT SUPPORTS MINIMUM TEMPERATURES FROM -20 ºC **CLASSIFICATION INTERNATIONAL REGULATIONS.** ACCORDING TO MINIMUM TEMPERATURE RANGES Z1____SUPPORT MINIMUM TEMPERATURES OF -50ºC Z2____ SUPPORT MINIMUM TEMPERATURES OF -50ºC TO -40ºC Z3____ SUPPORT MINIMUM TEMPERATURES OF -40ºC TO -30ºC Z4____ SUPPORT MINIMUM TEMPERATURES OF -30ºC TO -20ºC Z5____ SUPPORT MINIMUM TEMPERATURES OF -20ºC TO -10ºC Z6____ SUPPORT MINIMUM TEMPERATURES OF -10ºC TO -0ºC Z7____ SUPPORT MINIMUM TEMPERATURES OF -0ºC TO 10ºC Z8____ SUPPORT MINIMUM TEMPERATURES OF 10ºC TO 20ºC Z9____ SUPPORT MINIMUM TEMPERATURES OF 20ºC TO 30ºC Z10___ SUPPORT MINIMUM TEMPERATURES OF 30ºC TO 40ºC Z11___ SUPPORT MINIMUM TEMPERATURES OF MORE THAN 40ºC

EXPOSURE TO SUNLIGHT	FULL SUN, FULL-SHADE, PARTIAL SHADE, SHADE
DROUGHT RESISTANCE	YES, NO, MODERATE
RESISTANCE TO FROST	YES, NO, MODERATE
SOIL	
OPTIMUM PH	ALL TYPES, NEUTRAL, ACIDIC, BASIC OR ALKALINE (OR INTERVAL OF PH)
FERTILITY LEVEL	FERTILE, MODERATE, POOR
TEXTURE OF SOIL	SANDY, SILT OR LOAMY, CLAYEY, SANDY/LOAMY, CLAYEY/ LOAM, ALL TYPES
DRAINAGE	HIGH, MODERATE, LOW
RESISTANCE TO SALT	YES, NO, MODERATE
RESISTANCE TO LIME	YES, NO, MODERATE
USES	
RESISTANCES	
COASTAL	1st LINE, 2ND LINE, NO, MODERATE
POLLUTION	HIGH, MODERATE, LOW
WIND	HIGH, MODERATE LOW
USE	
IN SLOPES **IN LINES** **ON RIVERBANKS** **AS WIND BREAKERS** **IN HEDGES** **IN FIELD BORDERS** **IN GROUPS** **ISOLATED**	YES, NO
PARAMETERS AND VALUES USED IN THE BOTANIC DATASHEET	
NOTES OF INTEREST	
SPACING	MINIMUM RECOMMENDED DISTANCE BETWEEN PLANTS: M (METERS), CM (CENTIMETERS)
PLANTING AND PLANT HEALTH	
PLANTING AND PLANT HEALTH	
CALENDAR	
CHROMATIC CALENDAR	FOLIAGE, FLOWERING, FRUITING SEASON: the color white represented with grey or black cell
CULTIVATION CALENDAR	SOWING, PLANTING, PRUNING
TREATMENTS CALENDAR	FUNGICIDES, PESTICIDES, FERTILIZERS, HERBICIDES
COMMERCIALIZATION	
PRESENTATION	RD (BARE ROOT), CT (CONTAINER or POT (in liters), CE (ROOT BALL), CEY (ROOT BALL IN GYPSUM),ROOT BALL IN MESH
STEM GIRTH (TREES)	CM (usually measured at 1 meter above ground) or Year/Years
HEIGHT (in SHRUBS, CONIFERS AND PALM TREES)	CM, M

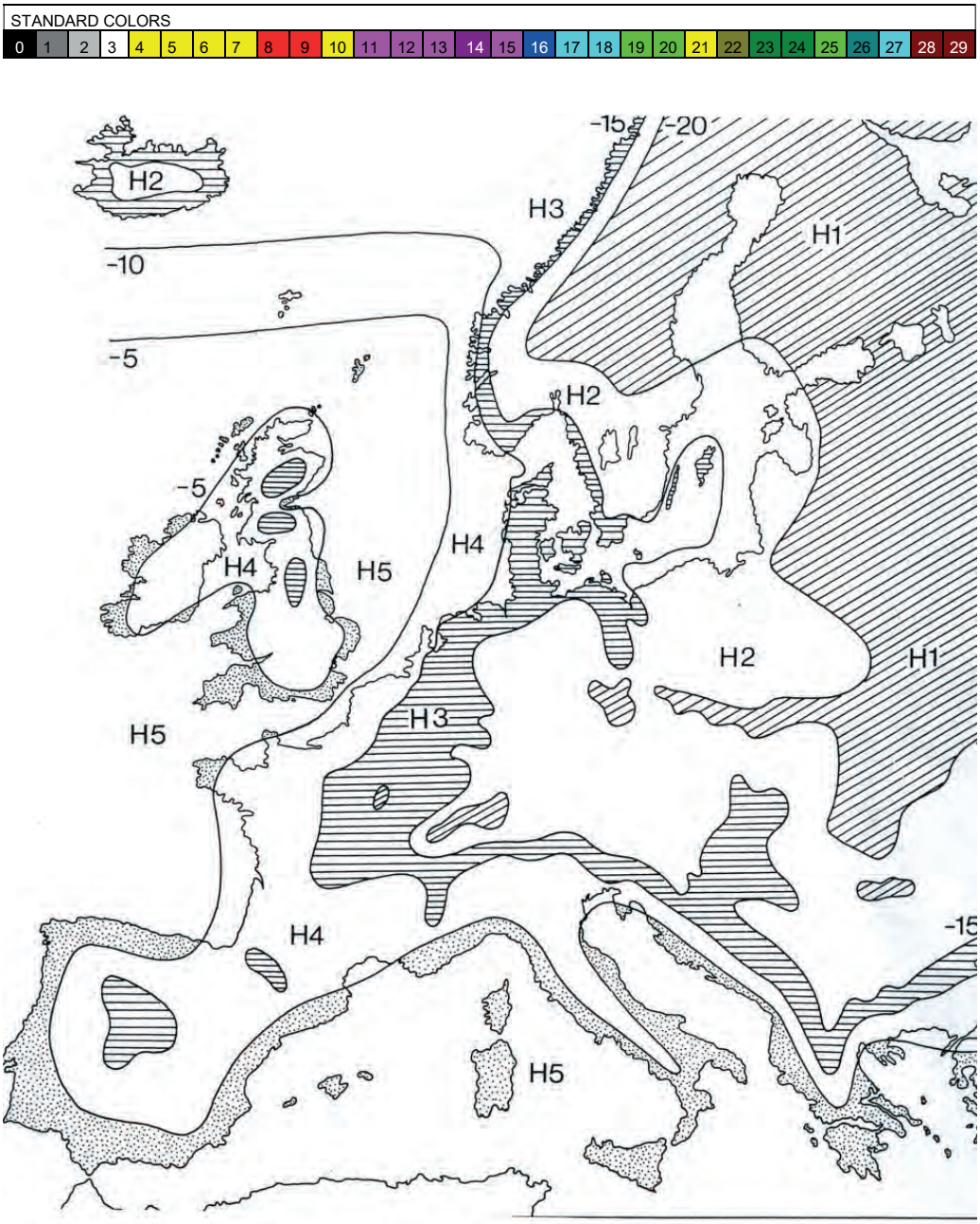


Figure 1.2.1: Thermic classification according to European regulations

LIST OF BROADLEAF EVERGREEN TREE SPECIES DESCRIBED IN THE DATASHEETS

1. *Acacia dealbata*
2. *Acacia saligna (Acacia cyanophylla)*
3. *Brachychiton acerifolius*
4. *Brachychiton populneus*
5. *Casuarina equisetifolia*
6. *Cinnamomum camphora*
7. *Coccoloba uvifera*
8. *Cocculus laurifolius*
9. *Eucalyptus camaldulensis*
10. *Eucalyptus ficifolia*
11. *Eucalyptus globulus*
12. *Ficus elastica*
13. *Ficus lyrata*
14. *Ficus macrophylla*
15. *Ficus microcarpa (Ficus nitida)*
16. *Ficus rubiginosa*
17. *Grevillea robusta*
18. *Lagunaria patersonii*
19. *Ligustrum lucidum*
20. *Magnolia grandiflora*
21. *Phytolacca dioica*
22. *Quercus ilex subsp. ilex*
23. *Quercus ilex subsp. ballota*
24. *Quercus suber*
25. *Schinus molle*
26. *Schinus terebinthifolius*
27. *Spathodea campanulata*

Acacia — *Acacia dealbata* Link

BROADLEAF EVERGREEN

MIMOSA COMÚN	MIMOSA COMUNA	SILVER WATTLE	MIMOSA BLANCHISSANT
SPANISH	VALENCIAN	ENGLISH	FRENCH

STRUCTURE

Shape	Height	Diameter
ROUND	6-15 M	4-6 M
Texture	**Shade**	**Root**
FINE	SUN/ PARTIAL SHADE	OBLIQUE

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	FABALES
FAMILY:	MIMOSODICEAE

VARIETIES

MORPHOLOGY

Trunk	Bark: SMOOTH/FISSURED	Color: GREEN-GRAY
Leaf	COMPOUNDS: BIPINNATE	
EVERGREEN	HARDNESS: SOFT	
SIZE: LEAF: 20CM	ARRANGEMENT: ALTERNATE	
LEAFLET: 0.3CM	VENATION: PINNATE	
COLOR: US:BLUE/GREEN	SHAPE: PARIPINNATE	
LS: BLUE/GREEN	MARGIN: CILIATE	
TEXTURE: US:Tomentose	APEX: ROUND	
LS:Tomentose	LEAF BASE: ROUNDED	
	PETIOLE: SHORT	
Flower	Type: HERMAPHRODITE	Reproduction: HERMAPHRODITE
SIZE: ♂M 3 MM	Flowering: RACEME (10 cm)	Fragrant: YES
Fruit	Type: FLATTENED POD	Color: BROWN
SIZE: 5-8 CM	Edible: NO	Fruiting season: JUN-JUL
Growth	Rate: FAST	Longevity: 25 YEARS

ECOLOGY

Climate	Temperature: -9ºC,H4,Z6	Drought resistant: YES
ALTITUDE: 0-100	Sun exposure: FULL	Frost resistant: MODERATE
IRRIGATION: LOW	Texture: SANDY	Salt resistant: NO
Soil	Drainage: MODERATE	Lime resistant: MODERATE
Ph: 5-7.5		
FERTILITY: POOR		

USES

Resistances		Applications			
COASTAL:	2ND LINE	SLOPES:	YES	LINE:	NO
POLLUTION:	MODERATE	RIVERBANKS:	NO	WINDBREAKERS:	NO
WIND:	LOW	GROUPS:	YES	ISOLATED:	YES

POINTS OF INTEREST

Native to South East Australia and Tasmania. Cultivated for its ornamental value or in dunes. This species is naturalized and invasive, particularly after fires. Its beautiful flowering in the middle of winter makes this species singular for this season. Its branches are fragile and may pose a risk to pedestrians and vehicles.

SPACING: 5m

PLANTING AND PLANT HEALTH

Propagation by seed and cuttings. It can be attacked by polyphagous mealybugs,such as *Aspidiotus hederae, Icerya purchasi*, etc.,that may appear on leaves, trunks or fruits. These mealybugs emit molasses on which sooty molds (black) grow, forming a blackish layer on leaves, branches and trunk. Treatments with *Methyl-pirimiphos*, *Chlorpyrifos* or some phosphorous product (*Diazinon, Fenitrothion, Phentoate)* obtain good results. A fungicide with a Copper (Cu) base should be applied to fight against sooty molds.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
								x	x	x	x	x	x	x	x	x	x	x	x	x	x

Sowing Planting Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides Pesticides Fertilizers

COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
CT		100/125
CT		125/150
CT		150/175
CT		175/200
CT		200/250
CT	6-8	
CT	8-10	
CT	10-12	
CT	12-14	
CT	14-16	
RB	20-25	

Acacia — *Acacia saligna* (Labill.) H.L. Wendl.

BROADLEAF EVERGREEN

MIMOSA AZUL (SPANISH) · MIMOSA BLAVA (VALENCIAN) · BLUE-LEAF WATTLE (ENGLISH) · MIMOSA BLEUTÉ (FRENCH)

STRUCTURE		
Shape: PENDULAR/IRREGULAR	Height: 3-8 M	Diameter: 4-6 M
Texture: COARSE	Shade: PARTIAL SHADE	Root: OBLIQUE

DIVISION:	SPERMATOPHYTES
SUBDIVISION	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	FABALES
FAMILY:	MIMOSOIDEAE

VARIETIES

MORPHOLOGY		
Trunk	Bark: SMOOTH/FISSURED	Color: GRAY/RED
Leaf EVERGREEN; SIZE: LEAF:10/20cm; COLOR: US:LIGHT GREEN LS:LIGHT GREEN; TEXTURE: US:SMOOTH LS:SMOOTH	COMPOUNDS: NO; HARDNESS: SOFT; ARRANGEMENT: ALTERNATE; VENATION: PINNATE; SHAPE: LINEAR/LANCEOLATE; MARGIN: ENTIRE; APEX: SHARP; LEAF BASE: ACUTE; PETIOLE: SHORT	
Flower SIZE: ♂M 10MM	Type: HERMAPHRODITE	Reproduction: HERMAPHRODITE
	Flowering: RACEME (15-20 CM)	Fragrant: YES
Fruit SIZE: 5-14 CM	Type: LEGUME	Color: BROWN
	Edible: NO	Fruiting season: JUN-JUL
Growth	Rate: FAST	Longevity: 25 YEARS

ECOLOGY		
Climate ALTITUDE: 0-100; IRRIGATION: LOW	Temperature: -6ºC,H4,Z6	Drought resistant: YES
	Sun exposure: FULL SUN	Frost resistant: MODERATE
SOIL pH: 5-9; FERTILITY: POOR	Texture: LOAMY/SANDY	Salt resistant: YES
	Drainage: MODERATE	Lime resistan: YES

USES				
Resistance		Applications		
COASTAL:	1ST LINE	SLOPES: NO	LINE:	NO
POLLUTION:	HIGH	RIVERBANKS: NO	BREAKERS:	NO
WIND:	LOW	GROUPS: YES	ISOLATED:	YES

POINTS OF INTEREST

Native to the Western Australia and Tasmania. Cultivated for its ornamental value and in coastal dunes; occasionally naturalized. It is the most frequently cultivated species, especially in coastal areas and green spaces that accompany roads (roundabouts, islets, road curves, etc.).

SPACING: 5 M

PLANTING AND PLANT HEALTH

Propagation by seed and cuttings. It can be attacked by polyphagous mealybugs, such as *A.spidiotus hederae* , *Icerya purchasi*,. that may appear on leaves, trunks or fruits. These cochineals emit molasses on which sooty molds (black) grow, forming a blackish layer on leaves, branches and trunk. Treatments with *Methyl-pirimiphos* , *Chlorpyrifos* or some phosphorous product (*Diazinon* , *Fenitrothion, Phentoate*) produce good results. A Copper base (Cu) fungicide should be applied to fight against sooty molds.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
								x	x	x	x	x	x	x	x	x	x	x	x	x	

Sowing · Planting · Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides · Pesticides · Fertilizers

COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
CT		80/100
CT		100/125
CT		175/200
CT		250/300
CT		250-300
CT	6-8	
CT/RB	8-10	
CT/RB	10-12	
CT/RB	12-14	
CT/RB	14-16	
CT	16-18	
CT	18-20	
CT	20-25	

Brachychiton *Brachychiton acerifolius* (A. Cunn.) F.J. Muell.

Broadleaf evergreen

ÁRBOL DEL FUEGO SPANISH | ARBRE DEL FOC VALENCIAN | FLAME-TREE ENGLISH | B. À FEUILLES D'ERABLE FRENCH

STRUCTURE		
Shape: CONE	Height: 10-15 M	Diameter: 4-6 M
Texture: COARSE	Shade: PARTIAL	Root: OBLIQUE

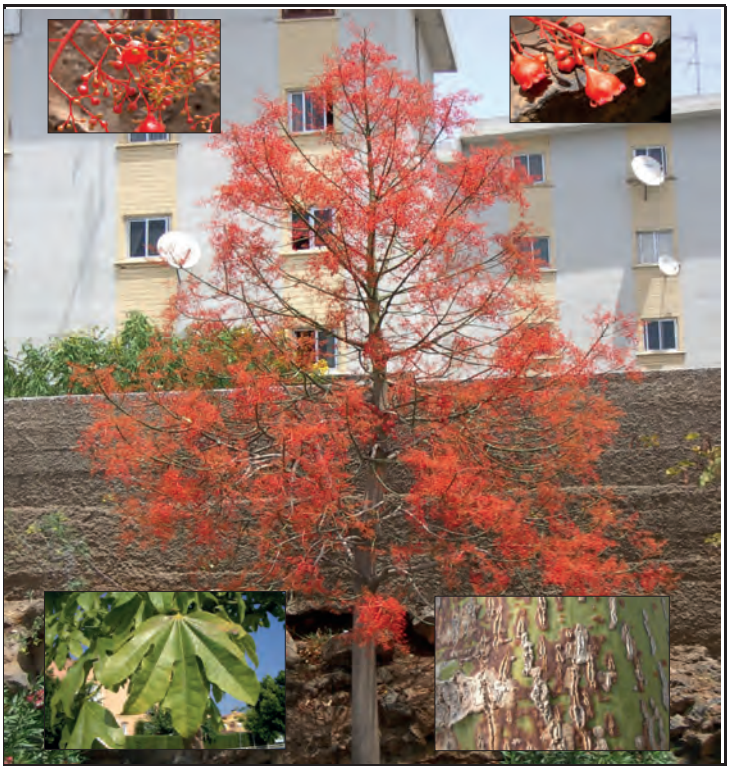
DIVISION:	SPERMATOPHYTES
SUBDIVISON:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDE:	MALVALES
FAMILY:	STERCULIACEAE

VARIETIES

MORPHOLOGY		
Trunk	Bark: VERTICALLY FISSURED	Color: GREEN/GRAY
Leaf	COMPOUND: NO	
	HARDNESS: CORIAEOUS	
SEMI-DECIDUOUS	INSERTION: ALTERNATE	
SIZE: LEAF: 30CM	VENATION: PALMATE	
	SHAPE: PALMATE 5/7 LOBES	
COLOR: US:MED. GREEN	MARGIN: LOBED	
LS:MED. GREEN	APEX: SHARP	
TEXTURE: US:GLOSSY	BASE: CORDATE	
LS:GLOSSY	PETICOLE: LONG	
Flower	Type: UNISEXUAL	Reproduction: MONOECIOUS
SIZE: ♂/F 15MM	Flowering: PANICLE (40CM)	Fragrant: NO
♀/M 15 MM		
Fruit	Fruit: FOLLICLE	Color: BLACK
SIZE: 10-15CM	Edible: NO	Fruiting season: SEP-OCT
Growth	Rate: FAST	Longevity: 100 YEARS

ECOLOGY		
Climate	Temperature: -3ºC,H5,Z6	Drought resistant: MODERATE
ALTITUDE: 0-100	Sun exposure: SUN /PARTIAL SHADE	Frost resistant: MODERATE
IRRIGATION: MODERATE		
Soil	Texture: SANDY	Salt resistant: NO
pH: 5.5-8.5	Drainage: MODERATE	Lime resistant: YES
FERTILITY: MODERATE		

USES			
Resistances		Applications	
COASTAL:	2ND LINE	SLOPES: NO	LINE: YES
POLLUTION:	MODERATE	RIVERBANKS: NO	WINDBREAKERS: YES
WIND:	MODERATE	GROUPS: YES	ISOLATED: YES



POINTS OF INTEREST

Native to Australia. The lack of water in summer can cause defoliation, so a moderate irrigation programme is recommended. It does not flower for a few years (generally 6 to 10 years) and then it begins to produce trilobed leaves. Its spectacular flowering and appearance make this tree a focal point of attention in any green space or as a street tree. The specific name refers to the similarity between the leaves of this species and those of the *Acer genus* . It can be used (when young) as an indoor plant. In the Canary Islands, *Brachychiton x roseus Guymer* is occasionally cultivated, a hybrid form between *B. acerifolius* and *B. populneus* , with leaves similar to those of the latter and red flowers.

SPACING: 5 M

PLANTING AND PLANT HEALTH

This specimen is very easy to grow but requires a high irrigation programme. It easily propagates growing from seeds which are collected from the trees when the fruits are fully ripe and begin to open. It should be noted that the hairs that surround the seeds are quite irritating and uncomfortable, so care must be taken when handling. Seedbeds planted in March-April provide the following year with 50/60 cm tall plants suitable for rearing in the nursery for 2/3 more years until they reach commercial sizes. It can be transplanted successfully to root ball.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
		x	x	x	x	x	x	x	x		

Sowing | Planting | Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides | Pesticides | Fertilizers

COMMERCIALIZATION

Presentation	Girth(cm)	Height (cm)
CT		50/60
CT		150/175
CT		175/200
CT		200/250
CT		250/300
CT		300/350
CT	12-14	
CT	14-16	
CT	16-18	
CT/RB	18-20	
CT/RB	20-25	
CT/RB	25-30	
CT/RB	30-35	

Brachychiton *Brachychiton populneus* (schott & Endl.) R. Br.

BROADLEAF EVERGREEN

ÁRBOL BOTELLA	BRAQUIQUÍTON	KURRAJONG	BRACHYCHITON
SPANISH	VALENCIAN	ENGLISH	FRENCH

Structure		
Shape: CONE	Height: 10-15 M	Diameter: 4-6 M
Texture: MEDIUM	Shade: MEDIUM	Root: TAPROOT

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDÓNS
ORDER:	MALVALES
FAMILY:	ESTERCULIÁCEAS

VARIETIES

OCCIDENTALIS BENTH (*B. gregrii* F. J. Muell.)

MORPHOLOGY

Trunk	Bark: FISSURED	Color: GREENISH GRAY
LEAF	COMPOUND: NO	
	HARDNESS: SOFT	
SEMI DECIDUOUS	INSERTION: ALTERNATE	
SIZE: LEAF: 5-7CM	VENATION: PINNATE	
	SHAPE: LANCEOLATE	
COLOR: US:MID GREEN	MARGIN: ENTIRE	
LS: MID GREEN	APEX: ACCUMINATE	
TEXTURE: US:GLOSSY	LEAF BASE: ROUNDED	
LS:GLOSSY	PETIOLE: LONG	
Flower	Type: UNISEXUAL	Reproduction: MONOECIOUS
SIZE: ♂/M 10MM	Flowering: PANICLE (4 CM)	Fragrance: NO
♀/F 10MM		
Fruit	Type: CAPSULE	Color: BLACK
	Edible: NO	Fructing season: SEP-OCT
SIZE: 4-8 CM		
Growth	Rate: MODERATE	Longevity: 100 YEARS

ECOLOGY

Climate	Temperature: -6ºC,H4,Z6	Drought resistant: MODERATE
ALTITUDE: 0-100M	Sun exposure: SUN/PARTIAL SHADE	Frost resistant: MODERATE
IRRIGATION: MODERATE		
Soil	Texture: SANDY	Salt resistant: NO
pH: 5.5-8.5	Drainage: MODERATE	Lime resistant: YES
FERTILITY: MODERATE		

USES

Resistance		Applications			
COASTAL:	2ND LINE	SLOPES:	NO	LINE:	YES
POLLUTION:	HIGH	RIVERBANKS:	NO	WINDBREAKER:	YES
WIND:	MODERATE	GROUPS:	YES	ISOLATED:	YES

POINTS OF INTEREST

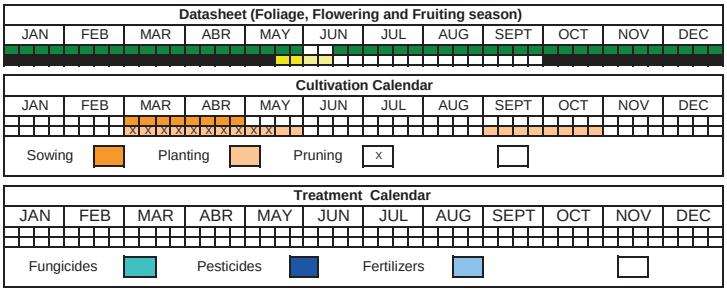
This species is native to Australia. It is a hardy species, needing warm environments. In Australia the foliage is used to feed cattle. When a young plant, it can be used as an indoor plant. In the city, its main application is as a street tree. In gardens, it can be used as a shade tree. Its specific name refers to the similarity of its leaves with those of some poplar species of the *Populus* genus. In the Canaries, *Brachychiton x roseus* Guymer is rarely cultivated rather a hybrid form between *B. acerifolius* and *B. populneus*, with leaves similar to those of the latter and red flowers. It is the most widespread species, within the genus and can be found along the entire Spanish coast.

SPACING: 5 M

PLANTING AND PLANT HEALTH

This species is easy to grow although it has high water demands. Propagation from seed, which is collected when the fruits are fully ripe and begin to open. The hairs that surround the seeds are quite irritating and uncomfortable, so proper precautions must be taken when handling the fruits. The seedbeds made in March-April provide the following year with 50/60 cm tall plants suitable for breeding in a nursery for 2/3 more years until they reach commercial measurements. They can be successfully transplanted into root ball.

CHROMATIC CALENDAR



COMMERCIALIZATION

Presentation	Girth	Height(cm)
CT (tray)	1 sapling (1/0)	
CT/ RB		150/175
CT/RB		200/250
CT/RB		300/350
CT/RB		400/450
CT/RB		500/550
CT/RB		550/600
CT/RB	14-16	
CT/RB	18-20	
CT/RB	20-25	
CT/RB	30-35	
CT/RB	40-45	
CT/RB	45-50	

Casuarina *Casuarina equisetifolia* L.

BROADLEAF EVERGREEN

CASUARINA SPANISH	CASUARINA VALENCIAN	HORSETAIL TREE ENGLISH	FILAO FRENCH

STRUCTURE		
Shape: CONE	Height: 15-35 M	Diameter: 4-6 M
Texture: FINE	Shade: PARTIAL	Root: TAP ROOT

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	FAGALES
FAMILY:	CASUARINAEAE

VARIETIES

MORPHOLOGY		
Trunk	Bark: SCALY	Color: DARK BROWN
Leaf: EVERGREEN; SIZE: LEAF: 0.1; COLOR: US:DARK GREEN, LS:DARK GREEN; TEXTURE: US:TOMENTOSE, LS:TOMENTOSE	COMPOUND: NO; HARDNESS: SOFT; INSERTION: VERTICLE; VENATION: 1 CENTRAL VEIN; SHAPE: TRIANGULAR; MARGIN: ENTIRE; APEX: SHARP; LEAF BASE: ROUNDED; PETICOLE: SESSILE	
Flower	Type: UNISEXUAL	Reproduction: MONOECIOUS
SIZE AND FLOWERING: ♂ SPIKE (4 CM); ♀F 1 CM CATKIN		Fragrant: NO
FRUIT; SIZE: 1-2.4 CM	Type: SAMARA	Color: BROWN
	Edible: NO	Fruiting season: AUG-OCT
GROWTH	Rate: FAST	Longevity: 100 YEARS

ECOLOGY		
CLIMATE	Temperature: -6°C,H4,Z6	Drought resistant: YES
ALTITUDE: 0-100; IRRIGATION: LOW	Sun exposure: FULL	Frost resistant: YES
SOIL	Texture: ALL TYPES	Salt resistant: MODERATE
pH: 5.5-8.5; FERTILITY: POOR	Drainage: MODERATE	Lime resistant: MODERATE

USES				
Resistances		Applications		
COASTAL:	1st LINE	SLOPES: NO	LINE:	YES
POLLUTION:	HIGH	RIVERBANKS: NO	WINDBREAKERS:	YES
WIND:	HIGH	GROUPS: YES	ISOLATED:	YES

POINTS OF INTEREST

Native to Northern and Northeastern Australia, and from Southeastern Asia to the Pacific Islands. The specific name(*equisetifolia*) alludes to the similarity of the articulated twigs with the leaves of the horsetail (*Equisetum sp*.). *Casuarina* alludes to the resemblance that the pendulous branches of these trees have with the feathers of the cassowary, a bird of the genus *Casuarinus*. Its wood is used in doors, fences and carvings. The bark contains tannins. It has been applied in traditional medicine to combat diarrhea and even, in ancient times, dysentery. Species used as a windbreaker and in areas near the sea.

SPACING : 8M

PLANTING AND PLANT HEALTH

Casuarinas are appreciated both as ornamental trees in parks and gardens and for reforestation in warm areas. They do not tolerate bare root transplanting. As it is a tall tree, it is not recommended for small gardens or for planting in narrow streets. Propagation by seed.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
	x	x	x	x	x	x	x			x	x

Sowing Planting Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides Pesticides Fertilizers

COMMERCIALIZATION

Presentation	Girth cms)	Height (cms)
CT (tray)	2 years (2/0)	
CT		150-175
CT		175-200
CT		250-300
CT		350-400
CT	18-20	
CT	20-25	
CT	25-30	
RB		400/450
RB		500/550
RB		600/700
RB		700/800
RB		800/900

Cinnamomum *Cinnamomum camphora* (L.) Siebold

BROADLEAF EVERGREEN

ÁRBOL DEL ALCANFOR	CAMFORER	CAMPHOR TREE	CAMPHORIER
SPANISH	VALENCIAN	ENGLISH	FRENCH

STRUCTURE		
Shape	Height	Diameter
EXTENDED	8-35 M	8-10 M
Texture	Shade	Root
MEDIUM	FULL	OBLIQUE

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	LAURALES
FAMILY:	LAURACEAE

VARIETIES

MORPHOLOGY		
Trunk	Bark: ROUGH	Color: YELLOWISH/BROWN
Leaf	COMPOUND: NO	
EVERGREEN	HARDNESS: SUBCORIACEOUS	
SIZE: LEAF: 6-12.5	ARRANGEMENT: ALTERNATE	
	VENATION: PINNATE	
	SHAPE: OVAL/ELLIPTICAL	
COLOR: US:DK GREEN	MARGIN: ENTIRE	
LS:MID GREEN	APEX: CUSPIDATE/ACUMINATE	
TEXTURE: US:GLOSSY	LEAF BASE: ACUTE	
LS:GLOSSY	PETICOLE: LONG	
Flower	Type: HERMAPHRODITE	Reproduction: HERMAPHRODITE
SIZE: ♂/M 2 MM	Flowering: PANICLE (5 CM)	Fragrant: NO
Fruit	Type: DRUPE	Color: BLACK
	Edible: NO	Fruiting season: SEP-NOV
SIZE: 0.7-1 CM		
Growth	Rate: MODERATE	Longevity: 100 YEARS

ECOLOGY		
Climate	Temperature: -3ºC,H5,Z6	Drought resistant: MODERATE
ALTITUDE: 0-300	Sun Exposure: SUN/PARTIAL SHADE	Frost resistant: MODERATE
IRRIGATION: LOW		
Soil	Texture: SANDY	Salt resistant: NO
pH: 5-7.5	Drainage: MODERATE	Lime resisant: NO
FERTILITY: MODERATE		

USES				
Resistances		Applications		
COASTAL:	NO	SLOPES: NO	LINE:	NO
POLLUTION:	LOW	RIVERBANKS: NO	WINDBREAKERS:	YES
WIND:	HIGH	GROUPS: NO	ISOLATED:	YES

POINTS OF INTEREST

Native to China, Taiwan and Japan. Its specific name means camphor. It does not tolerate the continental climate, therefore its plantation is preferably restricted to areas near the Mediterranean coast. Its wood is very fragrant, rot-proof, easy to polish and used for furniture, cabinetry and interior finishes of buildings. By distillation of its wood, camphor is obtained and can beused in medicine and as an antiseptic. The ability of this wood to repel insects has prompted its use for boxes and chests, where valuable objects are kept. It can be confused with *Cocculus laurifolius* , but it is easy to differentiate since the leaf veins of the "camphor tree" are at a certain distance from the leaf blade, while in the *cocculus* they start from the leaf sheath.

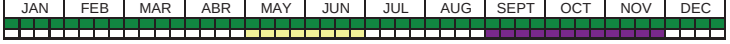
SPACING: 12M

PLANTING AND PLANT HEALTH

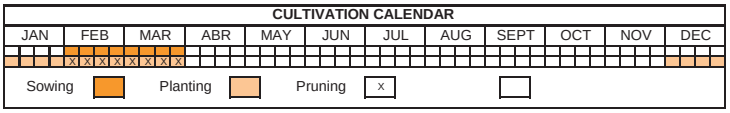
Propagation by seed, which must be cleaned of the pulp and sown as soon as possible since their germination power is short. It is resistant to pests and diseases.

CHROMATIC CALENDAR

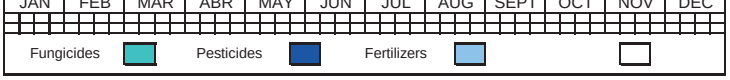
FOLIAGE, FLOWERING AND FRUITING SEASON



CULTIVATION CALENDAR



TREATMENT CALENDAR



COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
CT3		60/80
CT10		100/125
CT50		150/175
CT50		175/200
CT240		250/300
CT30	8-10	
CT30	10-12	
CT50	12-14	
CT50	14-16	
CT140	18-20	
CT140	20-25	
CT500	40-45	
CT1000	60-70	

Coccoloba

Coccoloba uvifera (L.) L.

BROADLEAF EVERGREEN

UVA DE PLAYA	RAÏM DE MAR	SEA GRAPE/BAY GRAPE	RAISINIER
Spanish	Valencian	English	French

STRUCTURE		
Shape: ROUND	Height: 5-9 M	Diameter: 4-6 M
Texture: COARSE	Shade: FULL	Root: OBLIQUE

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	POLYGONALES
FAMILY:	POLTGONACEAE

VARIETIES

MORPHOLOGY		
Trunk	Bark: SMOOTH	Color: GRAY
Leave	COMPOUND: NO	
EVERGREEN	HARDNESS: CORIAEOUS	
SIZE: LEAF: 7-25CM	ARRANGMENT: ALTERNATE	
Leaflet: NO	VENATION: PINNATE	
COLOR: US:BLUE/GREEN	SHAPE: ROUND	
LS:MID GREEN	MARGIN: ENTIRE	
TEXTURE: US: GLOSSY	APEX: ROUNDED	
LS:GLOSSY	LEAF BASE: CORDATE	
	PETIOLE: SHORT	
Flower	Type: UNISEXUAL	Reproduction: DIOECIOUS
SIZE: ♂/M 6 MM	Flowering: RACEME (20-30 CM)	Fragrant: YES
♀/F 6 MM		
Fruit	Type: DRUPE	Color: PURPLE
SIZE: 1-2 CM	Edible: YES	Fruiting season: SEP-DEC
Growth	Rate: FAST	Longevity: 10 YEARS

Ecology		
Climate	Temperature: 6ºC,G1,Z7	Drought resistant: YES
ALTITUDE: 0-100	Sun exposure: FULL SUN	Frost resistant: NO
IRRIGATION: LOW		
Soil	Texture: SANDY	Salt resistant: YES
pH:	Drainage: MODERATE	Lime resistant: MODERATE
FERTIILITY: POOR		

USES			
Resistances		Applications	
COASTAL: 1ST LINE		SLOPES: NO	LINE: YES
POLLUTION: MODERATE		RIVERBANKS: NO	WIND BREAKERS: YES
WIND: HIGH		GROUPS: YES	ISOLATED: YES

POINTS OF INTEREST

Native to the Antilles, Bahamas and tropical South America. Its specific name means grape producer. Apparently, it was the first plant that Christopher Columbus noticed when he first set foot on the beaches of America. Its wood is hard, very heavy, and is sometimes used in construction and in the manufacture of furniture. The bark contains tannins used in tanning. The roots and bark are used in folk medicine against diarrhea and dysentery. It produces a reddish sap that is used to dye and was used as ink, serving the first colonizers. Its fruits are sweet and edible, and can be eaten raw or in jams, and when fermented it produces a drink similar to wine. Resistant to seawater spray. Recommended for coastal gardens.

SPACING : 5M

PLANTING AND PLANT HEALTH

Propagation by seed. This species is resistant to pests and diseases.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
		x	x	x	x	x	x	x	x	x	x

Sowing Planting Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides Pesticides Fertilizers

COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
Commerialized in the Canary Islands		

Cocculus *Cocculus laurifolius* (Robx) DC.

BROADLEAF EVERGREEN

CÓCULO (SPANISH) · CÒCUL (VALENCIAN) · MOONSEED (ENGLISH) · COCULE (FRENCH)

STRUCTURE		
Shape: EXTENDED/IRREGULAR	Height: 5-10 M	Diameter: 5-8 M
Texture: COARSE	Shade: FULL	Root: HORIZONTAL

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	RANUNCULALES
FAMILY:	MENISPERMUM

VARIETIES

MORPHOLOGY		
Trunk	Bark: SMOOTH/FISSURED	Color: LIGHT BROWN
LEAF EVERGREEN; SIZE: LEAF:10-15CM; COLOR: US:DARK GREEN, LS:DARK GREEN; TEXTURE: US: GLOSSY, LS:GLOSSY	COMPOUND: NO; HARDNESS: SUB-CORIACEOUS; ARRANGEMENT: ALTERNATE; VENATION: PINNATE; SHAPE: OBLONG/LANCEOLATE; MARGIN: ENTIRE; APEX: ACUMINATE/CUSPIDATE; LEAF BASE: ACUTE; PETIOLE: SHORT	
Flower SIZE: ♂/M 4 MM, ♀/F 4 MM	Type: UNISEXUAL	Reproduction: DIOECIOUS
	Flowering: PANICLE (5 CM)	Fragrant: NO
Fruit SIZE: 0.6 CM	Type: DRUPE	Color: BLACK
	Edible: NO	Fruiting season: SEPT-NOV
Growth	Rate: SLOW	Longevity: 100 YEARS

ECOLOGY		
Climate ALTITUDE: 500-800; IRRIGATION: HIGH	Temperature: -15ºC,H2,Z5	Drought resistant: NO
	Sun exposure: SUN/SHADE	Frost resistant: YES
Soil pH: 5.5-7.5; FERTILITY: MODERATE	Texture: SANDY	Salt resistant: NO
	Drainage: MODERATE	Lime resistant: NO

USES				
Resistances		Applications		
COASTAL:	NO	SLOPES: NO	LINE:	NO
POLLUTION:	MODERATE	RIVERBANKS: NO	WINDBREAKERS:	NO
WIND:	LOW	GROUPS: YES	ISOLATED:	YES

POINTS OF INTEREST

Native to tropical and subtropical Eastern Asia, from India and the Himalayas to China and Japan, Southern Indonesia. Its specific name alludes to the resemblance of its leaves to those of the laurel (*Laurus nobilis*) . It is cultivated for the ornamental value of its foliage. It can be confused with the "camphor tree" (*Cinnamomum camphora*), but it is easy to differentiate since the nerves of the "coculus" start from the leaf base, while in the "camphor tree" they do so at a certain distance from it. Cultivated in coastal areas with a temperate climate. Stems and leaves contain a toxic substance similar to the curare used by the indigenous people of South America to poison their weapons. In the Himalayas, Malaysia and India, local people throw cocculus leaves into rivers to stupify the fish that remain on the surface of the water making them easier to catch.

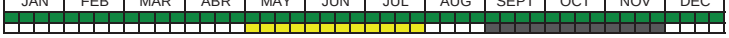
SPACING: 10M

PLANTING AND PLANT HEALTH

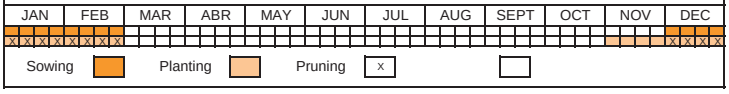
It is typical of temperate zones of the Asian mountains, from where its cultivation has spread throughout the temperate zones of the Northern hemisphere. In the areas where it is spontaneous, it colonizes moderately humid mountain areas but with a long period of summer drought. In the Iberian lands, its planting and cultivation must be carried out in deep and humid soils, even if the environment is dry. It multiplies by means of seeds although in Spain (due to the scarcity of existing specimens) it is difficult to obtain them. Propagation is by a cutting of the wood of the year with leaves.

CHROMATIC CALENDAR

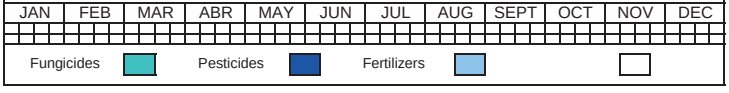
FOLIAGE, FLOWERING AND FRUITING SEASON



CULTIVATION CALENDAR



TREATMENT CALENDAR



COMMERCIALIZATION

Presentation (L)	Girth(cm)	Height (cm)
CT (3)		
CT (7)		
CT (15)		
CT (25)		
CT (50)		
CT (85)		
CT (230)		
CT (500)		

Reduced commercialization

Eucalyptus *Eucalyptus camaldulensis* Dehnh.

BROADLEAF EVERGREEN

EUCALIPTO ROJO	E. DE FULLES ESTRETES	RIVER RED GUM	EUCALYPTUS ROUGE
SPANISH	VALENCIAN	ENGLISH	FRENCH

STRUCTURE		
Shape	Height	Diameter
OVAL/IRREGULAR	30-50 M	10 M
Texture	Shade	Root
COARSE	PARTIAL	TAPROOT

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	MYRTALES
FAMILY:	MYRTACEAE

VARIETIES

MORPHOLOGY		
Trunk	Bark: SMOOTH/PLATES	Color: TRICOLOR
Leaf	COMPOUND: NO	
EVERGREEN	HARDNESS: CORIACEOUS	
SIZE: LEAF: 12-22cm	ARRANGEMENT: ALTERNATE	
	VENATION: PINNATE	
	SHAPE: LANCEOLATE	
COLOR: US:MID GREEN	MARGIN: ENTIRE	
LS :MID GREEN	APEX: ACUMINATE/CUSPIDATE	
TEXTURE: US:SMOOTH	LEAF BASE: ACUTE	
LS:SMOOTH	PETIOLE: SHORT	
Flower	Type: HERMAPHRODITE	Reproduction: HERMAPHRODITE
SIZE: ♂/M 1.2 CM	Flowering: UMBEL I(2.5 CM)	Fragrant: YES
♀/F		
Fruit	Type: CAPSULE	Color: BROWN
	Edible: NO	Fruiting: AUG-SEP
SIZE: 0.5-0.8 CM		
Growth	Rate: FAST	Longevity: 200 YEARS

ECOLOGY		
Climate	Temperature: -9ºC,H4,Z6	Drought resistant: MODERATE
ALTITUDE: 0-200	Sun exposure: FULL	Frost resistant: MODERATE
IRRIGATION: LOW		
Soil	Texture: ALL TYPES	Salt resistant: MODERATE
pH: 5.5-8.5	Drainage: HIGH	Lime resistant: MODERATE
FERTILTY: POOR		

USES				
Resistances		Applications		
COASTAL:	1ST LINE	SLOPES: YES	LINE:	YES
POLLUTION:	MODERATE	RIVERBANKS: YES	WINDBREAKERS:	YES
WIND:	HIGH	GROUPS: YES	ISOLATED:	YES

POINTS OF INTEREST

Native to Australia, where it can be found throughout most of the country, except for a small area in the South West. In Spain it is the most cultivated species of eucalyptus. Its trunk excretes a sap-like liquid called red gum, used for medicinal purposes. Its wood is very hard, strong and durable, being used for poles in wet areas, shipbuilding, railway sleepers, bridges and for paper pulp, and it is also a good fuel. It is a honey plant. Apparently, the leaves are eaten by goats when no other forage can be found. The specific name alludes to the Italian garden of Camalduli (Naples), from where the species seems to have been first described.

SPACING: 10M

PLANTING AND PLANT HEALTH

Propagation by seed. Due to its great growth and its aggressiveness, it is not recommended for small gardens nor near buildings. It needs large spaces to be able to develop freely. The *"Phoracantha semipunctata"* beetle creates galleries in trunks and branches causing the death of specimens of any age. The fight against this insect can only be preventive and is based on keeping the specimens vigorous since the females only lay their eggs on weakened or diseased trees. The species is also attacked by defoliating insects such as *Gonipterus scutellatus* and polyphagous mealybugs such as *Quadraspidiotus perniciosus*.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
		x	x	x	x	x	x	x	x	x	x

Sowing Planting Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides Pesticides Fertilizers

COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
CT		125-150
CT		150-175
CT		175-200
CT		200-250
CT		250-300
RB	6-8	
RB	18-20	
RB	20-25	
RB	25-30	
RB	30-35	
RB	35-40	
RB	40-45	
RB	45-50	

Eucalyptus *Eucalyptus ficifolia* F. J. Muell.

BROADLEAF EVERGREEN

EUCALIPTO ROJO	EUC. FLORS VERMELLES	SCARLET-FLOWERED GUM	GOMMIER ROUGE
SPANISH	VALENCIAN	ENGLISH	FRENCH

STRUCTURE

Shape	Height	Diameter
OVAL/ IRREGULAR	7-15 M	4-6 M
Texture	**Shade**	**Root**
COARSE	PARTIAL	TAPROOT/HORIZONTAL

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	MYRTALES
FAMILY:	MYRTACEAE

VARIETIES

MORPHOLOGY

Trunk		Bark: ROUGH	Color: LIGHT GRAY
Leaf	COMPOUND:	NO	
	HARDNESS:	CORIACEOUS	
EVERGREEN	ARRANGEMENT:	ALTERNATE	
SIZE: LEAF: 7-14CM	VENATION:	PINNATE	
	SHAPE:	LANCEOLATE	
COLOR: US: DK GREEN	MARGIN:	ENTIRE	
LS: DK GREEN	APEX:	ACUMINATE/CUSPIDATE	
TEXTURE: US: SMOOTH	LEAF BASE:	ATENUATE	
LS: SMOOTH	PETIOLE:	SHORT	
Flower		Type: HERMAPHRODITE	Reproduction: HERMAPHRODITE
SIZE: ♂/M 4 CM		Flowering: CORYMB/UMBEL	Fragrant: YES
Fruit		Type: CAPSULE	Color: RED
		Edible: NO	Fruiting season: SEP-OCT
SIZE: 2-5 CM			
Growth		Rate: MODERATE	Longevity: 125 YEARS

ECOLOGY

Climate		Temperature: -3ºC,H5,Z6	Drought resistant: NO
ALTITUDE: 0-400		Sun exposure: FULL	Frost resistant: MODERATE
IRRIGATION: MODERATE			
Soil		Texture: CLAYEY	Salt resistant: MODERATE
pH: 5-7.5		Drainage: MODERATE	Lime resistant: MODERATE
FERTILITY: MODERATE			

Uses

Resistances		Applications			
COASTAL:	2nd LINE	SLOPES:	NO	LINE:	YES
POLLUTION:	MODERATE	RIVERBANKS:	NO	WINDBREAKERS:	YES
WIND:	MODERATE	GROUPS:	YES	ISOLATED:	YES

POINTS OF INTEREST

Native to South Western Australia. Its wood is pale yellow, heavy, strong and durable. It is a beautiful ornamental tree, especially for its spectacular reddish flowering. Its specific name alludes to the resemblance of its leaves to those of a ficus (*Ficus sp* .).

SPACING: 6M

PLANTING AND PLANT HEALTH

Propagation by seed. Due to its medium size, it is an ideal species for gardens and as a stree tree. The "*Phoracantha semipunctata*" beetle creates galleries in trunks and branches causing the death of specimens of any age. The fight against this insect can only be preventive and is based on keeping the specimens vigorous since the females only lay their eggs on weakened or diseased trees. The species is also attacked by defoliating insects such as *Gonipterus scutellatus* and polyphagous mealybugs such as *Quadraspidiotus perniciosus* .

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
		X	X	X	X	X	X	X	X	X	X

Sowing Planting Prune X

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides Pesticides Fertilizers

COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
CT		175/200
CT		200/250
CT		250/300

Eucalyptus — *Eucalyptus globulus* Labill.

BROADLEAF EVERGREEN

EUCALIPTO BLANCO (SPANISH) · EUCALIPTUS COMÚ (VALENCIAN) · SOUTHERN BLUE GUM (ENGLISH) · GOMMIER BLEU (FRENCH)

STRUCTURE		
Shape: OVAL/IRREGULAR	Height: 30-55 M	Diameter: 10 M
Texture: COARSE	Shade: PARTIAL	Root: TAPROOT-HORIZONTAL

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	MYRTALES
FAMILY:	MYRTACEAE

VARIETIES

MORPHOLOGY		
Trunk	Bark: ROUGH	Color: GRAY
Leaf: EVERGREEN; SIZE: LEAF:8-35CM; COLOR: US:BLUE GREEN, LS:BLUE GREEN; TEXTURE: US:SMOOTH, LS:SMOOTH	COMPOUND: NO; HARDNESS: CORIACEOUS; ARRANGEMENT: ALTERNATE; VENATION: PINNATE; SHAPE: LANCEOLATE/FALCATE; MARGIN: ENTIRE; APEX: ACUMINATE/CUSPIDATE; LEAF BASE: ATENUATE; PETIOLE: LONG	
Flower: SIZE: ♂/M 3-4 CM	Type: HERMAPHRODITE	Reproduction: HERMAPHRODITE
	Flowering: SINGLE/UMBEL	Fragrant: YES
Fruit: SIZE: 1.8-2.5 CM	Type: CAPSULE	Color: LIGHT GREEN
	Edible: NO	Fruit season: NOV-DEC
Growth	Rate: FAST	Longevity: 200 YEARS

ECOLOGY		
Climate: ALTITUDE: 0-400; IRRIGATION: MODERATE	Temperature: -6ºC,H4,Z6	Drought resistant: MODERATE
	Sun exposure: FULL	Frost resistant: MODERATE
SOIL: pH: 5-7.5; FERTILITY: POOR	Texture: LOAMY/SANDY	Salt resistant: MODERATE
	Drainage: MODERATE	Lime resistant: MODERATE

USES			
Resistances		Applications	
COASTAL: 2ND LINE		SLOPES: YES	LINE: YES
POLLUTION: MODERATE		RIVERBANKS: YES	WINDBREAKERS: YES
WIND: MODERATE		GROUPS: YES	ISOLATED: YES

POINTS OF INTEREST

Native to Southern Victoria, in Australia, and the island of Tasmania, where it grows associated with other species of the same genus. It is one of the most cultivated eucalyptus in Spain. Highly recommended tree to reforest poor and eroded soils and to fix dunes. Its wood is yellowish brown, heavy, strong and durable, being used in shipbuilding, farming tools and paper pulp. Essential oils for pharmacy and perfumery are extracted from the leaves. In popular medicine it is used as an antiseptic, against colds, as a healing agent, etc. the branches scare away insects, and houses can be fumigated with the burnt leaves.

SPACING: 10M

PLANTING AND PLANT HEALTH

Propagation by seed. Due to its great growth and its aggressiveness, it is not recommended for small gardens or near buildings. It needs large spaces to be able to develop freely. The "*Phoracantha semipunctata*" beetle creates galleries in trunks and branches causing the death of specimens of any age. The fight against this insect can only be preventive and is based on keeping the specimens vigorous since the females only lay their eggs on weakened or diseased trees. The species is also attacked by defoliating insects such as *Gonipterus scutellatus* and polyphagous mealybugs such as *Quadraspidiotus perniciosus*.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
		X	X	X	X	X	X	X	X	X	X

Sowing · Planting · Pruning (X)

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides · Pesticides · Fertilizers

COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
CT		100/125
CT		125/150
CT		150/175
CT		175/200
CT		200/250
CT		250/300
CT	6-8	
CT	8-10	
CT	10-12	
CT	12-14	

Ficus — *Ficus elastica* Roxb. ex Hornem.

BROADLEAF EVERGREEN

ÁRBOL DEL CAUCHO	FICUS DE CAUTXÚ	INDIAN RUBBER TREE	CAOUTCHOUC
SPANISH	VALENCIAN	ENGLISH	FRENCH

STRUCTURE		
Shape: ROUND	Height: 30 M	Diameter: 15-20 M
Texture: COARSE	Shape: FULL	Root: OBLIQUE

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	URTICALES
FAMILY:	MORACEAE

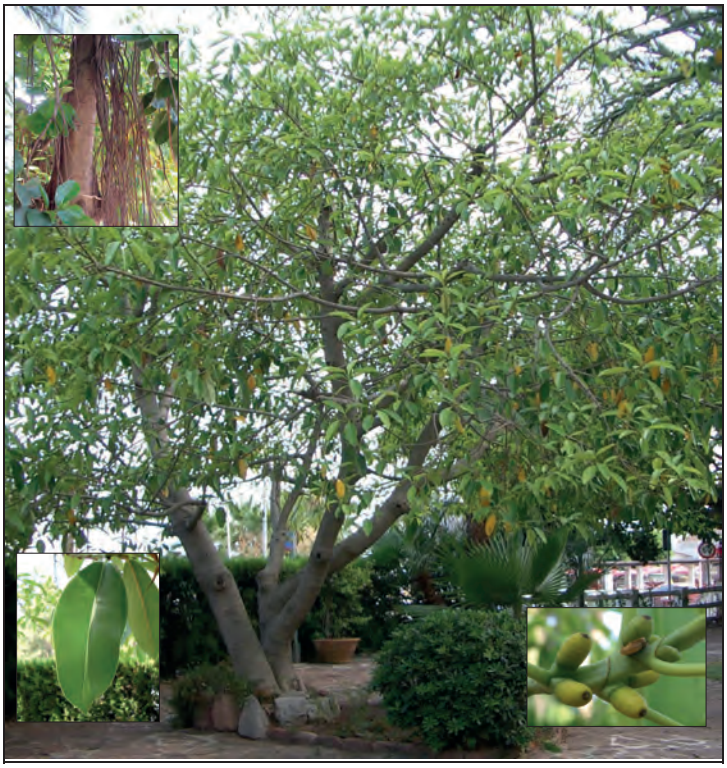
VARIETIES

DECORA
RUBRA
VARIEGATA
ROBUSTA

MORPHOLOGY		
Trunk	Bark: SMOOTH	Color: GRAY
Leaf	COMPOUND: NO	
EVERGREEN	HARDNESS: CORIACEOUS	
SIZE: LEAF:20-25 CM	ARRANGEMENT: ALTERNATE	
	VENATION: PINNATE	
	SHAPE: ELIPTICAL	
COLOR: US:DK GREEN	MARGIN: ENTIRE	
LS:DK GREEN	APEX: ACUMINATE	
TEXTURE: US:GLOSSY	LEAF BASE: ROUND	
LS:GLOSSY	PETIOLE: SHORT	
Flower	Type: UNISEXUAL	Reproduction: MONOECIOUS
SIZE: ♂ ♀	Flowering	Fragrant: NO
Fruit	Type: SYCONIUM	Color: YELLOW/GREEN
SIZE: 1 CM	Edible: NO	Fruiting season: JUN-JUL
Growth	Rate: FAST	Longevity: 200 YEARS

ECOLOGY		
Climate	Temperature: -0ºC,H5,Z7	Drought resistant: NO
ALTITUDE: 0-100	Sun exposure: SUN/PARTIAL SHADE	Frost resistant: NO
IRRIGATION: HIGH		
Soil	Texture: LOAMY/SANDY	Salt resistant: MODERATE
pH: 5-7.5	Drainage: MODERATE	Lime resistant: MODERATE
FERTILITY: MODERATE		

USES				
Resistances		Applications		
COASTAL: 2nd LINE		SLOPES: NO	LINE: YES	
POLLUTION: MODERATE		RIVERBANKS: NO	WINDBREAKERS: YES	
WIND: MODERATE		GROUPS: YES	ISOLATED YES	



POINTS OF INTEREST

Native to the Himalayas and as far as the Malay peninsula, Sumatra and Java. This species is ideal as an indoor plant. There are different commercialized cultivars. Cultivated outdoors, good specimens can be seen in the Canary Islands and in the peninsular Mediterranean coast. *Elastica* , is related to rubber and therefore logically alluding to the fact that rubber was made from it. The emission of aerial roots is one of the most remarkable botanical characteristics of the *genus*. These aerial roots are projected from the branches to the ground, penetrating it like any root and serving as a support for the crown which, in this way, can extend to reach considerable dimensions. Another of its peculiarities is the presence of milky sap (latex).

SPACING: 12 M

PLANTING AND PLANT HEALTH

Although ficuses can be propagated by seeds, cuttings and air layering are the most common methods. The cuttings can be apical and from the stem, with a terminal shoot and a leaf or a bud and a leaf, respectively. The rooting method requires temperatures of 28-30 ºC. Air layering is the simplest multiplication method, since it does not require the indicated temperatures. The cultivation of ficuses in general is not difficult; They require fertile and loose soils with medium environmental humidity and sunny exposures, sheltered from the cold. Whiteflies are frequent in the species, and can be controlled with Diazinon and Fenitrothion. Mealybugs such as *Quadraspidiotus perniciosus* often attack various species of the *genus* and can be treated with *Chlorpyrifos, Methyl-pirimiphos* or some phosphorous product (Fenitrothion, Diazinon, etc.)

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
								x	x	x	x

Sowing Planting Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides Pesticides Fertilizers

COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
CT		40/50
CT		125/150
CT		150/175
CT		175/200
CT		200/250

Ficus — *Ficus lyrata* Warb.

BROADLEAF EVERGREEN

FICUS DE LA LIRA	FICUS LIRA	BANJO FIG	CAOUTCHOUC LYRE
SPANISH	VALENCIAN	ENGLISH	FRENCH

STRUCTURE		
Shape: ROUND	Height: 8-12 M	Diameter: 5-10 M
Texture: COARSE	Shape: FULL	Root: OBLIQUE

DIVISION:	SPERMTOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	URTICALES
FAMILY:	MORACEAE

VARIETIES

MORPHOLOGY		
Trunk	Bark: SMOOTH/FISSURED	Color: GRAY
Leaf: EVERGREEN; SIZE: LEAF: 45-50 CM; COLOR: US:MID GREEN, LS:MID GREEN; TEXTURE: US:GLOSSY, LS:GLOSSY	COMPOUND: NO; HARDNESS: CORIACEOUS; ARRANGEMENT: ALTERNATE; VENATION: PINNATE; SHAPE: PANDURATE; MARGIN: ENTIRE; APEX: ROUND; LEAF BASE: CORDATE; PETIOLE: SHORT	
Flower: SIZE: ♂ ♀	Type: UNISEXUAL; Flowering	Reproduction: MONOECIOUS; Fragrant: NO
Fruit: SIZE: 2.5-3 cm	Type: SYCOMIUM; Edible: YES	Color: GREEN AND WHITE; Fruiting season: JUN-JUL
Growth	Rate: MODERATE	Longevity: 200 YEARS

ECOLOGY		
Climate: ALTITUDE: 0-100; IRRIGATION: ++HIGH	Temperature: +6ºC,G1,Z7; Exposure to sun: SHADE/PARTIAL; Texture: SANDY; Drainage: MODERATE	Drought resistant: NO; Frost resistant: NO; Salt resistant: NO; Lime resistant: NO
pH: 5-7.5; FERTILITY: FERTILE		

USES					
Resistances		Applications			
COASTAL:	2nd LINE	SLOPES:	NO	LINE:	YES
POLLUTION:	LOW	RIVERBANKS:	NO	WINDBREAKERS:	YES
WIND:	LOW	GROUPS:	NO	ISOLATED:	YES

POINTS OF INTEREST

Native to tropical Western Africa. Species widely used as an indoor plant although in the Canary Islands and in parts of the Mediterranean coast and when cultivated outdoors, it reaches considerable sizes. Its specific name alludes to the lyre shape of its leaves. The emission of aerial roots is one of the most remarkable botanical characteristics of the genus. These aerial roots project the branches to the ground, penetrating it like any root and serving as a support for the crown which, in this way, can extend to reach considerable dimensions. Another of its peculiarities is the presence of milky sap (latex). As a young plant, it can be used as a potted indoor plant.

SPACING: 8 M

PLANTING AND PLANT HEALTH

Although ficuses can be propagated by seeds, cuttings and air layering are the most common methods. The cuttings can be apical and from the stem, with a terminal shoot and a leaf or a bud and a leaf, respectively. The rooting method requires temperatures of 28-30 ºC. Air layering is the simplest propagation method, since it does not require the indicated temperatures. The cultivation of ficuses in general is not difficult; They basically require fertile and loose soils with moderate environmental humidity and sunny exposures, sheltered from the cold. It is not usually affected by pests or diseases. Pruning or regular maintenance is not required.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
								X	X	X	X	X	X	X	X	X	X

Sowing Planting Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides Pesticides Fertilizers

COMMERCIALIZATION

Presentation (L)	Girth (cm)	Height (cm)
CT (3)		40/60
CT (3)		60/80
CT (10)		80/100
CT (15)		100/125
CT (25)		125/150
CT (50)		150/175
CT (50)		175/200

Ficus *Ficus macrophylla* Desf. ex Pers.

BROADLEAF EVERGREEN

HIGUERA AUSTRALIANA (SPANISH) · Ficus macrophylla (VALENCIAN) · Moreton Bay Fig/Australian Banyan (ENGLISH) · Figuier de la baie de Moreton (FRENCH)

STRUCTURE		
Shape: EXTENDED	Height: 60-70 M	Diameter: 15-40 M
Texture: COARSE	Shade: FULL	Root: OBLIQUE/AERIAL

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONEAES
ORDER:	URTICALES
FAMILY:	MORACEAE

VARIETIES
SUB SPECIES - "COLUMARIS"

MORPHOLOGY		
Trunk	Bark: SMOOTH	Color: GRAY
Leaf EVERGREEN; SIZE: LEAF:20-30CM; COLOR: US:DK GREEN, LS:RUST/RED; TEXTURE: US:SMOOTH, LS:TOMENTOSE	COMPOUND: NO; HARDNESS: CORIACEOUS; ARRANGEMENT: ALTERNATE; VENATION: PINNATE; SHAPE: OVAL/ELIPTICAL; MARGIN: ENTIRE; APEX: ACUMINATE; LEAF BASE: ROUND; PETIOLE: LONG	
Flower SIZE: ♂ ♀	Type: UNISEXUAL	Reproduction: MONOECIOUS; Fragrant: NO
Fruit SIZE: 1-2.5 CM	Type: SYCONIUM	Color: PURPLE/YELLOW; Edible: NO; Fruiting season: JUL-OCT
Growth	Rate: FAST	Longevity: >300 YEARS

ECOLOGY		
Climate ALTITUDE: 0-100; IRRIGATION: HIGH	Temperature: 0ºC,H5,Z7	Drought resistant: NO
	Sun exposure: SUN/PARTIAL SHADE	Frost resistant: NO
Soil pH: 5-7.5; FERTILITY: FERTILE	Texture: SANDY	Salt resistant: NO
	Drainage: MODERATE	Lime resistant: NO

USES				
Resistances		Applications		
COASTAL: 1st LINE	SLOPES: NO	LINE: YES		
POLLUTION: LOW	RIVERBANKS: NO	WINDBREAKERS: YES		
WIND: MODERATE	GROUPS: YES	ISOLATED: YES		

POINTS OF INTEREST

Native to Australia. Frequent in cities throughout the Mediterranean area, where it reaches considerable sizes. Its specific name means large leaves. The emission of aerial roots is one of the most notable botanical characteristics of the genus and especially of this species. The aerial roots project from the branches to the ground, penetrating it like any root and serving as a support for the crown which, in this way, can extend to reach considerable dimensions. The presence of milky sap (latex) is another of its peculiarities. The wood is brittle and as a result, strong winds tend to tear large branches.

SPACING: 15 M

PLANTING AND PLANT HEALTH

Propagated by cuttings and air layering. The cuttings can be apical and from the stem, with a terminal shoot and a leaf or a bud and a leaf, respectively. Air layering is the simplest propagation method. The cultivation of ficuses in general is not difficult. Fertile and loose soils with moderate environmental humidity and sunny exposures is required and shelter from the cold. It should not be planted near buildings or constructions due to its vigorous development over the years. As a young plant, it can be used as a potted indoor plant. White flies are frequent in the species and can be controlled with Fenitrotion. Mealybugs such as *Quadraspidiotus perniciosus* often attack various species of the *genus*. It can be treated with *Chlorpyrifos*, or some phosphorous product.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
								X	X	X	X

Sowing Planting Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides Pesticides Fertilizers

COMMERCIALIZATION

Presentation	Girth (cm)	Height(cm)
CT		100/125
CT		150/175
CT		250/300
CT		300/350
CT	8-10	
CT	14-16	
CT	16-18	
CT/RB	18-20	
CT/RB	20-25	
CT/RB	25-30	
CT/RB	35-40	
CT/RB	40-45	
CT/RB	45-50	

Ficus

Ficus microcarpa L.f.

BROADLEAF EVERGREEN

LAUREL DE LA INDIA	FICUS DE L'ÍNDIA	INDIAN LAUREL	LAURIER D'INDIE
SPANISH	VALENCIAN	ENGLISH	FRENCH

STRUCTURE		
Shape	Height	Diameter
ROUND	7-20 M	15 M
Texture	Shade	Roots
COARSE	FULL	OBLIQUE/AERIAL

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	URTICALES
FAMILY:	MORACEAE

VARIETIES

HAWAII

MORPHOLOGY		
Trunk	Bark: SMOOTH	Color: LIGHT GRAY
Leaf	COMPOUND: NO	
	HARDNESS: CORIACEOUS	
EVERGREEN	ARRANGEMENT: ALTERNATE	
SIZE: LEAF: 4-16CM	VENATION: PINNATE	
LEAFLET: NO	SHAPE: OVAL/ELIPTICAL	
COLOR: US:DK GREEN	MARGIN: ENTIRE	
LS:MID GREEN	APEX: ACUMINATE	
TEXTURE: US:GLOSSY	LEAF BASE: ATENUATE	
LS:GLOSSY	PETIOLE: SHORT	
Flower	TYPE: UNISEXUAL	Reproduction: MONOECIOUS
SIZE: ♂ ♀	Flowering	Fragrant: NO
Fruit	Type: SYCONIUM	Color: PURPLE
	Edible: NO	Fruiting season: JUL-AUG
SIZE: 0.8-1 CM		
Growth	Rate: FAST	Longevity: 200 YEARS

ECOLOGY		
Climate	Temperature: 0ºC,H5,Z7	Drought resistant: MODERATE
ALTITUDE: 0-100	Sun exposure: SUN/PARTIAL SHADE	Frost resistant: NO
IRRIGATION: MODERATE		
Soil	Texture: LOAM/SAND	Salt resistant: MODERATE
pH: 5-8.5	Drainage: MODERATE	Lime resistant: MODERATE
FERTILITY: MODERATE		

USES				
Resistances		Applications		
COASTAL:	1st LINE	SLOPES: NO	LINE:	YES
POLLUTION:	MODERATE	RIVERBANKS: NO	WINDBREAKERS:	YES
WIND:	MODERATE	GROUPS: YES	ISOLATED:	YES

POINTS OF INTEREST

Native to South and Southeast Asia and as far as Malaysia, Melanesia, the Pacific and Australia. It is a species with a certain morphological variability, for which some varieties have been recognized. In the Canary Islands it reaches spectacular dimensions, being frequent also in the Mediterranean coast. Its specific name means small leaf. Pruning in topiary is succesful, giving it geometric and capricious shapes. The presence of milky sap (latex) is another of its peculiarities. It is ideal as a shade tree for pathways and avenues, although it has the inconvenience of raising pavements. Its wood is brittle.

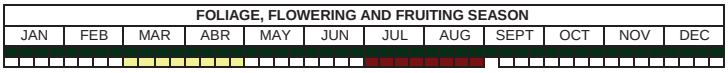
SPACING: 10 M

PLANTING AND PLANT HEALTH

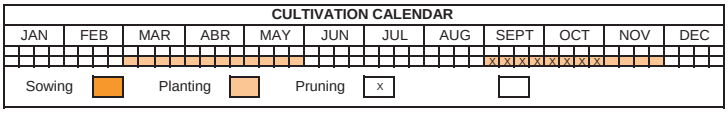
It is propagated by cuttings and air layering. The cuttings can be apical and from the stem, with a terminal shoot and a leaf or a bud and a leaf, respectively. Air layering is the simplest propagation method. The cultivation of ficuses in general is not difficult. Fertile and loose soils with moderate environmental humidity and sunny exposures are required and shelter from the cold. It should not be planted near buildings or constructions due to its powerful root system. White flies are frequent in the species and can be controlled with Fenitrotion. Mealybugs such as *Quadraspidiotus perniciosus* often attack various species of the genus and can be treated with *Chlorpyrifos*, *Methyl-pirimiphos*, or some phosphorous product (Diazinon, Fenitrothion, Phentoate).

CHROMATIC CALENDAR

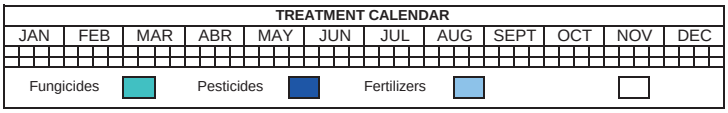
FOLIAGE, FLOWERING AND FRUITING SEASON



CULTIVATION CALENDAR



TREATMENT CALENDAR



COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
CT		125/150
CT		175/200
CT		250/300
CT		300/350
CT/RB	10-12	
CT/RB	14-16	
CT/RB	16-18	
CT/RB	18-20	
CT/RB/CEY	20-25	
CT/RB/RB CEY	30-35	
CT/RB/RB in CEY	35-40	
CT/RB	45-50	
CTRB	50-60	

Ficus — *Ficus rubiginosa* Desf. ex Vent.

BROADLEAF EVERGREEN

LAUREL DE LA INDIA	FICUS DE L'ÍNDIA	INDIAN LAUREL	LAURIER D'INDE
SPANISH	VALENCIAN	ENGLISH	FRENCH

STRUCTURE		
Shape	Height	Diameter
ROUND	8-12 M	6-10 M
Texture	Shade	Root
COARSE	FULL	OBLIQUE/AERIAL

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	URTICALES
FAMILY:	MORACEAE

VARIETIES

AUSTRALIS

MORPHOLOGY		
Trunk	Bark	Color
	SMOOTH	LIGHT GRAY
LEAF	COMPOUND:	NO
	HARDNESS:	CORIACEOUS
EVERGREEN	ARRANGEMENT:	ALTERNATE
SIZE: LEAF:7-15cm	VENATION:	PINNATE
	SHAPE:	OVAL/ROUND
COLOR: US:DK GREEN	MARGIN:	ENTIRE
LS:RUST/RED	APEX:	ROUND
TEXTURE: US:GLOSSY	LEAF BASE:	ROUND
LS:HAIRY	PETIOLE:	SHORT
FLOWER	Type	Reproduction
	UNISEXUAL	MONOECIOUS
SIZE: ♂	Flowering	Fragrant
♀		NO
Fruit	Type	Color
	SYCONIUM	GREEN/YELLOW
	Edible	Fruiting season
SIZE: 1-1.5 CM	NO	JUL-AUG
Growth	Rate	Longevity
	MEDIUM	200 YEARS

ECOLOGY		
Climate	Temperature	Drought resistant
	0ºC,H5,Z7	NO
ALTITUDE: 0-100	Sun exposure	Frost resistant
IRRIGATION: MODERATE	SHADE/PARTIAL	NO
Soil	Texture	Salt resistant
	SANDY	MODERATE
pH: 5-7.5	Drainage	Lime resistant
FERTILITY: FERTILE	MODERATE	MODERATE

USES				
Resistances		Applications		
COASTAL:	1ST LINE	SLOPES:	NO	LINE: YES
POLLUTION:	LOW	RIVERBANKS:	NO	WINDBREAKER: YES
WIND:	MODERATE	GROUPS:	YES	ISOLATED: YES

POINTS OF INTEREST

Native to Australia, where it can be bushy or large. It is a strangling fig tree that manages to develop on other plants, growing its roots in such a way that it kills the tree on which it lives. Frequent in the Canary Islands and throughout the Mediterranean coast, where notable specimens can be seen. There is a variegated form and other glabrous forms without any tomentum (hair) in leaves and fruits (*Australis*). Its specific name means rust, alluding to the color of the lower surface of the leaves. The emission of aerial roots is one of the most notable botanical characteristics of the genus and especially of this species. The trees project from aerial roots from the branches to the ground, penetrating it like any root and serving as a support for the crown.

SPACING: 10 M

PLANTING AND PLANT HEALTH

Propagated by cuttings and air layering. The cuttings can be apical and from stem, with a terminal shoot and a leaf or a bud and a leaf, respectively. Air layering is the simplest propagation method. The cultivation of ficuses in general is not difficult; They basically require fertile and loose soils with moderate environmental humidity and sunny exposures, sheltered from the cold. It should not be used near houses because it is too dark. It can be used, when young, as a potted indoor plant, especially the variegated form. Pruning should be light. White flies are frequent in the species, and can be controlled with Fenitrotion. Mealybugs such as *Quadraspidiotus perniciosus* often attack various species of the *genus* and can be treated with *Chlorpyrifos,* etc.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
								x	x	x	

Sowing Planting Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides Pesticides Fertilizers

COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
CT		150/175
CT		200/250
CT		250/300
CT/RB	10-12	
CT/RB	12-14	
CT/RB	14-16	
CT/RB	16-18	
CT/RB	18-20	
CT/RB	20-25	
CT/RB	30-35	
CT/RB	40-45	
CT/RB	45-50	
CT/RB	50-60	

Grevillea *Grevillea robusta* A. Cunn. ex R. Br.

BROADLEAF EVERGREEN

ROBLE AUSTRALIANO (SPANISH) | GREVIL.LEA (VALENCIAN) | SILK-OAK (ENGLISH) | CHÊNE D'AUSTRALIE (FRENCH)

STRUCTURE		
Shape: CONE	Height: 10-30 M	Diameter: 6-8 M
Texture: COARSE	Shade: PARTIAL	Root: TAPROOT

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	PROTEALES
FAMILY:	PROTEACEAE

VARIETIES

MORPHOLOGY		
Trunk	Bark: FISSURED/VERTICAL	Colour: DARK GRAY
LEAF EVERGREEN SIZE: LEAF:20-30CM COLOR: US:DK GREEN, LS:SILVER TEXTURE: US:SMOOTH, LS:HAIRY	COMPOUND: BIPINNATE HARDNESS: SOFT ARRANGEMENT: ALTERNATE VENATION: PINNATE SHAPE: PINNATIFID MARGIN: ENTIRE APEX: SHARP LEAF BASE: ATENUATE PETIOLE: SHORT	
Flower SIZE: ♂/M 10 MM	Type: HERMAPHRODITE	Reproduction: HERMAPHRODITE
	Flowering: RACEME (10-15 CM)	Fragrant: NO
Fruit SIZE: 2 CM	Fruit: FOLLICLE	Color: BLACK
	Edible: NO	Fruiting season: SEP-OCT
Growth	Rate: FAST	Longevity: 125 YEARS

ECOLOGY		
Climate ALTITUDE: 0-100, IRRIGATION: LOW	Temperature: -6ºC,H4,Z6	Drought resistan: MODERATE
	Sun exposure: SUN/ PARTIAL SHADE	Frost resistant: MODERATE
Soil pH: 5-7.5, FERTILITY: POOR	Texture: LOAMY/SANDY	Salt resistant: NO
	Drainage: MODERATE	Lime resistant: NO

USES				
Resistances		Applications		
COASTAL:	2ND LINE	SLOPES: NO	LINE:	YES
POLLUTION:	MODERATE	RIVERBANKS: NO	WINDBREAKER:	YES
WIND:	MODERATE	GROUPS: YES	ISOLATED:	YES

POINTS OF INTEREST

Native to Australia, in the state of Queensland (Northeast Australia), on the coastal mountain slopes of the Great Dividing Range. The wood is similar to that of true oaks. This species is highly appreciated in carpentry and joinery and is used for furniture covering and to make quality furniture. It is a very ornamental tree due to its striking flowers and strange silvery leaves. In its country of origin, it has been successfully used as a tree for reforestation.

SPACING: 8 M

PLANTING AND PLANT HEALTH

Propagation by seed which must be collected as soon as they mature, as they will be dispersed by the wind within a few days. It is used as a potted indoor plant and as a street tree,isolated, and in parks and gardens. It should not be planted near buildings due to its great growth potential. This species is common in cities with tropical and subtropical climates, as well as on the Mediterranean coast and Galicia. It does not usually present health problems.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
		x	x	x	x	x				x	x

Sowing | Planting | Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides | Pesticides | Fertilizers

COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
CT/RB		125/150
CT/RB		150/175
CT/RB		175/200
RB		200/250
RB		250/300
RB		300/350
CT	8-10	
CT	10-12	
CT	12-14	
CT	14-16	
CT	16-18	
CT	18-20	
CT	20-25	

Lagunaria — *Lagunaria patersonii* (Andrews) G. Don

BROADLEAF EVERGREEN

PICA-PICA (SPANISH) · LAGUNÀRIA (VALENCIAN) · AUSTRALIAN TULIP-TREE (ENGLISH) · KETMIE DEPATERSON (FRENCH)

STRUCTURE		
Shape: CONE	Height: 10-15 M	Diameter: 4-6 M
Texture: COARSE	Shade: FULL	Root: TAPROOT

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	MALVALES
FAMILY:	MALVACEAE

VARIETIES

ROYAL PURPLE

MORPHOLOGY		
Trunk	Bark: FISSURED/LONG	Color: DARK GRAY
Leaf EVERGREEN SIZE: LEAF:7-14CM COLOR: US:DK GREEN, LS: SILVER TEXTURE: US: SMOOTH, LS:HAIRY	COMPOUND: NO HARDNESS: CORIACEOUS ARRANGEMENT: ALTERNATE VENATION: PINNATE SHAPE: OBLONG/LANCEOLATE MARGIN: ENTIRE APEX: SHARP LEAF BASE: ROUND PETIOLE: SHORT	
Flower SIZE: ♂/M 3-6 MM	Type: HERMAPHRODITE Flowering: ISOLATED	Reproduction: HERMAPHRODITE Fragrant: YES
Fruit SIZE: 4 CM	Type: CAPSULE Edible: NO	Color: BROWN Fruiting season: SEPT-NOV
Growth	Rate: FAST	Longevity: 100 YEARS

ECOLOGY		
Climate ALTITUDE: 0-200 IRRIGATION: LOW	Temperature: -6ºC,H4,Z6 Sun exposure: FULL	Drought resistan: MODERATE Frost resistant: MODERATE
Soil pH: 5.5-8.5 FERTILITY: MODERATE	Texture: ALL TYPES Drainage: LOW	Salt resistant: YES Lime resistant: YES

USE				
Resistances		Applications		
COASTAL:	1ST LINE	SLOPES: NO	LINE:	YES
POLLUTION:	HIGH	RIVERBANKS: NO	WINDBREAKER:	NO
WIND:	MODERATE	GROUPS: NO	ISOLATED:	YES

POINTS OF INTEREST

Native to the islands of Norfolk and Lord Howe in Australia. *Lagunaria* alludes to the resemblance to *Lagunaea*, an ancient genus of the same family, now included in *Hibiscus*. *Patersonii,* in honor of the Scottish botanist and explorer William Paterson, who reportedly first sent seeds of this plant to England. The wood of this tree, although dense and of good quality, is not commercialized and therefore has no use. Very resistant to seawater spray and therefore recommended for coastal plantations. It tolerates pruning. The open fruit can pose risks to people with skin allergies. Its use in Spain as an ornamental tree is scarce, recommending its planting in areas with a warm climate.

SPACING: 6M

PLANTING AND PLANT HEALTH

Propagation by seed or cuttings. It is easy to grow. This species requires sunny exposures and well-drained soils, thus blooming more abundantly. Young plants must be protected from the cold. It does not usually suffer from pests or diseases.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
		x	x	x	x	x	x			x	x

Sowing ▭ Planting ▭ Pruning x ▭

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides ▭ Pesticides ▭ Fertilizers ▭

COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
CT		50/60
CT		80/100
CT		100/125
CT		150/175
CT		175/200
CT		200/250
CT		250/300
CT/RB	6-8	
CT/RB	8-10	
CT/RB	10-12	
CT/RB	12-14	
CT/RB	14-16	
RB	16-18	

Ligustrum

BROADLEAF EVERGREEN

Ligustrum lucidum Ait.

ALIGUSTRE LUSTROSO	TROANA ARBÒRIA	SHINING PRIVET	TROÈNE À FEUILL.
SPANISH	VALENCIAN	ENGLISH	FRENCH

STRUCTURE		
Shape: ROUND	Height: 3-15 M	Diameter: 3-5 M
Texture: COARSE	Shade: FULL	Root: OBLIQUE

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	LAMIALES
FAMILY:	OLEACEAE

VARIETIES

AUREO MARGINATUM
COMPACTUM
MACROPHYLLUM
MIRCOPHYLLUM

MORPHOLOGY

Trunk	Bark: SMOOTH	Color: DARK GRAY
Leaf: EVERGREEN; SIZE: LEAF:7.5-15CM; COLOR: US:DK GREEN, LS:MID GREEN; TEXTURE: US:GLOSSY, LS:GLOSSY	COMPOUND: NO; HARDNESS: CORIACEOUS; ARRANGEMENT: OPPOSITE; VENATION: PINNATE; SHAPE: OVAL/LANCEOLATE; MARGIN: ENTIRE; APEX: ACUMINATE; LEAF BASE: CUNEATE; PETIOLE: SHORT	
Flower: SIZE: ♂/M 5 MM	Type: HERMAPHRODITE; Flowering: PANICLE (15 CM)	Reproduction: HERMAPHRODITE; Fragrant: YES
Fruit: SIZE: 0.8-1.2 CM	Type: DRUPE; Edible: NO	Color: BLACK; Fruiting season: SEP-OCT
Growth	Rate: FAST	Longevity: 25 YEARS

ECOLOGY

Climate: ALTITUDE: 0-300; IRRIGATION: MODERATE	Temperature: -15ºC, H2,Z5.	Drought resistant: MODERATE
	Sun exposure: PARTIAL SHADE	Frost resistant: YES
Soil: pH: 5.5-8.5; FERTILITY: POOR	Texture: SANDY	Salt resistant: MODERATE
	Drainage: HIGH	Lime resistant: MODERATE

USES

Resistances		Applications			
COASTAL:	2ND LINE	SLOPES:	NO	LINE:	YES
POLLUTION:	HIGH	RIVERBANKS:	NO	WINDBREAKER:	NO
WIND:	HIGH	GROUPS:	YES	ISOLATED:	YES

POINTS OF INTEREST

Native to China and Korea. The Latin name *Ligustrum* means to bind or tie. The young twigs (due to thier flexibility) were used to tie bundles. *Lucidum* , from the Latin, means lustrous, brilliant, alluding to the brightness of its green leaves. In China, a wax produced by certain insects on the branches of this tree is marketed. The wood is creamy white, with a fine and homogeneous texture, without prominent grain, very hard, resistant and flexible. It is considered to be of medium quality and is used to make tool handles, turned objects and stakes. Widely used as street trees. It tolerates pruning and cutting. Its glabrous buds clearly differentiate it from its other related species, *Ligustrum japonicum* Thunb., which has hairy buds.

SPACING: 4M

PLANTING AND PLANT HEALTH

Propagation by seed and its varieties by grafting. Some defoliating insects attack the species. Mealybugs such as *Quadraspidiotus perniciosus* often attack various species of the genus. It can be treated with *Chlorpyrifos* , *Methyl-pirimiphos* or some phosphorous product (Fenitrothion, Diazinon, etc.). The specific phytopathogenic bacterium *Pseudomonas syringae* subspieces *savastanoi* can attack the tree, causing a slow and progressive degeneration and eventual death. (Treatment: preventive, based on the selection of healthy plant material).

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
		x	x	x	x	x	x	x	x	x	

Sowing Planting Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides Pesticides Fertilizers

COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
CT (tray)	1 year (2/0)	40/50
CT		60/80
CT/RB		80/100
CT/RB		125/150
RB		200/250
RB		300/350
RB		400/450
RB		550/600
CT/RB	8-10	
CT/RB	12-14	
CT/RB	14-16	
RB	20-25	
RB	25-30	

Magnolia

BROADLEAF EVERGREEN

Magnolia grandiflora L.

MAGNOLIO (SPANISH) · MAGNÒLIA (VALENCIAN) · EVERGREEN MAGNOLIA (ENGLISH) · M. À GRANDES FLEURS (FRENCH)

STRUCTURE		
Shape: CONE	Height: 15-30 M	Diameter: 5-8 M
Texture: COARSE	Shade: FULL	Root: TAPROOT

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	MAGNOLIALES
FAMILY:	MAGNOLIACEAES

VARIETIES

GALISSONNIÉRE
EXMOUTH
NANNETHESIS
GOLIATH

MORPHOLOGY

Trunk	Bark: SCALY	Color: GRAY
Leaf EVERGREEN SIZE: LEAF:12-20CM COLOR: US:DK GREEN, LS:RUST/RED TEXTURE: US:GLOSSY, LS:HAIRY	COMPOUND: NO HADRNESS: CORIACEOUS ARRANGEMENT: ALTERNATE VENATION: PINNATE SHAPE: ELLIPTICAL/OVAL MARGIN: ENTIRE APEX: SHARP LEAF BASE: ROUND PETIOLE: SHORT	
Flower SIZE: ♂/M 250 MM	Type: HERMAPHRODITE	Reproduction: HERMAPHRODITE
	Flowering: ISOLATED	Fragrant: YES
Fruit SIZE: 10 CM	Type: PLURIFOLLICLE	Color: BROWN
	Edible: NO	Fruiting season: OCT-NOV
Growth	Rate: SLOW	Longevity: 100 YEARS

ECOLOGY

Climate	Temperature: -18ºC,H2,Z5	Drought resistant: NO
ALTITUDE: 100-500	Sun exposure: HALF SHADE	Frost resistant: YES
IRRIGATION: HIGH		
Soil	Texture: SANDY	Salt resistant: NO
pH: 4-7.5	Drainage: HIGH	Lime resistant: NO
FERTILITY: FERTILE		

USES

Resistances		Applications			
COASTAL:	2ND LINE	SLOPES:	NO	LINE:	YES
POLLUTION:	MODERATE	RIVERBANKS:	NO	WINDBREAKER:	NO
WIND:	LOW	GROUPS:	YES	ISOLATED:	YES

POINTS OF INTEREST

Native to the Southeastern United States. The specific name means "large-flower". Its wood is finely textured. It contracts when dry becoming hard and rigid and therefore easy to turn. It is used in cabinetmaking (indoor furniture only) and for tool handles. Its bark has medicinal properties. In past geological times it was common in Europe. It is easily confused (particularly when it does not flower) with species of the *Ficus* genus, especially *Ficus macrophylla*. Tree of great ornamental value due to its size, its evergreen foliage and its very aromatic fragrance.

SPACING: 8M

PLANTING AND PLANT HEALTH

Propagation by seed, cuttings or grafts. Sowing can be done in the fall with unstratified seed or in the spring with seed that has been stratified over the winter. Newly born seedlings need shade for most of the summer. The multiplication by stake (somewhat delicate) is the most used commercially. Specimens from seed flower after twenty years, while those obtained by vegetative multiplication flower after five years. Its transplant is delicate, and must be done in spring and autumn, since any root breakage can lead to infection by pathogenic fungi. Tolerates formative pruning. No health problems.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
x	x	x	x	x	x	x	x	x	x	x	x

Sowing Planting Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides Pesticides Fertilizers

COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
CT		60/80
CT		80/100
CT/RB		100/125
CT/RB		150/175
CT/RB		200/250
CT/RB		300/350
CT/RB		350/400
CT/RB		450/500
CT/RB		500/550
RB	12-14	
RB	14-16	
RB	16-18	
RB	20-25	

Phytolacca *Phytolacca dioica* L.

BROADLEAF EVERGREEN

OMBÚ (SPANISH) · BELLAOMBRA (VALENCIAN) · UMBRA/OMBÚ (ENGLISH) · BELOMBRA (FRENCH)

STRUCTURE		
Shape: EXTENDED	Height: 8-20 M	Diameter: 6-12 M
Texture: COARSE	Shade: FULL	Root: HORIZONTAL

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	CARYOPHYLLALES
FAMILY:	PHYTOLACCACEAES

VARIETIES

MORPHOLOGY		
Trunk	Bark: FISSURED/ LONG	Color: YELLOWISH
Leaf: SEMI- EVERGREEN; SIZE: LEAF: 15 CM; COLOR: US:MID GREEN, LS:LIGHT GREEN; TEXTURE: US:SMOOTH, LS:SMOOTH	COMPOUND: NO; HARDNESS: CORIACEOUS; ARRANGEMENT: ALTERNATE; VENATION: PINNATE; SHAPE: OBLONG; MARGIN: ENTIRE; APEX: SHARP; LEAF BASE: ROUND; PETIOLE: LONG	
Flower: SIZE: ♂/M 2MM, 2MM	Type: UNISEXUAL; Flowering: RACEME (5-15 CM)	Reproduction: DIOECIOUS; Fragrant: NO
Fruit: SIZE: 1 CM	Type: BERRY; Edible: NO	Color: YELLOW; Fruiting season: AUG-JAN
Growth	Rate: VERY FAST	Longevity: >300 YEARS

ECOLOGY		
Climate: ALTITUDE: 0-100; IRRIGATION: LOW	Temperature: -6ºC,H4,Z6; Sun exposure: FULL	Drought resistant: MODERATE; Frost resistant: MODERATE
Soil: pH: 5.5-9; FERTILITY: POOR	Texture: LOAMY/SANDY; Drainage: MODERATE	Salt resistant: MODERATE; Lime resistant: MODERATE

USES			
Resistances		Applications	
COASTAL: 1ST LINE		SLOPES: NO	LINE: NO
POLLUTION: HIGH		RIVERBANKS: NO	WINDBREAKER: YES
WIND: HIGH		GROUPS: YES	ISOLATED: YES

POINTS OF INTEREST

Native to Paraguay, Southern Brazil, Uruguay and Northern Argentina. Its specific name refers to the separation of male and female flowers on different plants. Female trees are usually smaller, have more nodes, and are more twisted than male trees. The trunk has a high water content, giving the wood an inconsistent character which is formed by a structure of hardened fibers, without the typical growth rings of woody plants. Its branches break easily. Its root system is very powerful and characteristic, so it should not be planted near buildings or in paved areas. The stems and leaves contain active ingredients that cause drastic excretion that can cause irritation. The berries and seeds are toxic, causing digestive disorders.

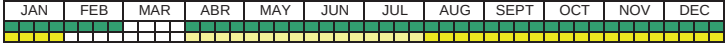
SPACING: 15M

PLANTING AND PLANT HEALTH

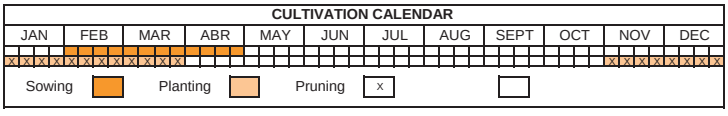
Propagation by seed and cuttings. The fruits are collected from the tree and soaked in water to release the seeds. Once extracted and dried, seeds can be planted or stored, maintaining their germentation capabilites for at least one year. No known pests or diseases affect this plant.

CHROMATIC CALENDAR

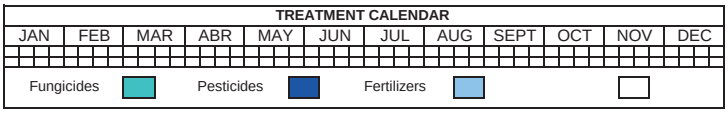
FOLIAGE, FLOWERING AND FRUITING SEASON



CULTIVATION CALENDAR



TREATMENT CALENDAR



COMMERCIALIZATION

Presentation	Girth (cm)	Height(cm)
CT		150/175
CT		200/250
BR	8-10	
BR	10-12	
BR/CT/RB	12-14	
BR/CT/RB	14-16	
BR/CT/RB	16-18	
BR/CT/RB	18-20	
CT/RB	20-25	
CT/RB	25-30	
CT/RB	30-35	
CT/RB	40-45	
CT/RB	50-60	

Quercus *Quercus ilex* sub spieces. *ballota* (Desf.) Samp.

BROADLEAF EVERGREEN

CARRASCA SPANISH | CARRASCA VALENCIAN | EVERGREEN OAK/HOLLY OAK ENGLISH | CHÊNE À GLANS DOUX FRENCH

STRUCTURE		
Shape: ROUND/ELLIPTIC	Height: 8-12 M	Diameter: 8-10 M
Texture: FINE	Shade: FULL	Root: TAPROOT

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	FAGALES
FAMILY:	FAGACEAES

VARIETIES

MORPHOLOGY		
Trunk	Bark: FISSURED/VERTICAL	Color: DARK BROWN
Leaf EVERGREEN; Size: LEAF: 2-5CM; COLOR: US:DK GREEN LS:GRAY; TEXTURE: US: SMOOTH LS:HAIRY	COMPOUND: NO; HARDNESS: CORIACEOUS; ARRANGEMENT: ALTERNATE; VENATION: PINNATE; SHAPE: ROUND/ELLIPTIC; MARGIN: DENTATE; APEX: ROUND; LEAF BASE: ROUND; PETIOLE: SHORT	
Flower	Type: UNISEXUAL	Reproduction: MONOECIOUS
SIZE and TYPE: ♂/M 3 MM CATKIN (7 CM); ♀/F 5 MM ISOLATED		Fragrant: NO
Fruit Size: 3-4 CM	Type: ACORN	Color: BROWN
	Edible: YES	Fruiting season: OCT-NOV
Growth	Rate: SLOW	Longevity: >300 YEARS

ECOLOGY		
Climate	Temperature: -18ºC,H2,Z5	Drought resistant: YES
ALTITUDE: 0-1400	Sun exposure: SUN/PARTIAL SHADE	Frost resistant: YES
IRRIGATION: LOW		
Soil	Texture: LOAMY/CLAYEY	Salt resistant: NO
pH: 5.5-8.5	Drainage: MODERATE	Lime resistant: YES
FERTILITY: POOR		

USES					
Resistances		Applications			
COASTAL:	2ND LINE	SLOPES:	YES	LINE:	YES
POLLUTION:	HIGH	RIVERBANKS:	NO	WINDBREAKER:	YES
WIND:	HIGH	GROUPS:	YES	ISOLATED:	YES

POINTS OF INTEREST

Native to the Mediterranean Region; being the most genuine representative of the Mediterranean landscape. This subspecies can be found in continental, subcontinental or coastal Mediterranean areas and always under fairly hot and dry climatic condtions. It often constitutes extensive forests, many times destroyed to allocate the land to rainfed crops, vineyards, etc. or to plantations of other forest species. Noble tree that gives a pleasant shade. It sprouts like its related subspecies. Acorns are sweet and edible. Currently they are used for feeding pigs. Dense and compact wood of light reddish color, durable, heavy and elastic. It can tolerate topiary. It can cause allergies. This species is of great ornamental value.

SPACING: 6 M

PLANTING and PLANT HEALTH

Propagation by seed. Does not tolerate the transplant in the first phases of its life. Small plants tolerate the cover provided by their thick canopy well. In sunny places with a warm climate, it should be protected during the first two or three years; later it can be exposed to the sun, high temperatures and prolonged droughts. It is usually attacked by certain insects, especially bark beetles (Treatment: preventive and *Alphacipermethrin*) and leaf-miner moths (treatment: *Alphacipermethrin, Deltamethrin, Fenitrothion*), and sooty mold-type fungi (Treatment: products with Copper Oxychloride). Oak galls on leaves are sometimes frequent.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
x	x	x	x	x	x	x	x			x	x

Sowing | Planting | Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides | Pesticides | Fertilizers

COMMERCIALIZATION

Presentation	Girth (cms)	Height (cm)
CT (tray)	1 year (1/0)	
CT (tray)	2 years (2/0)	
CT	Bush	20/30
CT	Bush	30/40
CT	Bush	40/50
CT	Bush	50(60
CT	Bush	60/80
CT	Bush	80/100
CT	Bush	100/125
CEY	12-14	
CEY	14-16	
CEY	16-18	
CEY	18-20	

Quercus

Quercus ilex subsp. *ilex* *L.*

BROADLEAF EVERGREEN

ENCINA	ALZINA	HOLM OAK	CHÊNE-VERT
SPANISH	VALENCIAN	ENGLISH	FRENCH

STRUCTURE

Shape	Height	Diameter
ROUND/ELLIPTIC	8-27 M	8-10 M
Texture	**Shade**	**Root**
MEDIUM	FULL	TAPROOT

DIVISION:	SPERMATOPHYTES
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONEAES
ORDER:	FAGALES
FAMILY:	FAGACEAES

VARIETIES

MORPHOLOGY

Trunk	Bark: FISSURED VERTICAL	Color: DARK BROWN
Leaf	COMPOUND: NO	
EVERGREEN	HARDNESS: CORIACEOUS	
SIZE: LEAF: 4-9CM	ARRANGEMENT: ALTERNATE	
	VENATION: PINNATE	
	SHAPE: LANCEOLATE	
COLOR: US:DARK GREEN	MARGIN: ENTIRE OR DENTATED	
LS:LIGHT GREEN	APEX: SHARP	
TEXTURE: US:SMOOTH	LEAF BASE: ROUND	
LS:HAIRY	PETIOLE: SHORT	
Flower	Type: UNISEXUAL	Reproduction: MONOECIOUS
TYPE and SIZE: ♂/M 3 MM	CATKIN (7 cm)	Fragrant: NO
♀/F 5 MM	ISOLATED	
Fruit	Type: ACORN	Color: BROWN
SIZE: 2-3 CM	Edibe: NO	Fruiting season: OCT-NOV
Growth	Rate: SLOW	Longevity: >300 YEARS

ECOLOGY

Climate	Temperature: -15ºC,H2,Z5	Drought resistant: MODERATE
ALTITUDE: 0-1200	Sun exposure: SUN/ PARTIAL SHADE	Frost resistant: YES
IRRIGATION: LOW		
Soil	Texture: ALL TYPES	Salt resistant: NO
pH: 5.5-8.5	Drainage: MODERATE	Lime resistant: YES
FERTILITY: POOR		

USES

Resistances		Applications			
SEA:	1ST LINE	SLOPES:	YES	LINE:	YES
POLLUTION:	HIGH	RIVERBANKS:	NO	WINDBREAKER:	YES
WIND:	HIGH	GROUP:	YES	ISOLATED:	YES

POINTS OF INTEREST

Native to the Mediterranean region. Coastal or sub-coastal areas with a temperate and somewhat humid Mediterranean climate, rarely inland. This subspecies is ideal for forming forests since isolation can provoke their destruction. It is considered a noble tree that gives a pleasant shade. It stoically supports pruning, since in its wild state it regrows from the root after fires, felling, etc. Acorns are bitter but will lose this characteristic if roasted. Dense and compact wood of light reddish color, durable, heavy and elastic. It is used to manufacture tools and in the construction of carts. Good wood for hydraulic works. Its firewood produces good fuel and good charcoal. Its bark is rich in tannins. Tolerates topiary. It can cause allergies. This species is of great ornamental value.

SPACING: 6M

PLANTING AND PLANT HEALTH

Propagation by seed. Does not tolerate transplanting in the first phases of its life. Small plants tolerate the cover provided by their dense canopy well. In sunny places with a warm climate, it should be protected during the first two or three years; later it can be exposed to the sun, high temperatures and prolonged droughts. It is usually attacked by certain insects, especially bark beetles (Treatment: preventive and Alphacipermethrin) and leaf miner caterpillars (Treatment: *Alphacipermethrin, Deltamethrin, Fenitrothion*), and sooty mold-type fungi (Treatment: products with Copper Oxychloride). Oak galls on leaves are sometimes frequent.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
x	x	x	x	x	x	x					x x x x

Sowing Planting Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides Pesticides Fertilizers

COMMERCIALIZATION

Presentation	Girth (cms)	Height (cms)
CT (tray)	1 year (1/0)	15
CT (5L)	Bush	60/80
CT (10L)	Bush	80/100
CT (30L)	Bush	125/150
CEY/CT	8-10	250/300
CEY/CT	10-12	250/300
CEY/CT	12-14	250/300
CEY/CT	14-16	250/300
CEY/CT	16-18	250/300
CEY/CT	18-20	250/300
CEY/CT	20-25	250/300
CEY/CT	25-30	300/400
CT (1500L)	Sample	400/500

Quercus

BROADLEAF EVERGREEN

Quercus suber L.

ALCORNOQUE	SURERA	CORK OAK	CHÊNE-LIÈGE
SPANISH	VALENCIAN	ENGLISH	FRENCH

STRUCTURE		
Shape: IRREGULAR	Height: 8-15 M	Diameter: 6-8 M
Texture: MEDIUM	Shape: FULL	Root: TAPROOT

DIVISION:	SPERMATOPHYTE
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	FAGALES
FAMILY:	FAGACEAES

VARIETIES

MORPHOLOGY		
Trunk	Bark: SCALY	Color: LIGHT GRAY
Leaf: EVERGREEN; SIZE: LEAF: 3-6CM; COLOR: US:DARK GRAY, LS:GRAY; TEXTURE: US:SMOOTH, LS:HAIRY	COMPOUND: NO; HARDNESS: CORIACEOUS; ARRANGEMENT: ALTERNATE; VENATION: PINNATE; SHAPE: OVAL TO OBLONG; MARGIN: DENTATE; APEX: SHARP; LEAF BASE: ROUND; PETIOLE: SHORT	
Flower: SIZE and TYPE: ♂/M 3 MM CATKIN (7 CM); ♀/F 5 MM ISOLATED	Type: UNISEXUAL	Reproduction: MONOECIOUS; Fragrant: NO
Fruit: SIZE: 1.5-3 CM	Type: ACORN	Color: BROWN
	Edible: NO	Fruiting season: SEP-FEB
Growth	Rate: SLOW	Longevity: >300 YEARS

ECOLOGY		
Climate: ALTITUDE: 0-1200; IRRIGATION: MODERATE	Temperature: -15ºC,H2,Z5	Drought resistant: YES
	Sun exposure: SUN/HALF SHADE	Frost resistant: YES
Soil: pH: 5-7.5; FERTILITY: MODERATE	Texture: LOAMY/SANDY	Salt resistant: NO
	Drainage: MODERATE	Lime resistant: NO

USES				
Resistances		Applications		
COASTAL:	2ND LINE	SLOPES: YES	LINE:	YES
POLLUTION:	LOW	RIVERBANKS: NO	WINDBREAKER:	YES
WIND:	HIGH	GROUPS: YES	ISOLATED:	YES

POINTS OF INTEREST

Native to the Western Mediterranean region. It forms forests, often of considerable extension, on siliceous soils, preferably loose and permeable, in cool and sheltered areas. Its bark has often been used as an astringent and, on an industrial scale, it is used to make stoppers and other cork objects. Its acorns are used to feed livestock, particularly pigs. Heavy, hard wood, useful for barrel-making and shipbuilding. Tree of great ornamental value.

SPACING: 7M

PLANTING AND PLANT HEALTH

Propagation by seed. Does not tolerate the transplant in the first phases of its life. Small plants tolerate the cover provided by their canopy well. In sunny places with a temperate climate, it should be protected during the first two or three years and subsequently exposed to sunlight, although in minimum humidity conditions. It is usually attacked by certain insects, especially bark beetles (Treatment: preventive and Alphacipermethrin) and leaf miner caterpillars (Treatment: *Alphacipermethrin, Deltamethrin, Fenitrothion*), and sooty mold-type fungi (Treatment: products with Copper Oxychloride).

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
x	x	x	x	x	x	x	x			x	x	x	x

Sowing Planting Pruning x

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides Pesticides Fertilizers

COMMERCIALIZATION

Presentation	Girth (cms)	Height (cms)
CT (tray)	1 year (0/1)	
CT	Bush	60/80
CT	Bush	80/100
CT	Bush	125/150
CEY/RB	16-18	
CEY/RB	18-20	
CEY/RB	20-25	
CEY/RB	25-30	
CEY/RB	30-35	
CEY/RB	35-40	
CEY/RB	50-60	
CEY/RB	70-80	
CEY/RB	90-100	

Schinus *Schinus molle* L.

BROADLEAF EVERGREEN

FALSO PIMENTERO	PEBRER FALS	CALIFORNIA PEPPER-TREE	FAUX POIVRIER
SPANISH	VALENCIAN	ENGLISH	FRENCH

STRUCTURE		
Shape	Height	Diameter
PENDULAR	6-15 M	4-6 M
Texture	Shade	Root
MEDIUM	PARTIAL	OBLIQUE

DIVISION:	SPERMATOPHYTE
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	SAPINDALES
FAMILY:	ANACARDIACEAES

VARIETIES

MORPHOLOGY		
Trunk	Bark: ROUGH	Color: DARK BROWN
Leaf EVERGREEN	COMPOUND: IMPARIPINNATE HARDNESS: SOFT ARRANGEMENT: ALTERNATE VENATION: PINNATE SHAPE: LANCEOLATE MARGIN: SERRATE APEX: CUSPIDATE/ACUMINATE LEAF BASE: ROUND PETIOLE: SHORT	
SIZE: LEAF: 25-30CM; LEAFLET: 3-6CM COLOR: US: MID GREEN; LS: MID GREEN TEXTURE: US: GLOSSY; LS: GLOSSY		
Flower SIZE AND TYPE ♂/M 2 MM; ♀/F 2 MM	Type: UNISEXUAL	Reproduction: DIOECIOUS
	Flowering: PANICLE (15 CM)	Fragrant: NO
Fruit SIZE: 0.5-0.7 CM	Type: DRUPE	Color: RED
	Edible: NO	Fruiting season: AUG-DEC
Growth	Rate: FAST	Longevity: 100 YEARS

ECOLOGY		
Climate	Temperature: -6ºC,H4,Z6	Drought resistant: MODERATE
ALTITUDE: 0-800 IRRIGATION: LOW	Sun exposure: SUN/PARTIAL SHADE	Frost resistant: MODERATE
Soil	Texture: ALL TYPES	Salt resistant: MODERATE
pH: 5.5-8.5 FERTILITY: POOR	Drainage: LOW	Lime resistant: MODERATE

USES					
Resistances		Applications			
COASTAL:	2nd LINE	SLOPES:	NO	LINE:	YES
POLLUTION:	MODERATE	RIVERBANKS:	NO	WINDBREAKER:	NO
WIND:	HIGH	GROUPS:	NO	ISOLATED:	YES

POINTS OF INTEREST

Native to the South American subcoast between northern Chile to Colombia and beyond, with the exception of very hot and humid areas. Its specific name *Schinus Molle* comes from its native Peruvian name. The fruit contains a volatile oil whose aroma is reminiscent of pepper and therefore used as a subtitute. In Mexico a strong liquor called *copalote* is obtained by fermenting the fruits with *pulque* for one or two days. Some natives of South America use the essential oil of the fruits and leaves for medicinal purposes. Bark decoction is used for the cleansing of pets. The wood has some uses. From the sap, a kind of chewing gum is obtained. Its weeping appearance and leafy crown make it attractive as an isolated shade tree.

SPACING: 8M

PLANTING AND PLANT HEALTH

Propagation by seed and cuttings. It can be attacked by mealybugs, especially *Ceroplastes rusci* and *Ceroplastes sinensis*. Treat with chlorinated or phosphorous pesticides.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
X	X	X	X	X	X	X	X	X	X		

Sowing Planting Pruning X

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides Pesticides Fertilizers

COMMERCIALIZATION

Presentation	Girth (cm)	Heigth (cm)
CT	4-6	
CT	6-8	
CT/RB	8-10	
CT/RB	10-12	
CT/RB	12-14	
CT/RB	14-16	
CT/RB	16-18	
CT/RB	18-20	
CT/RB	20-25	
CT/RB	25-30	
CT		150/175
CT		200/250
CT		250/300

Schinus — *Schinus terebinthifolius* Raddi.

BROADLEAF EVERGREEN

PIMENTERO DEL BRASIL (SPANISH) · FALS TEREBINT (VALENCIAN) · BRAZILIAN PEPPER-TREE (ENGLISH) · ', À FEUILLESDETÉRÉBINTH (FRENCH)

STRUCTURE		
Shape	Height	Diameter
OVAL	5-10 M	4-6 M
Texture	Shade	Root
MEDIUM	FULL	OBLIQUE

DIVISION:	SPERMATOPHYTE
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	SAPINDALES
FAMILY:	ANACARDIACEAES

VARIETIES

MORPHOLOGY		
Trunk	Bark: FISSURED	Color: DARK BROWN
Leaf	COMPOUND: IMPARIPINNATE	
EVERGREEN	HARDNESS: CORIACEOUS	
SIZE: LEAF:12-40CM	ARRANGEMENT: ALTERNATE	
LEAFLET:6-8CM	VENATION: PINNATE	
COLOR: US:DK GREEN	SHAPE;: ELLIPTIC/OBLONG	
LS:MID GREEN	MARGIN: SERRATE	
TEXTURE: US:GLOSSY	APEX: SHARP	
LS:SMOOTH	LEAF BASE: ROUND	
	PETIOLE: SHORT	
Flower	Type: UNISEXUAL	Reproduction: DIOECIOUS
SIZE: ♂/M 2 MM	Flowering: PANICLE (15 CM)	Fragrant: NO
♀/F 2 MM		
Fruit	Type: DRUPE	Color: RED
	Edible: NO	Fruiting season: AUG-DEC
SIZE: 0.5-1 CM		
Growth	Rate: MODERATE	Longevity: 100 YEARS

ECOLOGY		
Climate	Temperature: -3ºC,H5,Z6	Drought resistant: MODERATE
ALTITUDE: 0-800	Exposure to sun: SUN/HALF SHADE	Frost resistant: MODERATE
IRRIGATION: LOW		
Soil	Texture: LOAMY/SANDY	Salt resistant: MODERATE
pH: 5-8.5	Drainage: LOW	Lime resistant: MODERATE
FERTILITY: POOR		

USES				
Resistances		Applications		
COASTAL:	1ST LINE	SLOPE: NO	LINE:	YES
POLLUTION:	MODERATE	RIVERBANKS: NO	WINDBREAKER:	YES
WIND:	MODERATE	GROUPS: YES	ISOLATED:	YES

POINTS OF INTEREST

Native to Brazil, Argentina and Paraguay. Its specific name *Schinus terebinthifolius* means terebinth leaf, corresponding to another deciduous tree of the same family *Pistacia terebinthus*. The foliage and fruits are used to make garlands at Christmas. Apparently, in South America a resin called *balm of the missions* is obtained from the trunk. The leaves and bark have medicinal properties. Sometimes it needs formative pruning to achieve a compact and regular crown. Due to its small size, it is suitable as a street tree primarily on narrow sidewalks.

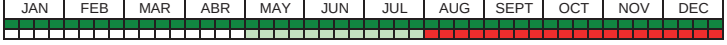
SPACING:7M

PLANTING AND PLANT HEALTH

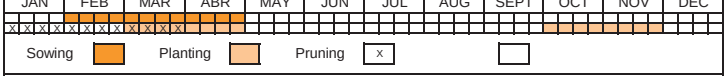
Propagation by seed. It can be attacked by mealybugs, especially *Ceroplastes rusci* and *Ceroplastes sinensis*. Treat with chlorinated or phosphorous pesticides.

CHROMATIC CALENDAR

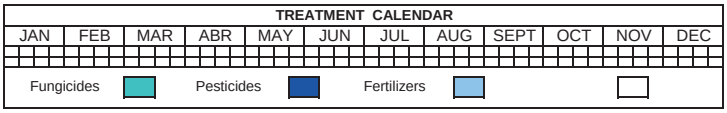
FOLIAGE, FLOWERING AND FRUITING SEASON



CULTIVATION CALENDAR



TREATMENT CALENDAR



COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
CT	6-8	
CT	8-10	
CT	10-12	
CT	12-14	
CT	14-16	

Spathodea

BROADLEAF EVERGREEN

Spathodea campanulata Beauv.

TULIPERO DEL GABÓN (SPANISH) · ARB. TULIPES AFRICÀ (VALENCIAN) · AFRICAN FLAME TREE (ENGLISH) · LE TULIPIER DE GABON (FRENCH)

STRUCTURE		
Shape: OVAL	Height: 10-25 M	Diameter: 8-12 M
Texture: COARSE	Shade: PARTIAL	Root: OBLIQUE

DIVISION:	SPERMATOPHYTE
SUBDIVISION:	ANGIOSPERMS
TYPE:	DICOTYLEDONS
ORDER:	LAMIALES
FAMILY:	BIGNONIACEAES

VARIETIES

MORPHOLOGY		
Trunk	Bark: ROUGH	Color: GREENISH GRAY
Leaf: SEMI -EVERGREEN; SIZE: LEAF: 65CM, LEAFLET: 8-12; COLOR: US:DK GREEN, LS:PALE GREEN; TEXTURE: US:ROUGH, LS:ROUGH	COMPOUND: IMPARIPINNATE; HARDNESS: CORIACEOUS; ARRANGEMENT: OPPOSITE; VENATION: PINNATE; SHAPE: ELLIPTIC; MARGIN: ENTIRE; APEX: CUSPIDATE; LEAF BASE: ASYMMETRIC; PETIOLE: SHORT	
Flower: SIZE: ♂/M 7-9 CM	Type: HERMAPHRODITE	Reproduction: HERMAPHRODITE
	Type: RACEME (40 CM)	Fragrant: NO
Fruit: SIZE: 15-25 CM	Type: CAPSULE	Color: WHITE
	Edible: NO	Fruiting season: SEP-OCT
Growth	Rate: FAST	Longevity: 200 YEARS

ECOLOGY		
Climate: ALTITUDE: 0-100; IRRIGATION: MODERATE	Temperature: 6ºC,G1,Z7	Drought resistant: NO
	Sun exposure: SUN/HALF SHADE	Frost resistant: NO
Soil: pH: 5.5-8.5; FERTILITY: FERTILE	Texture: LOAMY/SANDY	Salt resistant: MODERATE
	Drainage: HIGH	Lime resistant: MODERATE

USES				
Resistances		Applications		
COASTAL:	2ND LINE	SLOPES: NO	LINE:	YES
POLLUTION:	MODERATE	RIVERBANKS: NO	WINDBREAKER:	NO
WIND:	MODERATE	GROUPS: NO	ISOLATED:	YES

POINTS OF INTEREST

Native to tropical Africa and widely cultivated in all the tropics and subtropics of the world. In Spain it is grown in the Canary Islands where it can even be used as a street tree. In the Peninsula its plantation is scarce (Malaga, Seville, etc.). Its specific name *Spathodea campanulata* refers to the shape of its flower (bell-shaped); one of its most ornamental features is when it is in full bloom.

SPACING: 8M

PLANTING AND PLANT HEALTH

Propagation by seed and cuttings. As this species is sensitive to cold, its planting should be restricted to subtropical areas such as the Canary Islands and some areas of the Mediterranean coast where frost does not occur. It can be attacked by insects, fungi and bacteria.

CHROMATIC CALENDAR

FOLIAGE, FLOWERING AND FRUITING SEASON

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

CULTIVATION CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
		x	x	x	x	x	x	x	x	x	x

Sowing · Planting · Pruning (x)

TREATMENT CALENDAR

JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Fungicides · Pesticides · Fertilizers

COMMERCIALIZATION

Presentation	Girth (cm)	Height (cm)
Commercialized in the Canary Islands		

Subchapter 1.3 Commercialization, use and planting

COMMERCIALIZATION AND USE

Evergreen trees can be classified depending on the structure of their branches:

I. Trees whose branches start from the ground level
II. Trees whose crowns start after a clear trunk
    IIA. Without a clear leader
    IIB With a central leader (pyramid-shaped)
III. Leafy trees
    IIIA. Multiple trunks
    IIIB. Single trunk

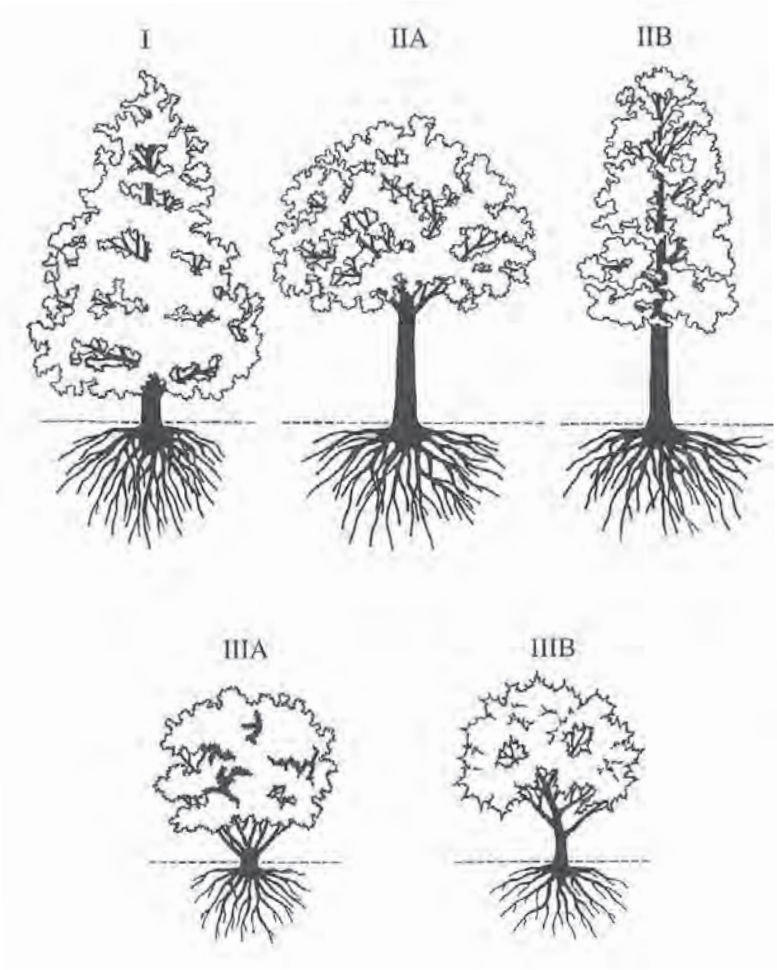


Figure 1.3.1: Typology of evergreen trees (Source: NTJ 07E)

Figure 1.3.2: Shapes of trees. Extended, pyramidal, cone-shaped, weeping, round, palmiform, columnar

Trees that have crowns can be classified according to the height of their free trunk up to the point of the start of the crown:

- **Tree with tall crown**, should have a trunk height free of lateral branches and be greater than 250 cm. Uses: avenues and public roads.
- **Trees with medium size crown**, should have a trunk height free of lateral branches and be between 225 and 250 cm. Uses: paths in parks and gardens.
- **Tree with low crowns**, should have a trunk height free of lateral branches and be less than 225 cm. Uses: gardens and green areas with no pedestrian access.

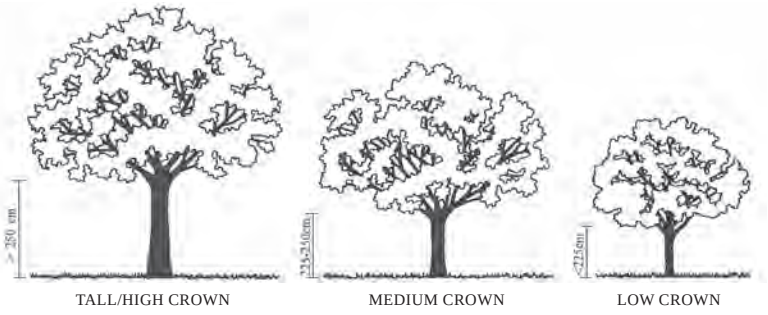


Figure 1.3.3: Crown heights dependig on the location of the tree (Source: NTJ 07E)

Specific and authenticity of tree variety

Selected trees must have suitable identity and purity in relation to the type or species to which they belong. If the intention is to commercialize them, it must be done so with a reference to the cultivar including its correct genetic purity.

General conditions of cultivation

Evergreens can be grown in fields or be containerized.

Trees should be cultivated in line with the necessities of species-variety, age, and future use. The roots of trees grown in open fields should be pruned periodically.

In cases where the trees are containerized, recipients that reduce the risk of a spiraling root effect should be used. In any case, trees grown in containers (except for those that grow slowly) should be repotted to larger ones at least every two years before spiraling occurs.

The spacing in planting must be proportional to the needs of each species and variety, their age, and to the mechanization system used.

When referring to trees with pyramidal crowns, the thinning out or the progressive elimination of the lower branches must not exceed the lower third of the tree at any time. See Figure 4.

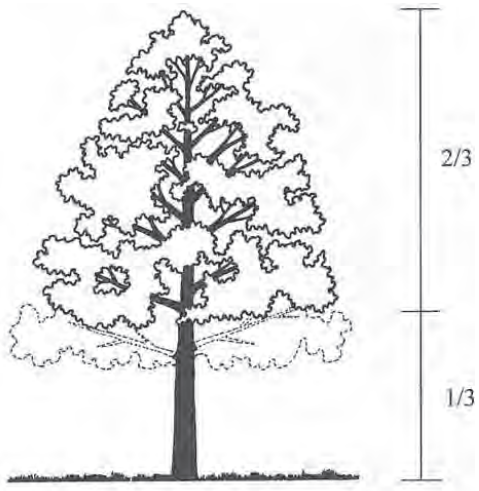


Figure 1.3.4: Crown raising in a tree with pyramidal crown (Source: NTJ 07E)

Multi-trunk trees can be obtained by training at the base or by planting different plants within a single planting pit or container. In the first case, the different structural branches must start from a maximum height of 50 cm above ground level.

Grafts and rootstocks

Grafting can take place in the upper or lower part of the tree. The aim of top grafting is to obtain spherical or pendulous shapes, cultivars that are not vigorous or where forming a straight trunk is problematic.

Root Pruning

The quality of a tree cultivated in the field depends on the number of times it has been root pruned before it has been uprooted for commercialization. In trees with a taproot system, it is important to limit the vertical growth of the taproot in order to promote the growth of secondary roots.

The first root pruning must be done when the plantlet of the seedling is transferred to the field. The uprooting of a tree for its commercialization cannot be considered a root pruning operation. Table 1.3.1 shows the number of root pruning according to the girth of the trunk in branched or crowned trees.

GIRTH (perimeter) in cm	Minimum number of root prunings
6-8	1
8-10	1
10-12	1
12-14	2
14-16	2
16-18	2
18-20	2
20-25	2
25-30	3
30-35	3
35-40	3
40-45	4
45-50 or more	4

Table 1.3.1: Number of root pruning operations according to the girth of the trunk

Evergreen trees cultivated in the field should be root pruned with temporal frequency according to their size, as outlined in Table 1.3.2. They must be arranged so that further root pruning can take place.

The space between the plants should be proportional to the needs of the species or varieties. Specimen trees should have been pruned at least twice and for girths greater than 30 cm, three times... For girths greater than 40 cm, the tree should have been at least three times

Girth	Frequency of root pruning
< 20 cm	3-5 years
> 20 cm	5-6 years

Table 1.3.2: Approximate frequency to prune trees cultivated in the field according to their girth (perimeter of the trunk)

Dimensions and proportions

Commercialized evergreens are classed according to the girth of their trunk measured 1 meter over the level of the ground or the neck of the root (1.30 m in monumental, large or listed as specimen trees). In addition, they should be measured according to their total height.

For a tree with multiple trunks, the total girth is the sum of the individual girths

In all plants, there should be a ratio between the total height and the girth of the trunk, which depends on the species or variety and can vary according to the growing conditions in different climatic zones.

The height, and width of the crown, the length of the branches, the branching out, and the foliage must correspond to the age of the individual according to the species or variety in well-balanced proportions. If applicable, this should also be applied to the ratio between rootstock and graft with regard to the trunk and crown.

Trees must have a crown proportionate to the thickness of the trunk and have a minimum of three structural branches balanced between them.

Roots should be well developed and proportionate according to the species or variety, age, ground conditions and growth. The root system should be balanced and proportionate to the size of the root ball or the container.

Evergreen trees are classed according to the girth of the trunk:

Girth in cm	
6-8 cm	20-25 cm
8-10 cm	25-30 cm
10-12 cm	30-35 cm
12-14 cm	35-40 cm
14-16 cm	40-45 cm
16-18 cm	45-50 cm
18-20 cm	from 50 cm, by tens

Table 1.3.3: Classification of trees according to trunk girth

Measurement of the underground part

The size of the root ball must be proportional to the type of growth and structure of the species or variety, the development of the plant, and the soil conditions.

Evergreen trees supplied with a root ball must have minimum dimension based on the following formulas:

Width of root ball (cm) = Average of the type of girth range (cm) x 2

Depth of root ball (in cm) = width of root ball (in cm) x 1.2

If evergreen trees are supplied in a container, the container must have a volume proportional to the size of the plant. The minimum volume of the container in relation to the girth is expressed in the following table:

Girth in cm	Minimum volume of container in liters	Minimum width of container in cm
6-8	10	25
8-10	10	25
10-12	15	30
12-14	15	30
14-16	25	35
16-18	35	40
18-20	50	45
20-25	80	50

Table 1.3.4: Minimum recommended volume of container in relation to width

General specifications of supply

Ornamental evergreens can only be commercialized by authorized suppliers and must always comply with the specifications outlined in this chapter.

In Spain, the conditions for the supply of plant material are described in NTJ 07A: CALIDAD GENERAL (chapter 4.6).

In the case of supplying ornamental evergreens that must be commercialized with an ornamental label, reference must be made on the delivery note of the cultivar to which they belong, if applicable. This cultivar should be:

- Of common knowledge within the sector and protected in agreement with the provisions relating to the protection of plant varieties, or officially registered voluntarily or otherwise.
- Registered in the list drawn up by the supplier, with its detailed description and the corresponding denominations. This list must be made available to the official body in charge.

Each cultivar should be labeled in accordance with accepted international standards.

The lists prepared by the suppliers, mentioned above, must include the following:

- The name of the cultivar and, if applicable, its most common synonyms.
- The description of the cultivar, at least according to the most important characteristics.
- All available data on the characteristics that differentiate the cultivar from others that might be similar to it.
- The indications of the conservation of the cultivar and of the reproduction system used.

The last two points should not be applied by suppliers whose activity is limited to the commercialization of reproductive material and ornamental plants.

The quality criteria must refer to both the aerial and subterranean part.

Presentations of the root system

Evergreens can be supplied with root balls or containerized, capable of maintaining the development of new roots within the root ball. In exceptional cases, some species can be supplied bare root.

Quality of the subterranean part

The root system must be well developed and correspond, both in shape and size, to the characteristics of the species or variety, to the age of the tree, as well as to the characteristics of the soil or substrate where it has been grown. In the case of root systems with a tap root, it must have sufficient functional secondary roots and must maintain a length of at least 20 cm.

Quality of aerial part

The supplied evergreen trees must be correctly formed and structured, with adequate branching. They should be supplied with a proportionate volume of healthy foliage. In this way, the total height, the crown height, the density of the foliage, the girth of the trunk, as well as the number, distribution, width and length of the branches must correspond to the growth and aesthetic characteristics of the plant species or cultivar to which they belong, to the desired shape and to the age of the plant.

Crowned trees much have a balance between the trunk and crown.

In grafted trees, the graft should be correctly attached to the rootstock. Crowns formed by grafting must also give rise to a crown centered on the axis of the trunk, be well developed, and display the characteristics of the cultivar.

Trees with pyramid-shaped crowns should keep at least 2/3 of the total height of the original crown even after the removal of the lower branches during the lifting of the crown.

In the formative pruning, the cuts must clean and properly oriented and shoots should be removed.

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Figure 1.3.5: Removing codominant branches (NTJ 07D)

Figure 1.3.6: Removing abnormal branches (NTJ 07D)

Trees (especially those used for alignment) must have neither co-dominant nor abnormal branches (forked branches) on their main axis. When training through formative pruning, branching out levels must always be respected. See Figures 1.3.5 and 1.3.6.

Branched trees from their base must be fully foliaged from top to bottom and side branches evenly distributed along the trunk.

Crown trees must have a branch structure within its crown typical of the species or variety. The crown must be well formed and have a proportionate volume with respect to the girth of the trunk.

Trees with a pyramid shape should have only one central leader.

Round or pendulous crown trees should not be pyramid shaped. Fastigiated cultivars should have a single straight trunk.

When supplying trees for sculptural purposes, special shapes such as twisted, forked, leaning or multiple trunks may be desirable. In these cases, the batches do not have to be homogeneous.

Specifications for trees used in streets

Crown trees designated for planting in streets usually require a tall or medium crown. Care must be taken so that the main branches are not excessive.

Crown tree specifications used for alignments must indicate the height of the crown and relating to the dimensions, species or variety of the tree, so that the crown is well balanced with the trunk. Each batch supplied must have uniformity in the girth in the total height, in the height of the crown and in its volume and structure. If it corresponds to the species or variety of the tree supplied, the trunks must be single, straight, and vertical.

Trees supplied with root ball

The root ball should be solid and have a well-developed root system.

The root ball must be protected with non-galvanized wire mesh, with a basket of the same material, degradable organic fabric or with reinforced plaster and must be tied with suitable degradable material. In the case of specimen trees, the root ball must be protected with non-galvanized wire mesh, a basket of the same material, reinforced plaster, or in a wooden bucket and must be tied with suitable degradable material. The protective materials must not be damaged during delivery. See Figure 1.3.7

Figure 1.3.7: Tree supplied with root ball (source: NTJ 07E)

Only those materials that decompose before a year and a half after planting and do not affect the subsequent growth of the tree and its root system will be allowed as protection or tying materials for the root ball and will not be necessarily removed in the planting.

It is not recommended to supply trees with root balls that have a sectioned root with a diameter greater than 3 cm on their periphery.

The supply of trees with root ball must be done at least one growing season after the date of the last pruning.

Trees supplied in containers

A containerised evergreen should have been transplanted and grown long enough for new roots to develop in such a way that the root ball will hold its shape inside the container and remain compact when removed. Roots should not show symptoms of spiraling and should not protrude significantly through drainage holes.

Container-grown evergreens should be sold based on plant size and container volume.

The container should be rigid enough to support the shape of the root ball, protecting the root mass during transport.

The tree should be centered in the container and have enough substrate relative to the volume of the container.

Container-grown trees or evergreen trees, which have not been in a container long enough for the root system to have had a suitable development are unacceptable.

The supply of evergreen trees grown on non-degradable mesh should not be allowed.

Period of supply

The appropriate planting time depends on the type of supply (root ball or container), the type of tree (evergreen or semi leaf), the species, the climate of both the planting site and the nursery, the weather and the type of maintenance that is planned to be carried out.

Planting should be done preferably when the roots of the tree are dormant, avoiding the critical period of sprouting, which depends on the species and the climatic conditions of the place. It is also not recommended to plant in unfavorable weather conditions, such as frost, heavy rain, snowfall, or on days with strong winds or excessively high temperatures.

Supplying trees in containers or plastered root balls facilitates handling and the possibility of planting throughout the year.

Plant health

The trees must be healthy, mature, and sufficiently hardened so that their roots and future development are not compromised.

Trees cannot show defects caused by diseases, pests, physiopathologies, nutritional deficiencies, or phytotoxicity due to phytosanitary treatments that reduce the value or qualification for use. They must be substantially free (at least by visual observation) from harmful organisms and diseases, or signs or symptoms thereof, which significantly affect and reduce the value of their use as ornamental trees.

The trees should not have any burns or injuries in the bark, apart from the normal ones produced during formative pruning. There should be no broken branches or twigs and the foliage should not be damaged or dry. The twigs as well as the roots must present a good turgidity.

The roots must not be damaged or show signs of rot. The substrates of the plants, both those supplied in containers and in root balls, must be free of weeds, especially for perennial plants.

The evergreen trees supplied must comply with current legislation on plant health, especially when referring to harmful organisms and diseases that significantly affect quality; to quarantine harmful organisms that may not be present in any nursery; and ornamental trees that need a plant health passport and/or commercial label.

Planting design

The planting of any evergreen trees must be carried out from a project that specifies the species or cultivar, the type of supply (root ball or container), the size of the plant (girth or height), the type of branch structure (pyramid-shaped, crown lift or branched from the base, etc.), the setting or distance of planting, the number of specimens, the planting system and time, and its location on the design layout.

Once all the civil works have been carried out, the **plant layout** can be transferred to the site, that is, the placement of each plant can be initiated. This will be done by drawing or marking everything on the

ground (including ground that will already have its final shape, its undulations, etc.), marking the limits with plaster lines. Stakes can be used to mark the exact point where trees can be placed. By following a series of fundamental operations, the planting of the species can now take place by following a series of operations:

- Digging the planting pit
- Soil conditioning
- Placement
- Training (if necessary)
- First irrigation
- Mulching (if necessary)

NOTE: For successful planting, great care must be taken in this process.

Profiling the terrain and soil conditioning

When dealing with planting of trees in a park, garden or in a landscaped area, the modeling and profiling of the land must be carried out prior to the planting process (as we have already seen), and the conditioning of the soil. Ensuring a suitable profile will guarantee successful planting.

If the soil is compact and to avoid water logging resulting in the premature death of newly planted trees, improving its texture, structure and permeability is recommended. If excessively compact, sub soiling should be done in the planting area. If a crust forms on the soil surface, a soil scarification must be carried out.

If the physical-chemical conditions of the soil are not adequate, a soil amendment must be carried out with the addition of materials that favor fertility, porosity, drainage, and moisture retention.

As a guide, it is accepted that a garden soil has an adequate proportion of the main components of the soil when it contains:

- 20-30 % clay
- 50-65 % sand and silt
- Less than 10 % of lime
- 2-10 % of topsoil or humus

On the other hand, those with more than 30% clay will be considered clayey, those with more than 70% sand are too sandy, and those with more than 10% lime will be considered alkaline or basic.

However, each plant has its own ideal balance. For example, soil for grass should be sandy, etc.

Other soil characteristics to consider are its chemical properties (the different chemical elements important in the soil or the pH). Some plants live in neutral soil, others in alkaline or basic soils while other need acidic soil.

The minimum depth of turned over and fertile soil is 50 cm.

If stones are present, it may be necessary remove them.

If stumps are present, it may be necessary to use a stump remover.

If weeds are present, it may be necessary to use remove them.

Opening planting pits

Opening planting pits must be prepared in advance to favor the weathering of the soil and its conditioning.

Below are the necessary stages for opening planting pits:

a) Mark the placement of the plant outlined in the project
b) Take into consideration aerial service networks, built elements, and urban furniture (streetlamps, signs etc.), existing vegetation etc.
c) Locate possible presence of underground services (water, electricity...)
d) Take into consideration ground condition (rocky outcrops, excess of stones, presence of foreign materials...)
e) Place the plant in situ
f) Reposition the plant according to desired orientation etc.
g) Mark the new position if necessary
h) Decide appropriate opening method (manual or mechanic)
i) Make the planting pit
j) Gather together the useful material from the excavation to reuse when planting
k) Materials from the excavation that cannot be used must be discarded correctly

The planting pit must be proportional to the tree that is going to be planted. It will be wide and deep enough to accommodate the entire root ball or root system, providing more room for future development.

Minimum dimensions of planting pits

For trees supplied with a root ball or in a container, the diameter of the pit should be as large as possible, at least twice (or even three times) as wide as that of the root ball. The depth of the holes or tree pit should be approximately equal to the height of the root ball.

Shape of planting pits

The shape of the pit can be cylindrical, truncated conical, cubic, parallelepiped or a truncated pyramid. In compact soils, it is convenient that the volume excavated in the upper part is considerably greater than that of the lower part.

Regarding planting pits, their width should correspond to the diameter of the hole and its depth to the depth of the root system or root ball. Its length should be that of the line of plants. In some cases, the pits of double diameter can be made for a double alignment or staggered planting.

When planting lines of trees, trenches are recommended rather than individual holes.

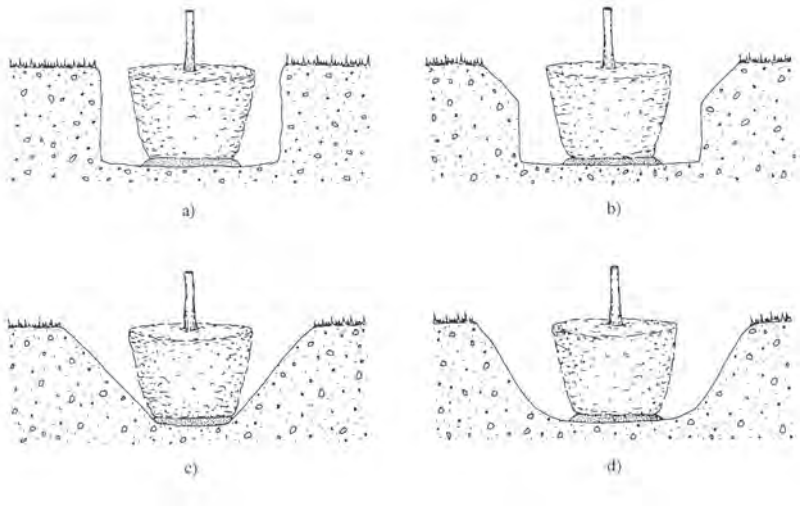

Figure 1.3.8: Different types of planting pits (Source: NTJ 08C)

Draining and aeration

When planting in soils that are clayey, have little drainage, compact and with physical-chemical characteristics that hinder aeration, porosity, permeability or infiltration of water into the soil or in the case of planting species susceptible to root suffocation, it is advisable to install a **drainage system** made up of pipework, drains, drainage tubes, special pieces and layers of gravel, which allows the water to drain to lower positions or towards the sewer.

The drainage tube should be placed at the bottom of the pit around the root zone, forming a circle, and should be filled with washed gravel. A T-type connector should be attached to a collector tube that collects the water away from the tree. A layer of aggregate about 7 cm thick must be placed on the drainage pipe, with an intermediate grading between that of the subsoil and that of the filling earth. See figure 1.3.9.

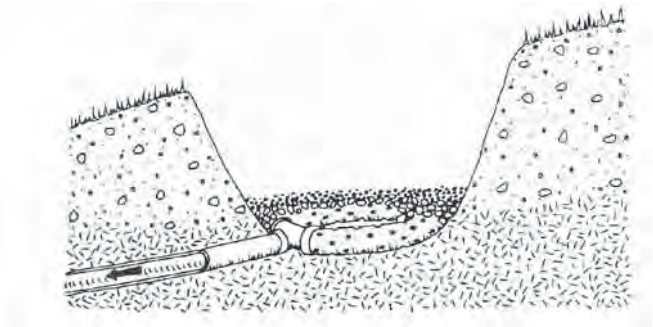

Figure 1.3.9: Drainage pipe (source: NTJ 08C)

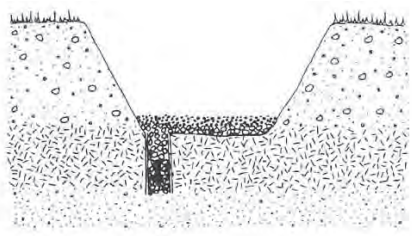

Figure 1.3.10: Vertical drainage (source: NTJ 08C)

In asphyxiating soils or in new plantations in roadside, tree pits, continuous pits, roadside flowerbeds, etc., corrugated aeration tubes will be placed.

Planting trees in container or root ball

Great care must be taken so that the root ball does not break or damage is done to the roots.

Planting steps are as follows:

1. Protect the pipes with anti-weed fabric.
2. Fill the pit to the height of where the plant will be placed.
3. Remove the plant from the pot if necessary.
4. Proceed to:
    - If the plant is protected with metal mesh, cut the wire collar and remove the upper part to avoid the risk of strangulation.
    - If the plant is in plaster, remove the clay from the lower part and perforate the sides.
    - If the plant comes with a root ball with biodegradable material, it does not need to be removed.
5. Place the plant in the pit making sure that there are no foreign objects.
6. Place the plant vertically in the desired position without burying the root collar, allowing it to stabilize.
7. If necessary, reconsider the line position.
8. Fill the pit to half its depth.
9. Tap down on the soil.
10. Fill in the rest of the pit with backfill.
11. Tap down lightly on the soil again.

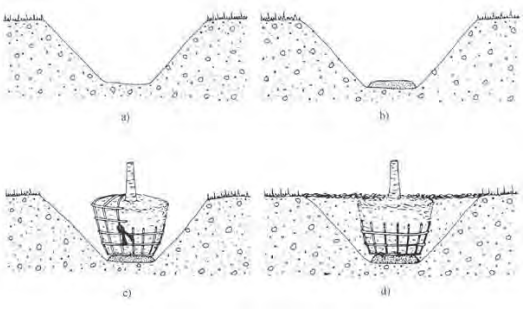

Figure 1.3.11: Planting steps for trees with root balls (Fuente: NTJ 08C)

Staking

Trees that are not stable must be staked until they take root (approximately two years).

The role of staking is to:

- Prevent movements that can break the root.
- Stabilize plants while they take root.

How to carry out staking correctly:

- The aerial part of the plant nor the roots must not be damaged (especially the root ball).
- Stakes must be placed prior to filling the planting pit.
- It must resist strong winds.
- It must be resistant to vandalism, hits and pulling that may occur in the planting area.
- It must not put people at risk.
- If the stakes need to be attached to the trunk and branches, elastic and non-abrasive material must be used.

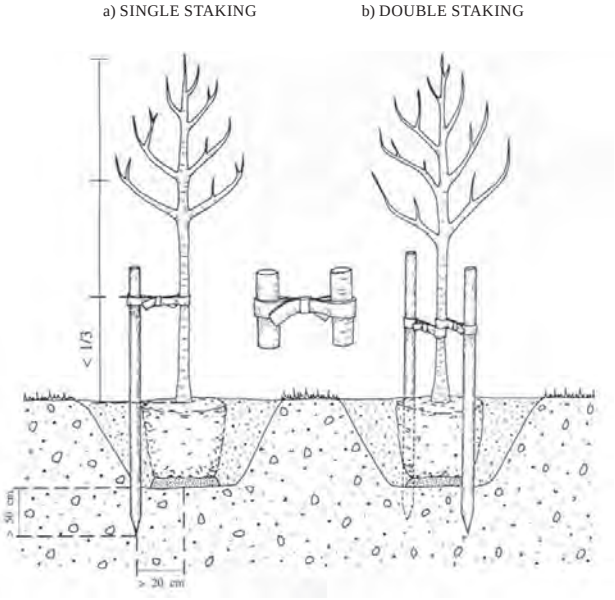

Figure 1.3.12: Examples of single and double staking (source: NTJ 08C)

Filling the planting pit

Soil will be added in stages to avoid air pockets.

In this operation and depending on the characteristics of the material removed when digging the pit, the following practicalities can be identified:

Using the material removed from the planting pit:

• Good for the correct development of the roots	Direct use
• Reasonable development of roots	Mix with fertile soil or similar and fertilizers
• Incorrect development of roots	Replace with fertile soil. The excavated soil should be disposed of correctly.

A shallow pit should be created to retain enough water.

Irrigation after planting. Once the planting has been carried out, the planting pit should be filled with a large amount of water so that the root system is completely wet. The soil must be at field capacity. Irrigation must be done at low pressure to ensure no loss of soil.

Mulching

The surface area of soil around the newly planted tree should be covered with approximately a 10 cm layer of mulch.

The purposes of mulching are:

- Protects the roots from extreme temperatures.
- Preserves the humidity of the soil under the mulching area.
- Increases water infiltration around the root collar.
- Increases aeration of the soil around the root collar.
- Provides organic matter to the soil
- Reduces the presence of weeds
- Promotes the growth of microorganisms
- Reuses the discarded materials (what is left from pruning)
- Protects the base of the tree from possible damage during the mowing of grass or weeding

Most common materials used for mulching are:

- Crushed tree bark or what is left from pruning
- Nut shells
- Sand and gravel
- Balls of expanded clay
- Straw and dead leaves

After adding the mulch and careful not to cover the root collar, it is recommended to water abundantly to make the surface compact and reduce scattering by wind and rain.

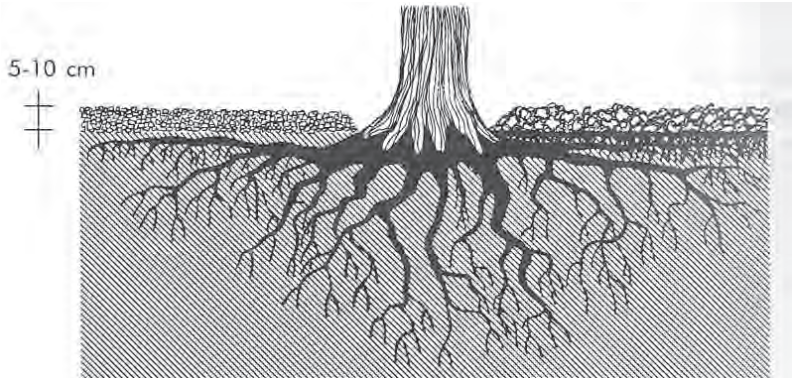

Figure 1.3.13: Mulching (Source: planting. Practical manual for its correct application COITAC)

Planting period. The correct time for planting depends on the type of supply (root ball or container), the type of tree (evergreen, semi-evergreen, deciduous leaf), the species, the climate conditions of where the plant will be placed as well as at the nursery, the weather and the type of maintenance that is expected to be carried out. Table 5 is a guide for the planting time under normal conditions.

Planting should be carried out preferably when the tree is in its dormant stage, avoiding the critical period of sprouting, which depends on the species and the climatic conditions of the place. It is also not recommended to plant in unfavorable weather conditions, such as frost, heavy rain, snowfall or on days with strong winds or excessively high temperatures.

Supply of trees cultivated in containers or prepared in root balls in gypsum facilitates handling and the possibility of planting throughout the year.

FACTOR TO CONSIDER			PLANTING PERIOD											
Origin of species	**Area of planting**	**Type of supply**	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**
Trees from Mediterranean or warm climate	Mediterranean	Evergreen leaf with root ball												
		Evergreen leaf with container												
Trees from subtropical climate	Mediterranean	Evergreen leaf with root ball												
		Evergreen leaf with container												
Trees from Mediterranean or subtropical	Subtropical	Evergreen leaf with root ball												
		Evergreen leaf with container												

Preferred time

Complementary

Table 1.3.5: Preferred periods for planting evergreen trees (Source: NTJ 08C)

CLASSIFICATION OF EVERGREEN TREES ACCORDING TO STRUCTURE AND TYPE OF GROWTH (Source NTJ 07E)

Evergreen trees can be organized based on their final size, growth rate and type of branching structure, according to the following classification:

1: Large or medium sized trees of rapid growth
2: Large or medium sized trees of medium to slow growth
3: Small trees

r: Trees with branches at base
c: Crown lift
f: Pyramidal crown lift
a: Leafy trees

This list includes some species with semi-deciduous foliage or that behave as evergreen in subtropical climate areas and as deciduous in temperate climate zones.

SCIENTIFIC NAME	SYNONYMS	FAMILY	CLASSIFICATION
Acacia baileyana F. Muell.		Mimosaceae	3 c/a
Acacia cyclops A. Cunn. ex G. Don		Mimosaceae	3 c/a
Acacia dealbata Link		Mimosaceae	3 c/a
Acacia decurrens (J.C. Wendl.) Willd.		Mimosaceae	3 c/a
Acacia x hanburyana Winter ex Berger		Mimosaceae	3 a
Acacia longifolia (Andrews) Willd.		Mimosaceae	3 c/a
Acacia mearnsii De Wild.	*A. mollissima* auct. non Willd.	Mimosaceae	3 c/a
Acacia melanoxylon R. Br.		Mimosaceae	1 f
Acacia podalyriifolia G. Don		Mimosaceae	3 c/a
Acacia pubescens (Vent.) R. Br.		Mimosaceae	3 c/a
Acacia pycnantha Benth.		Mimosaceae	3 c/a
Acacia retinodes Schltdl.		Mimosaceae	3 c/a
Acacia salicina Lindl.		Mimosaceae	3 c/a
Acacia saligna (Labill.) H. L. Wendl.	*A. cyanophylla* Lindl.	Mimosaceae	3 c/a
Acacia spectabilis A. Cunn. ex Benth.		Mimosaceae	3 c/a
Acacia stenophylla A. Cunn. ex Benth.		Mimosaceae	3 c/a
Acca sellowiana (O. Berg) Burret	*Feijoa sellowiana* O. Berg	Myrtaceae	3 c/a
Acer oblongum Wall. ex DC.		Aceraceae	3 c
Agonis flexuosa (Willd.) Sweet		Myrtaceae	3 r/c/f
Albizia lophantha (Willd.) Benth.	*A. distachya* (Vent.) Macbr.	Mimosaceae	3 c/a
Aleurites moluccana (L.) Willd.		Euphorbiaceae	2 c
Allocasuarina verticillata (Lam.) L.A.S. Johnson	*Casuarina stricta* Aiton	Casuarinaceae	1 r/f
Annona cherimola Mill.		Annonaceae	3 c/a

Apollonias barbujana (Cav.) Bornm.	*A. canariensis* (Willd.) Nees	Lauraceae	2 r
Arbutus andrachne L.		Ericaceae	3 c/a
Arbutus canariensis Veill.		Ericaceae	3 r
Arbutus unedo L.		Ericaceae	3 c/a
Bauhinia purpurea L.		Caesalpiniaceae	3 c/a
Brachychiton acerifolius A. Cunn. ex F. Muell.		Sterculiaceae	1 f
Brachychiton discolor F. Muell.	*B. luridus* C. Moore ex F. Muell.	Sterculiaceae	1 f
Brachychiton populneus (Schott & Endl.) R. Br.	*Sterculia diversifolia* G. Don	Sterculiaceae	1 f
Brachychiton rupestris (Lindl.) K. Schum.		Sterculiaceae	1 f
Buxus balearica Lam.		Buxaceae	3 c/a
Callistemon viminalis (Sol. & Gaertn.) G. Don ex Loud.		Myrtaceae	3 c/a
Calodendrum capense (L. f.) Thunb.		Rutaceae	3 c
Camellia japonica L.		Theaceae	3 c/a
Camellia reticulata Lindl.		Theaceae	3 c/a
Camellia sasanqua Thunb.		Theaceae	3 c/a
Carica papaya L.		Caricaceae	3 f
Casimiroa edulis La Llave		Rutaceae	3 c
Casuarina cunninghamiana Miq.		Casuarinaceae	1 r/f
Casuarina equisetifolia J.R. Forst. & G. Forst.		Casuarinaceae	1 r/f
Ceratonia siliqua L.		Caesalpiniaceae	2 c/a
Cinnamomum camphora (L.) Sieb.		Lauraceae	2 c
Citrus aurantiifolia (Christm.) Swingle		Rutaceae	3 c
Citrus aurantium L.		Rutaceae	3 c
Citrus limon (L.) Burm. f.		Rutaceae	3 c/a
Citrus maxima (Burm.) Merr.	*C. grandis* Osbeck	Rutaceae	3 c
Citrus medica L.		Rutaceae	3 c/a
Citrus x *paradisi* Macfad.		Rutaceae	3 c
Citrus reticulata Blanco	*C. deliciosa* Ten.	Rutaceae	3 c
Citrus sinensis (L.) Osbeck		Rutaceae	3 c
Coccoloba uvifera (L.) Jacq.		Polygonaceae	3 r/a
Cocculus laurifolius (Roxb.) DC.		Menispermaceae	3 c/a
Cornus capitata Wall.		Cornaceae	3 r/a
Corynocarpus laevigatus J.R. Forst. & G. Forst.		Corynocarpaceae	2 r/f
Dombeya x *cayeuxii* André		Sterculiaceae	3 r/a
Dombeya tiliacea (Endl.) Planch.		Sterculiaceae	3 r/a
Dovyalis caffra (Hook. f. & Harvey) Warb.	*Aberia caffra* Hook. f. & Harvey	Flacourtiaceae	3 r/a
Drimys winteri J.R. Forst. & G. Forst.		Winteraceae	3 r/a
Erica arborea L. (en Canarias)		Ericaceae	3 r/a

SCIENTIFIC NAME	SYNONYMS	FAMILY	CLASSIFICATION
Eriobotrya japonica (Thunb.) Lindl.		Rosaceae	3 c
Eucalyptus camaldulensis Dehnh.	*E. rostrata* Schltdl.	Myrtaceae	1 r/f
Eucalyptus cinerea F. Muell. ex Benth.		Myrtaceae	1 c/f
Eucalyptus citriodora Hook.		Myrtaceae	1 c
Eucalyptus ficifolia F. Muell.		Myrtaceae	2 c
Eucalyptus globulus Labill.		Myrtaceae	1 r/f
Eucalyptus gomphocephala DC.		Myrtaceae	1 r/f
Eucalyptus gunnii Hook. f.		Myrtaceae	1 r/f
Eucalyptus occidentalis Endl.		Myrtaceae	1 r/f
Eucalyptus polyanthemos Schauer		Myrtaceae	1 r/f
Eucalyptus robusta Sm.		Myrtaceae	1 r/f
Eucalyptus viminalis Labill.		Myrtaceae	1 r/f
Eugenia uniflora L.		Myrtaceae	3 r/a
Ficus altissima Blume		Moraceae	1 c
Ficus benghalensis L.		Moraceae	1 c
Ficus benjamina L.		Moraceae	2 r/c/f
Ficus cyathistipula Warb.		Moraceae	3 c/f/a
Ficus drupacea Thunb. var. *pubescens* (Roth) Corner	*F. mysorensis* Heyne ex Roth	Moraceae	1 c
Ficus elastica Roxb. ex Hornem.		Moraceae	1 c
Ficus lyrata Warb.		Moraceae	2 c/f
Ficus macrophylla Desf. ex Pers.	*F. magnolioides* Borzì	Moraceae	1 c
Ficus microcarpa L. f.	*F. retusa* L., *F. nitida* auct. non Thunb.	Moraceae	1 c
Ficus religiosa L.		Moraceae	2 c
Ficus rubiginosa Desf. ex Vent.		Moraceae	1 c
Grevillea robusta A. Cunn. ex A119R. Br.		Proteaceae	1 r/f
Hakea laurina R. Br.		Proteaceae	3 c/a
Heteromeles arbutifolia (Aiton) M. Roem.		Rosaceae	3 r/a
Hura crepitans L.		Euphorbiaceae	1 c
Ilex aquifolium L.		Aquifoliaceae	3 r/a
Ilex canariensis Poir.		Aquifoliaceae	3 r/a
Ilex perryi Franch.		Aquifoliaceae	3 r/a
Ilex platyphylla Webb & Berthel.	*I. perado* Aiton ssp. *platyphylla* (Webb & Berthel.) Tutin	Aquifoliaceae	3 r/a
Lagunaria patersonii (Aiton) G. Don		Malvaceae	1 r
Laurus azorica (Seub.) Franco	*L. canariensis* Webb & Berthel.	Lauraceae	1 f
Laurus nobilis L.		Lauraceae	3 r/f/a
Leucaena leucocephala (Lam.) de Wit	*L. glauca* (L.) Benth.	Mimosaceae	3 r/f/a
Ligustrum lucidum W.T. Aiton		Oleaceae	3 c/a
Litchi chinensis Sonn.		Sapindaceae	3 r/c

SCIENTIFIC NAME	SYNONYMS	FAMILY	CLASSIFICATION
Lithraea molleoides (Vell.) Engl.		Anacardiaceae	3 r/a
Luma apiculata (DC.) Burret		Myrtaceae	3 r/a
Macadamia tetraphylla L.A.S. Johnson		Proteaceae	1 c
Magnolia grandiflora L.		Magnoliaceae	2 r/f
Mammea americana L.		Clusiaceae	2 c
Mangifera indica L.		Anacardiaceae	1 c/f
Manilkara zapota (L.) Van Royen	*Achras zapota* L.	Sapotaceae	2 c
Melaleuca armillaris (Sol. & Gaertn.) Sm.		Myrtaceae	3 r/a
Melaleuca ericifolia Sm.		Myrtaceae	3 r/a
Meryta denhamii Seem.		Araliaceae	3 f
Metrosideros excelsa Sol. ex Gaertn.	*M. tomentosa* A. Rich.	Myrtaceae	2 c/a
Michelia doltsopa Buch.-Ham. ex DC.		Magnoliaceae	2 c
Myoporum tenuifolium G. Forst.	*M. acuminatum* R. Br.	Myoporaceae	3 r/a
Myrica cerifera L.		Myricaceae	3 r/a
Myrica faya Aiton		Myricaceae	3 r/a
Nothofagus menziesii (Hook. f.) Oerst.		Fagaceae	2 c
Olea europaea L.		Oleaceae	2 c
Oreopanax capitatus (Jacq.) Decne. & Planch.		Araliaceae	3 r/a
Oreopanax nymphaeifolius (Lind. ex Hibb.) Gentil		Araliaceae	3 c
Parkinsonia aculeata L.		Caesalpiniaceae	3 c/a
Persea americana Mill.		Lauraceae	2 c/f
Persea indica (L.) Spreng.		Lauraceae	2 r/c/f
Phillyrea latifolia L.	*P. media* L.	Oleaceae	3 r/a
Photinia nussia (Decne.) Kalkman	*Stranvaesia nussia* Decne.	Rosaceae	3 c/a
Photinia serratifolia (Desf.) Kalkman	*P. serrulata* Lindl.	Rosaceae	3 c/a
Phytolacca dioica L.		Phytolaccaceae	1 c
Picconia excelsa (Aiton) DC.	*Notelaea excelsa* (Aiton) Webb	Oleaceae	3 r
Pistacia lentiscus L.		Anacardiaceae	3 r/c/a
Pittosporum coriaceum Dryand. ex Aiton		Pittosporaceae	3 r/c/a
Pittosporum phillyreoides DC.		Pittosporaceae	3 c
Pittosporum tenuifolium Banks & Sol. ex Gaertn.		Pittosporaceae	3 r/c/a
Pittosporum undulatum Vent.		Pittosporaceae	3 r/c/a
Prunus caroliniana (Mill.) Aiton		Rosaceae	2 r/c/a
Prunus laurocerasus L.	*Laurocerasus officinalis* Roem.	Rosaceae	3 r/c/a
Prunus lusitanica L. ssp. *hixa* (Willd.) Franco	*Laurocerasus lusitanica* (L.) Roem. ssp. *hixa* (Willd.) Kunkel	Rosaceae	2 c/f
Prunus lusitanica L. ssp. *lusitanica*	*Laurocerasus lusitanica* (L.) Roem. ssp. *lusitanica*	Rosaceae	3 r/c/a
Psidium guajava L.		Myrtaceae	3 c/a
Psidium littorale Raddi var. *longipes* (O. Berg) McVaugh	*P. cattleianum* Salisb.	Myrtaceae	3r/f/a

SCIENTIFIC NAME	SYNONYMS	FAMILY	CLASSIFICATION
Quercus ilex L.		Fagaceae	2 c/f
Quercus polymorpha Cham. & Schltdl.		Fagaceae	2 c/f
Quercus rotundifolia Lam.	*Q. ilex* L. ssp. *ballota* (Desf.) Samp.	Fagaceae	2 c/f
Quercus suber L.		Fagaceae	2 c/f
Quercus virginiana Mill.		Fagaceae	2 c/f
Quillaja saponaria Molina		Rosaceae	3 r/a
Radermachera sinica (Hance) Hemsl.		Bignoniaceae	1 r
Sapindus saponaria L.		Sapindaceae	3 c
Schefflera actinophylla (Endl.) Harms	*Brassaia actinophylla* Endl.	Araliaceae	3 r/f/a
Schefflera elegantissima (Veitch ex Mast.) Lowry & Frodin	*Dizygotheca elegantissima* (Veitch ex Mast.) R. Vig. & Guiltaum.	Araliaceae	3 r/c/a
Schinus lentiscifolius Marchand		Anacardiaceae	3 c/a
Schinus molle L.		Anacardiaceae	1 c
Schinus polygamus (Cav.) Cabrera	*S. dependens* Ort.	Anacardiaceae	3 c/a
Schinus terebinthifolius Raddi		Anacardiaceae	3 c
Senna spectabilis (DC.) Irwin & Barneby	*Cassia spectabilis* DC.	Caesalpiniaceae	3 c
Sophora microphylla Aiton		Fabaceae	3 c/a
Sophora secundiflora (Ortega) Lag.		Fabaceae	3 c/a
Spathodea campanulata P. Beauv.		Bignoniaceae	1 c
Stenocarpus sinuatus Endl.		Proteaceae	3 r/c
Syzygium cuminii (L.) Skeels		Myrtaceae	2 r/f
Syzygium jambos (L.) Alston		Myrtaceae	3 r/f
Syzygium paniculatum Gaertn.	*Eugenia myrtifolia* Sims	Myrtaceae	3 r/c/a
Tabebuia pallida (Lindl.) Miers		Bignoniaceae	3 c
Tamarindus indica L.		Caesalpiniaceae	1 c/f
Tecoma x smithii W. Watson		Bignoniaceae	3 r/a
Tecoma stans (L.) Juss. ex HBK.		Bignoniaceae	3 r/a
Thevetia peruviana (Pers.) K. Schum.	*T. neriifolia* A. Juss. ex Steud.	Apocynaceae	3 r/a
Umbellularia californica (Hook. & Arn.) Nutt.		Lauraceae	3 r/a
Visnea mocanera L. f.		Theaceae	3 r/a

Subchapter 1.4 Maintenance

The general goals for maintenance of ornamental evergreen trees in greens spaces and streets are as follows:

- Achieve and maintain an adequate structure and development of the trees in the environment in which they are located (main purpose).

- Provide greater beauty to the trees and their surroundings (aesthetic purpose).

Trees must be maintained so that they do not create any risk to people, property or interfere with public safety.

The tree must be respected as much as possible, considering its own characteristics and those of the planting site (climatic, location, edaphic, plant pathology, landscape, and urban planning).

Before carrying out tree maintenance, the objectives must be clearly predefined by the corresponding technical manager in the maintenance program, in agreement with the tree management plan. The various operations to be applied, their management, and costs must be considered.

Maintenance operations

The specific operations recommended to maintain trees planted in tree pits, green spaces, landscaped areas or flower beds are specified below.

1. Technical inspection

2. Pruning:

- Formative pruning
    - Training to form the trunk
    - Training to form the structure
    - Pruning for crown raising
    - Pruning for safety for overhead service lines
- Maintenance pruning
    - Trimming back
    - Pruning for security
    - Pruning to thin out
    - Pruning to reduce the crown
    - Pruning to restore and reshape
    - Spur pruning
- Architectural pruning:
    - Geometric trimming/pruning
    - Pollarding
- Specific pruning/trimming
    - Pruning flower bearing trees
- According to location
    - Pruning street trees
    - Pruning trees in green areas

3. Intervention in the soil
- Scarification
- Soil decompaction
- Vertical aeration
- Partial substitution
- Fertilising
- Mulching
- Weeding

4. Irrigation

5. Preventive phytosanitary treatments

6. Corrective and curative phytosanitary treatments

7. Treating injuries

8. Maintaining an artificial foundation

9. Removing dead or dangerous trees

10. Removing stumps

11. Reposition or substitution of dead trees

12. Cleaning the tree pit

Recommended maintenance programme

The maintenance operations to be carried out depend on the species, the location, the function, the age, etc. The following tables give some standard maintenance guidelines, which in general, should be followed whenever possible. In some cases, an analysis of the specific needs of the specimen or group of specimens should be carried out to clarify operations and their periodicity.

The frequency of maintenance is a variable that depends on the species, the conditions of the location of the specimen (climate, microclimate, soil, urban setting, etc.) and on the planting conditions. The technicians responsible for maintenance must develop specific or differentiated maintenance programs for the different species of trees, establishing the frequency or periodicity of the various operations.

The following tables outline the recommended maintenance programs for trees planted in pits, paved areas, or on roadsides and for trees planted in landscaped areas or in flower beds.

RECOMMENDED MAINTENANCE PROGRAM FOR TREES IN TREE PITS		
	Maintenance Procedure	**Frequency guidelines**
1.	Technical inspection	Annual or immediately after one incident
2.	Pruning	The frequency of maintenance pruning for street trees is high, so it is necessary, in addition to an adequate choice of species, a selection of healthy specimens, a correct planting and a formative pruning (before, in the nursery, and after planting)
3.	Soil intervention - Scarification - Fertilizing - Mulching - Weeding - Other interventions in the soil	When decided by technical inspectors When decided by technical inspectors Annual Biannual or according to needs When decided by technical inspectors
4.	Watering	According to needs and location, especially during the first Years and after planting
5.	Preventive phytosanitary treatments	According to location and treatment
6.	Corrective and curative phytosanitary treatments	When decided by technical inspectors and depending on the treatment
7.	Treating injuries	When decided by technical inspectors
8.	Maintaining artificial foundations	Annual and after incidents
9.	Removing dead or dangerous trees	When decided by technical inspectors
10.	Removing stumps	When necessary

Table 1.4.1. Maintenance for trees in tree pits

RECOMMENDED MAINTENANCE PROGRAM FOR TREES IN OPEN AREAS		
	Maintenance procedure	Frequency guidelines
1.	Technical inspection	Annual and immediately after incident
2.	Pruning/trimming	Although the frequency of maintenance pruning of trees in open areas is low, often only occasional, it is also important to choose the right species for the given location, to select healthy specimens, and to make a correct planting and formative pruning (before, in the nursery, and after planting) In general, post-planting formative pruning in open areas is less important compared to urban trees in tree pits
3.	Interventions in the soil - Scarification - Fertilizing - Mulching - Weeding - Other interventions in the soil	When decided by technical inspectors When decided by technical inspectors Annual Annual or according to needs When decided by technical inspectors
4.	Irrigation	According to needs and location, especially during the first years and after planting
5.	Preventive phytosanitary treatments	According to location and treatment
6.	Corrective and curative phytosanitary treatments	When decided by technical inspectors and depending on treatment
7.	Weeding	When decided by technical inspectors
8.	Maintaining artificial foundations	When decided by technical inspectors
9.	Removing dead or dangerous trees	When decided by technical inspectors
10.	Removing stumps	When decided by technical inspectors

Table 1.4.2. Maintenance for trees in open areas

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