PLANTS AND PLANTING IN MEDITERRANEAN LANDSCAPES (VOLUME 1)

Editors

Juan José Galán Vivas Vicente Caballer Mellado

SHRUBS

DECIDUOUS TREES



EVERGREEN TREES

PALM TREES

MEDICINAL AND AROMATIC

GROUNDCOVERS

8 8 8 de

HEDGES

CLIMBERS



http://tiny.cc/edUPV_rea

Original Title: *Material vegetal en paisajismo mediterrráneo (Volumen 1)* ©Galán Vivas, Juan José; Caballer Mellado, Vicente; Ballester – Olmos Anguis, José Francisco; Sánchez García, Mariano; Albuixech Moliner, Jesús; Esteras Perez, Francisco Javier; Castell Zeising, Vicente ©edUPV, 2011

Collection Académica http://tiny.cc/edUPV_aca

To cite this publication please use the following reference: Galán Vivas, Juan José and Caballer Mellado, Vicente. (2024). *Plants and Planting in Mediterranean Landscapes (Volume 1).* Valencia: edUPV. DOI: https://doi.org/10.4995/REA.2024.677001

Editors Juan José Galán Vivas Vicente Caballer Mellado

Layout designers Antonio Fresneda Colomer Juan José Galán Vivas Júlia Martínez Villaronga (transfer to the English version)

Collaborators (in the preparation of the botanic datasheets) Rafael Barrera Valero David Sanz Sánchez César Martinez Graullera Raguel Katz Perales

Translated by Jacinta Mary Harrington-Flynn Translation funded by the NO BORDERS Program of the UPV

© of the texts and images: the authors

Edited by: edUPV, 2024 Ref.: 6770_01_01_01

ISBN: 978-84-1396-250-4 (printed version) ISBN: 978-84-1396-109-5 (electronic version) DOI: https://doi.org/10.4995/REA.2024.677001

If the reader detects a mistake in the book or wishes to contact the authors, he can send an email to edicion@editorial.upv.es



Plants and Planting in Mediterranean Landscapes (Vol.1) / edUPV

The reuse of the contents is allowed through the copying, distribution, exhibition and representation of the work, as well as the generation of derivative works as long as the authorship is acknowledged and it is cited with complete bibliographic information. Commercial use is not permitted and derivative works must be distributed under the same license as the original work.

TABLE OF CONTENTS

PRESENTATION	7
PROLOGUE	11
INTRODUCTION	13
CONTENTS	
Chapter 1: Broadleaf evergreen trees	15
Chapter 2: Broadleaf deciduous trees	79
Chapter 3: Conifers	131
Chapter 4: Palm trees, zamiaceae and cycadaceae	205
Chapter 5: Shrubs	255
Chapter 6: Groundcovers	329
Chapter 7: Climbers	369
Chapter 8: Medicinal and aromatic plants	411
Chapter 9: Hedges and topiary	467
Chapter 10: Citrus plants	499

LIST OF PLANT SPECIES

539



Chapter 8 MEDICINAL AND AROMATIC PLANTS

Subchapter 8.1IntroductionSubchapter 8.2SpeciesSubchapter 8.3Commercialization, use and plantingSubchapter 8.4Maintenance

Subchapter 8.1

Introduction

INTEREST IN MEDICINAL PLANTS

In Spain there are more than 1,000 endemic plants compared to the more than 8,000 species of plants present in our territory, which, at a European level, is an exceptional case. This is a result of the great variety of environmental conditions (climate, soil) that can be found in the Iberian Peninsula. Interestingly, many of such endemic plants are considered medicinal, however, many of them are barely known. This enormous wealth deserves great attention from the point of view of the conservation, recovery, and increased knowledge of these plant species.

The combination of botanical, medicinal, environmental, agricultural and ornamental factors make the *Lamiaceae* botanical family the most represented in the group of medicinal plant species of interest. The *Asteraceae* and *Apiaceae* families are also well represented.

Medicinal plants are aptly named since they contain or produce products called "active substances". Such substances exert effects, beneficial or harmful, on living beings. They can be classified into:

- Aromatic plants are medicinal plants whose active principles are volatile substances or essential oils.
- Condiment plants are medicinal plants used for their organoleptic properties.
- **Medicinal plants** have pharmacological properties, acting by themselves or being able to form part of the composition of medicines.
- Beekeeping or melliferous plants are plants that attract bees, from which the elaborated honey is subsequently used.
- **Biocidal plants** contain active ingredients with a repellent and/or have a toxic effect against larger organisms (plants, animals).
- Natural dye plants present usable substances to color fabrics or other objects.

Medicinal plants are essential in addressing three major areas in the environmental sphere:

- **Reforestation and re-vegetation**. These plants have great adaptability and hardiness. As a result, they are excellent species to "colonize" areas in the first phases of the regeneration of mountains (lavender, rosemary, thyme, santolina...), especially after fires. They are also useful to prevent erosion and soil degradation in slopes and free surfaces generated after public works.
- Active substances. Of pharmacological, aromatic or condiment nature, these plants can be consumed or used by humans. They are an ideal species to reintroduce a profitable agricultural activity in poor areas as they can be cultivated for the industrial sector (production of essential oils for perfumes, condiments, liqueurs, etc. all of them open to extensive trade and exports).
- **Ornamental plants**. Excellent species due to their ease of handling and low environmental requirements. Since they have not been exposed to breeding and genetic improvement, they

are generally not affected by pests and diseases. As a result, they are adaptable, resistant, and tolerant against adverse factors, both environmental and health related. This makes them a group of plants with enormous potential in Mediterranean areas, where the prevailing environmental conditions (low average annual rainfall, high summer temperatures...) combined with the growing problems of water availability (both concerning quantity and quality), and the edaphic characteristics of the soils, limit the durable and feasible introduction of other species. In addition, the selection of attractive medicinal and aromatic species and the development of new, more showy varieties, will help us increase the botanic palette in Mediterranean gardens and offer new alternatives to classical or conventional gardens. Furthermore, we should not forget that the gardens that use medicinal and aromatic plants can fulfill an excellent educational mission (knowledge of their applications, aromatic gardens for disabled people, etc.).

Along with the points considered above, medicinal and aromatic plants have at least two other factors in their favor:

- Many of them can be cultivated or kept in a garden for multi-annual periods.
- Due to the adaptation of many medicinal plants to Mediterranean environmental conditions, they are not prone to pests and diseases.

HISTORICAL POINTS

Humans have learned since prehistoric times to take advantage of the properties that plants had to offer, both from a nutritional point of view and from a medicinal perspective (heal wounds, cure ailments...). For this, the observation of animal behavior was essential. It is conceivable, therefore, that the learning process has been slow and costly, transmitting knowledge from generation to generation.

For centuries, different civilizations have taken advantage of the benefits of medicinal plants and have gathered an enormous amount of information on them. The Chinese for example, already knew about the properties of pomegranate, the opium poppy, the rhubarb (2000 BC); the Egyptians knew numerous medicinal plants, from which they also obtained cosmetic products, ointments, distilled essences... (3000 - 4000 BC); In India (1300 B.C.) a medicinal culture was developed that still exists today (the "Ayurveda" medicine) and that is based on the use of plants. Many of the examples cited are well-grounded even today.

It was the Greeks who amalgamated Eastern and Western knowledge, expanding it, and creating many of the foundations of current medicine. The knowledge in this regard of Hippocrates (who described the properties of about 200 plants), Theophrastus (about 350 plants) and Dioscorides (about 700 plants) stand out. This advance in knowledge had its continuation in the Roman Empire, highlighting the works of Galen and Pliny the Elder.

During the Middle Ages, the obscurantism and scientific stagnation relegated, like so many other branches of science, this knowledge to oblivion, preserving most of it in monasteries, along with the teachings of the Arabs, great connoisseurs in the management of essential oils.

The time of the geographical discoveries of the fifteenth and sixteenth centuries held great importance. The introduction of American and African plants in therapeutics, as well as the invention of the printing press, represented a great advance in the dissemination of medicinal knowledge as well as a great expansion of it. In the sixteenth century the Western pharmacopoeias were already very extensive.

The subsequent centuries witnessed the advancement of sciences such as Chemistry, Physics and Botany, as well as an enormous development of Phyto pharmacy and phytotherapy. At the beginning of the 20th

century, this trend was broken with the development of chemotherapy to the detriment of phytotherapy. In the mid-1950s, the toxicities, secondary effects, intolerances, attributable to the chemical compounds used in chemotherapy were of concern. With the advances in Chemistry and Pharmacy, it was possible in the mid-1960s to identify many compounds with pharmacological effects on plants, with similar or identical efficacy to chemical products, awakening, once again, interest in medicinal plants. The new techniques allow the rapid and simple extraction of such components, being able to dose and formulate compounds with a similar action or, at least, complementary to the chemical or synthetic ones.

Similar evolution occurred with the condiment plants. Its knowledge has been widely spread since the time of discoveries. Perhaps it has been the improvement of communications, especially in this century, which has allowed and accelerated transfer of knowledge from one geographical area to another. The benefits of condiment plants have not only been extended to the gastronomic field (and, therefore, seasoning) itself, but also to the associated medicinal field. It should be highlighted that a large part of seasoning properties is coupled with medicinal properties, which are not always well known. It is conceivable that such properties are what confer the beneficial nature of a certain diet in a specific geographical area.

The higher standard of living is leading, increasingly, to the knowledge and use of condiment plants seeking, in many cases, either to counteract the harmful effects of an unbalanced diet, or to diversify gastronomic habits.

Aromatic plants have been known since ancient times. Many of the well-known ancient civilizations took advantage of essences based on plant extracts. This has always been a sign of distinction, in many cases with beneficial effects such as relaxing. Even today, some medicinal techniques rely on the use of aromas (aromatherapy), especially in the treatment of chronic conditions.

MEDICINAL PLANTS IN THE GARDEN

For as long as we can remember medicinal plants have been associated with rites and cults. Many of the aspects that help to "fit" or "justify" the use of these plants in gardens (in addition to those described above for environmental reasons) are based on religious knowledge and traditions inherited from the Egyptians, Christians, and Arabs. Thus, Islamic gardens assumed the close link between housing and cultivation/use of plants. They were enclosed gardens with shadows, fresh water, flowers, and exquisite fruits. Roses, jasmine, lilies were present along with trees such as apricot trees, almond trees, pomegranate trees and myrtle hedges.

Christian monasteries inherited the geometric and formal style of Roman gardens. Rosemary, laurel, myrtle, and ornamental hedges were common. Monastic gardening, adopting ancient Egyptian, Syrian and Persian trends, associated these plants with other "useful" ones that were fenced in to prevent the access of animals and take advantage of their fruits and shade.

The cultivation of plants and the creation of gardens in the monasteries reached such a significance in Italy that, by the middle of the sixth century, only prayer was more important than gardening and the cultivation of plants. The cultivation of vegetables, fruit trees, vines, herbs, dyeing and aromatic plants for incense was regulated. In the monasteries, self-sufficiency was achieved in many cases, emphasizing the cultivation of herbs to obtain remedies to cure the sick. Flavoring and condiment plants were selected to give flavor to vegetarian stews, an excellent knowledge of the techniques of making beers, wines, and spirits, as well as cosmetics (based on the use of lemon balm) was achieved.

During the 13th century, the popularity of plants for medicinal use increased, spreading their plantation to the gardens of important families and the orchards of family houses, sharing cultivation with vegetables and flower plants.

Starting in the 16th century, medicinal plant gardens began to be designed in universities to teach botany and medicine, areas of knowledge closely linked until then. The first of these "medicinal gardens" in Padua (Italy) created in 1545 is of special importance.

As knowledge (both botanical and medical) increased and explorers and navigators brought new exotic species, gardens of herbs and medicinal plants grew in variety and relevance, being the forerunners of today's botanical gardens. There are references of important facts of medicinal plants and their cultivation from the Aztec culture through the Spanish conquerors. Hernán Cortés alluded to Moctezuma's fabulous gardens in Huaxtepec (now Oaxtepec).

From the 17th and 18th centuries, famous gardens were created that combined classical ornamental plants with medicinal plants, following both a formal style based on lines, symmetries and geometric compositions, as well as a more informal style, with country and rural overtones.

Nowadays, thanks to the availability of more showy varieties, with longer flowering periods and more intense aromas, medicinal plants have been successfully incorporated into the list of plants suitable for contemporary gardens and are considered beyond their purely "medicinal" aspect.

This aspect is especially striking in Mediterranean areas since many of these plants (as indicated above) are very well adapted to typically Mediterranean environmental conditions. This leads to their frequent use in gardening in both private and public spaces (parks and gardens, highway and motorway medians, service areas, revegetation of slopes, roundabouts, etc.).

With the current trends of urbanization of coastal and mountainous areas (chalets, second homes, apartments, leisure areas, sea promenades, etc.) we are increasingly using plant species adapted to the conditions of each site and learning to give special attention to medicinal plants (fundamentally from the subgroup of aromatic plants).

Subchapter 8.2

Species

This chapter outlines **30 species of medicinal and aromatic plants** used in 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 subchapter.

Firstly, a table shows the different parameters and values that have been used to describe each species in its specific botanic datasheet.

Each botanic datasheet gathers the information of a species and describes its botanical and ecological aspects, uses, cultivation, and other characteristics of interest, including its commercialization. This information is complemented by photographic information, which shows the general appearance of the described species and different morphological details.

PARAMETERS AND VALUES	USED FOR THE BOTANIC DATASHEET
ΤΑΧΟΝΟΜΥ	
TAXONOMIC RANKS	DIVISION, SUBDIVISION, TYPE, ORDER, FAMILY
VARIETIES	VARIETIES OF INTEREST
STRUCTURE	
SHAPE	GLOBE-SHAPED/ROUND, OVAL, COLUMNAR, CONE, EXTENDED, IRREGULAR, PARASOL, FAN-SHAPED, HORIZON- TAL, PALMIFORM, PENDULAR, WEEPING,
HEIGHT	AS APPROPRIATE- IN METERS OR CENTIMETERS
DIAMETER	AS APPROPRIATE -IN METERS OR CENTIMETERS
TEXTURE	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	GREYS; 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	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 COL- ORED, 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, HARD
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, ACIC- ULAR 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	HERMAPHRODITE (OR MALE/FEMALE FLOWERS): CM OR MM

ТҮРЕ	UNISEX, HERMAPHRODITE
REPRODUCTION	MONOECIOUS, DIOECIOUS, HERMAPHRODITE, POLYGAMY, SYNOICOUS, STERILE
FLOWER TYPE	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
ТҮРЕ	FOLLICLE, PLURIFOLLICLE, LEGUME, LOMENT, SAMARA, DOUBLE SAMARA, PLURISAMARA,CAPSULE, ACHENE, TETRACHENE, POLYACHENE, NUT, ACORN, SYCONIUM, HESPERIDIUM, SOROSIS, BERRY, RACEME, POME, BALAUS- TA, 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
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 CLASSI- FICATION	MINIMUM TEMPERATURES: DEGREES CELSIUS CLASSIFICATION ACCORDING TO EUROPEAN REGULATION: (SEE MAP) G2 HOT GREENHOUSES IN SOUTHERN EUROPE G1 COLD GREENHOUSES IN SOUTHERN EUROPE H5 THE PLANT SUPPORTS MINIMUM TEMPERATURES FROM 0°C TO -5°C H4 THE PLANT SUPPORTS MINIMUM TEMPERATURES FROM -5°C TO -10°C H3 THE PLANT SUPPORTS MINIMUM TEMPERATURES FROM -10°C TO -15°C H1 THE PLANT SUPPORTS MINIMUM TEMPERATURES FROM -10°C TO -20°C CLASSIFICATION INTERNATIONAL REGULATIONS. ACCORDING TO MINIMUM TEMPERATURES GF Z1 SUPPORT MINIMUM TEMPERATURES OF -50°C Z2 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -40°C Z3 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -10°C Z4 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -10°C Z5 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -10°C Z6 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -10°C Z7 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z7 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z2 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z3 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z4 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z5 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z6 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z7 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z3 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z4 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z5 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z6 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z7 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z3 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z4 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z5 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z6 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z7 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z9 SUPPORT MINIMUM TEMPERATURES OF -0°C TO -0°C Z10 SUPPORT MINIMUM TEMPERATURES OF 00°C TO -0°C Z11 SUPPORT MINIMUM TEMPERATURES OF MORE THAN 40°C
EXPOSURE TO SUNLIGHT	FULL SUN, FULL-SHADE; PART SHADE, SHADE
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/LOAMY, ALL TYPES

DRAINAGE	HIGH, MODERATE, LOW
RESISTANCE TO SALT	YES, NO, MODERATE
RESISTANCE TO LIME	YES, NO, MODERATE
USES	
RESISTANCES	
COASTAL	1 st LINE; 2 ND 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
SPACING	MINIMUM RECOMMENDED DISTANCE BETWEEN PLANTS: METERS; CENTIMETERS
PLANTING AND PLANT HEAT	лн
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)	CENTIMETERS (usually measured at 1 meter above ground) or years
HEIGHT	CENTIMETERS, METERS





Figure 8.2.1: Thermal classification map according to European regulations

LIST OF MEDICINAL AND AROMATIC SPECIES DESCRIBED

- 1. Acanthus mollis
- 2. Artemisia absinthium
- 3. Chamomilla recutita
- 4. Helichrysum stoechas
- 5. Hyssopus officinalis
- 6. Lavandula angustifolia
- 7. Lavandula dentata
- 8. Lavandula hybrida
- 9. Lavandula latifolia
- 10. Lavandula stoechas
- 11. Lippia thriphylla
- 12. Melissa officinalis
- 13. Mentha piperita
- 14. Mentha pulegium
- 15. Mentha spicata
- 16. Micromeria fruticosa
- 17. Nepeta cataria
- 18. Origanum majorana
- 19. Origanum vulgare
- 20. Ricinus communis
- 21. Rosmarinus officinalis
- 22. Ruta graveolens
- 23. Salvia microphylla
- 24. Salvia officinalis
- 25. Salvia sclarea
- 26. Sambucus nigra
- 27. Santolina chamaecyparissus
- 28. Satureja montana
- 29. Sideritis angustifolia
- 30. Thymus vulgaris

ACANTHUS

Acanthus mollis L.

MEDICINAL A		ATIC		ACANTO SPANISH	CARNERA, ACANT VALENCIAN	BEAR'S BREECH(ES) ENGLISH	BRANCHE URSINE, PIED D'OURS FRENCH
	STRUCTURE		DIVISION:	MAGNOLIOPHYTA	VARIETIES		
Shape	Height	Diameter	SUBDIVISION:			OAKLEAF	
EXTENDED	40-120 CM	Up to 200 CM	TYPE:	MAGNOLIOPSIDA		FIELDING GOLD	
Texture	Shade	Root	ORDER:	SCROPHULARIALES	NEW ZEALAND GOLD		
THICK	FULL		FAMILY:	ACANTACEAE	RUE LENDAN, HOLLARD'S GOLD		
М	ORPHOLOGY						
Stem	Bark	Color GREEN				12	
Leaf	COMPOUND:	NO					144
EVEROPEEN	HARDNESS:	SOFT					The man
EVERGREEN	ARRANGEMENT:	RUSETTE BASAL				12 -	
312E. 20-100 CM	VENATION:					100 A	R
	MARGIN:			and and			
COLON. DANK OKEEN	ADEX:						
TEXTURE: GLOSSY	LEAF BASE	ATTENUATE				Ward to	
	PETIOLE:	LONG 20-60 CM	1.00				
	Type	Reproduction	0000			LA CAL	
Flower	HERMAPHRODITE	HERMAPHRODITE			- And	1.85	
SIZE: 3.5-5 CM	Flowering	Fragrant					
	SPIKE (30 CM+)	NO	Note in	11	A STATE		
	Туре	Color	ALC: NOR	CONTRACTOR OF	1-5-	11	
Fruit	CAPSULE		· · · / ·		and the second	TAR	
	Edible	Fruiting season	The state of the	ALC: NO	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2	
SIZE: 2-3.5 CM		Ű		1 1 1 1 1 1 1 1	Sec. 1	Ver View	
Oneverth	Rate	Longevity	State of the second		De contra la	1. 17 - 50	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Growth	FAST		12 V 2 V	All and a second		1 20	
	ECOLOGY	-		VI ZANTIK.		V	
	Temperature	Drought resistant		N S GUA VA	ANY	11 all as	and a state
Climate	-6°C: H4: 75	YES	an V	A ASSOCIATION		A Show	12 2 2 3
ALTITUDE: 0-700	Sun exposure	Frost resistant			Carlos Carlos	CONTROL OF	
IRRIGATION: HIGH	SUN/PARTIAL SHADE	Up to -15°C	THE A	VI-SA STATION		15 Y 1 10	
	Texture	Salt resistant		Salu a Al			A-15/100 10
Soil	ALL TYPES		and the second	and still silve	263 4	SY 2430	
pH: INDIFFERENT	Drainage	Lime resistant	AGEN / PS- 1		-24-3	Str 1	
FERTILITY: HIGH	MODERATE	_		- CARLY	- Reall		
	11050		All states		A No		The state
Desistances	USES	actions			and and	N	
COASTAL	SLOPES: NO	HEDGE ROWS: NO	1 1 A	A Same	the second second		
POLITION: HIGH	RIVERRBANKS: YES	BORDERS: YES		A LANGE	DEPER		5-7 NO 133
WIND: MODERATE	GROUPS: YES				101 11/2 7	T amonta	354 5 CAA
WIND. MODERATE	ontoor o. The	ioocares. reo					
			POINT	S OF INTEREST			
"Akanthos" (Greek)	= thorn; "Mollis"	(Latin) = soft; mot	f of the Corinthian cap	itals created by the Greek sc	ulptor Callimachus.		
Origin/distribution:	Mediterranean	Europe / shady ar	d humid places, rich s	soils with a high N content / /	Active substances: e	essential oil (variable	e: rich in resins, tannins
and organic acids), r	nucilages, / U	ses: Medicinal (as	tringent , vulnerary , ch	ioleretic, antidiarrheal, expec	torant,)		
L							SPACING: 200 CM

PLANTING AND PLANT HEALTH

Propagation: by seed or by dividing the bush.

CHROMATIC CALENDAR	COM	IMERCIALIZATIC	N
Foliage, Flowering and Fruiting Season	Presentation (L)	Height (cm)	Topiary Shape
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	11 <mark>TA</mark> (0.6)	10-20	No
	CT14 (1.6)	30-40	
Cultivation Calendar	CT17 (2.8)	30-40/40-60	
	CT20 (5)	40-50	
Sowing Planting			
Treatment Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Fungicides Pesticides Fertilizers			

ARTEMISIA

Artemisia absinthium L.

MEDICINAL A	ND AROMA	ATIC		SPANISH	VALENCIAN ENGLISH	WOOD GRANDE ABSINTHE FRENCH
s	TRUCTURE		DIVISION:	MAGNOLIOPHYTA	VARIETIES	6
Shape	Height	Diameter	SUBDIVISION:		LAMBROOK SIL	VER
ROUND	30-125 CM	60-90 CM	TYPE:	MAGNOLIOPSIDA		
Texture	Shade	Root	ORDER:	ASTERALES		
MEDIUM	PARTIAL	TAP ROOT	FAMILY:	ASTERACEAE		
M	ORPHOLOGY		- AND - M. M		1	
Stem	Bark	Color	WHAT HE DES	1. 1. 1. 1.	where it is	AN
otom		LIGHT GREEN	- ALL CARLES			
Leaf	COMPOUND: B	- TRIPINNATISECT	SAN ARAM	5 14 A		
51/50 00 55 M	HARDNESS:	SOFT	The state of the		NY AL	SALA /2
EVERGREEN	ARRANGEMENT:	ALTERNATE	Mr. Walter and an		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
SIZE:	VENATION:	PINNATE		A LAT STATE	V 3	
	SHAPE: MARCINI	OVAL		a ser and	1 1 A 1	CAN UN
LS: LIGHT GREEN	ADEX:	LOBED		and the second		
TEXTURE: TOMENTOSE	I FAF BASE		City States			The N
	PETIOLE:	LONG	1-1-51 17-52 17	and all and the		
	Туре	Reproduction		A State State		
Flower	HERMAPHRODITE	HERMAPHRODITE	WY AND		-	
SIZE: 2-3 MM	Flowering	Fragrance	STATE TRUES	The state of the state of the state	and the second second	CAN BE DE LESS 197.
CAPSULE/	PANICLE 3-4.5MM	YES	The second s	A Strives 2		ANI AND
	Туре	Color	- Contraction	The state with		
Fruit	ACHENE	GRAY	and the state of the	a series		A NOT THEFT
	Edible	Fruiting season		A A	ZA STATE TO SHA	
SIZE:	NO		and the second	and the second second		7.12.12
Growth	Rate	Longevity	A State of the			
	FAST	20 YEARS		AND MORE AND - AN	all and the weather	
	ECOLOGY		AND CONST		and the second second	
Climate	Temperature	Drought resistant	and the se		in the second second	And And And
onnato	-6ºC,H4,Z6	YES	A Contraction	CARDER CARE		ASS I
ALTITUDE: 0-2300	Sun exposure	Frost resistant		and the second second	The second second	
IRRIGATION: LOW	SUN /PARTIAL SHADE	Up to -5°C				
Soil	I exture	Salt resistant		131 770 2840	No the state of the second	a service and the service of the ser
NDIECEDENT	Droinago	Limo registant	X -1 - 1 - 1	TERSTAN	and the second of the	rib. The sine
FERTILITY: MODERATE	HIGH	VES		ATTACK AND A	NOL TRACT	and the second second
			State State		MARIE WILLIE	Angel Changel
	USES				LETTING BARD	And the second
Resistances	Applic	ations	The second	A CONTRACTOR	All the share and the	A Ser Property
COASTAL!	DIVERBANKS: NO	ROPDERS VES	State Long		NID IN INC	and the second
WIND: MODERATE	GROUP VES	ISOLATED: YES	States the	Service (Jack	And the second second	100 - 10 - 10 - 10 - 10 - 10 - 10 - 10
WIND: MODERATE	SIGOT. TES	ISSUATED. TES				
			POINT	S OF INTEREST		

"Artemisia" = name of the goddess to whom the plant was dedicated; "ab/sinthium" = without/sweetness = bitter Origin/distribution: Orient / in most of Europe, Western Asia and Northern Africa; in non-cultivated nitrified media; all types of soils / Active substances: essential oil (variable: thujones (toxic), thiol, linalool, absintin, absinthe, pinene, flavonoids, tannins,...); content: 0.5-2% (on dry matter) / Uses: officinal (tonic, vermifuge or anthelmetic, digestive, stomach...), liquor (vermouths and aperitifs with extracts with a low level of thujone) Very hardy plant. Toxic.

SPACING: 40-50 CM

PLANTING AND PLANT HEALTH

Propagation: by <u>seed</u>, cutting, division of the bush. Number of seeds in 1 g = 9,700-11,500 seeds. Germination in 15-30 days, germination power: 2-4 years. Pests/diseases: aphids (biological control, do not cause apparent damage to the plant), *Puccinia absinthii*, *Phacopsora compositarum*, *Armillaria mellea*. Weed control with diuron, propizamide.

CHROMATIC CALENDAR	COM	MERCIALIZATIO	N N	
Foliage, Flowering and Fruiting season		Presentation	Height(cm)	Topiary shapes
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT	NOV DEC	C 1L		No
Cultivation Calendar				
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT Sowing Planting Pruning X	NOV DEC			
Treatment Calendar				
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT	NOV DEC			
Fungicides Pesticides Fertilizers				

CHAMOMILLA

ME

Chamomilla recutita (L.) (sin. Matricaria chamomilla L.)

MEDICINAL AND AROMATIC			MANZANILLA DULCE O COMÚN SPANISH	CAMAMIRLA, CAMAMILLA VALENCIAN	CHAMOMILE ENGLISH	CAMOMILLE ALLEMANDE FRENCH	
5	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:				
ROUND	30-80 CM	30-60 CM	TYPE:	MAGNOLIOPSIDA			
Texture	Shade	Root	ORDER:	ASTERALES			
MEDIUM	LIGHT	TAP ROOT	FAMILY:	ASTERACEAE			
M	ORPHOLOGY			A DECK			
Stom	Bark	Color	10 M	A A A A A A A A A A A A A A A A A A A		E/ 1	111
Stem		GREEN			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	S WY	E
Leaf	COMPOUND:	BIPINNATISECT	ALC: NOT ALC: NOT	Y CARS.		CIYL	
Loui	HARDNESS:	SOFT	No.			EVE	-
ANNUAL	ARRANGEMENT:	ALTERNATE		NAME: O		10	
SIZE: 4-7 CM	VENATION:			A MARKED		1	1
	SHAPE: FE	ATHERY PINNATE					and the
COLOR: US:GR./GRAY	MARGIN:	DIVIDED					A. Com
LS: LIGHT GR.	APEX:	ACUTE	2	North States of the			T TONE
TEXTURE: TOMENTOSE	LEAF BASE:	ATTENUATE	10			8	-
	PETIOLE:	LUNG		Charles and			The
Flower	Туре	Reproduction	-41	North St	12 C + 1		
SIZE: 2.4 5 MM	Elowering	Fragrant	· 24	at star	NAL CONTRACTOR		July 100
0-4.0 MM	CAPSULE	YES	-	ARTICLE PLANE	And a state of the state of the	all the man	and the second second
	Type	Color	Sec. 17		and the second second	Nº ST.	
Fruit	ACHENE	GRAY	Sec. 194	a hard the second of		Serie Contractor	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Edible	Fruiting season	CHER.		Contraction of the	1 for	200
SIZE: Up to 1 MM	NO			Same and the shift of	7.00 E 51 P		
0 //	Rate	Longevity		and in the states rayling	State of the second	- N	and the state of the second
Growth	FAST		and the state of	A CONTRACTOR			A LOCAL DATE
	ECOLOGY				the state of the	the state	117 - 78
	Temperature	Drought resistant	OF	Provide States		10 10 10 10 PT	
Climate	-6°C.H4.Z6	NO	and the second		1 2 4 2 1 1 1 C 1		
ALTITUDE: 0-2300 M	Sun exposure	Frost resistant	A 20.0			100	
IRRIGATION: MODERATE	SUN/PARTIAL SHADE	UP TO 15°C					
0.11	Texture	Salt resistant	Second Production		States and	COMPANY STATE	1
501	LOAMY	YES	ALL AND ALL AND A				and the first of
Ph: 6-8	Drainage	Lime resistant		State of the state of the	S & S & A	1. State 1	In section of the
FERTILITY: FERTILE	HIGH	YES	2 20		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Constant States
	LISES		the second second				
Resistances	Aplica	ciones	A STATISTICS	A set a set of the set		10000	States of the second
COASTAL:	SLOPES: NO	HEDGE ROWS: NO	- TOPEN	States and states in	18 A. A. A.		
POLLUTION:	RIVERBANKS: YES	BORDERS: YES			A CALL AND A		
WIND: NO	GROUPS: YES	ISOLATED: YES		belle the second			
			POI				
Matricaria derives fro	m "mater" Latin)	- mother: "cham	roii	ittle earth apple (alluding to the	shape and smell of the	inflorescences)	
Origin/Distribution:	Eurasian / mos	t of Europe. No	th Africa. Asia: cos	mopolitan and cultivated, spo	ontaneous ruderal, prefe	rs limestone soils	Active substances:
essential oil (variabl	e: chamazulene	flavonoids, cou	imarins, phenolic a	cids,), mucilage,; content	in essence: 0.4-1.2%	(on dry matter).	Uses: Medicinal (anti-
inflammatory, washin	ig wounds, febrifu	ige, stomach, se	dative,), cosmetics	, hair coloring, liquor,		- /	
It can cause allergies	s.						
							SPACING: 50 cm
			PLANTI	NG AND PLANT HEALTH			
Propagation: by see	ea; 1 g = 7,000	seeds, germinat	ion in 28 days. Pes	ts/diseases: fungi (Peronospo	ora radii, P. leptosperma), aphids, Weed	is: control with linuron,
Vegetative period of	about 210 dave						
· ogotative period 01	about 2 to udys.						

CHROMATIC CALENDAR

Foliage, Flowering and Fruiting Season Presentation (L) Height (cm) Topiary shapes JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC CT13 (1) No Cultivation Calendar JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC Sowing Planting Treatment Calendar JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC Fungicides Pesticides Fertilizers Г Г

COMMERCIALIZATION

HELICHRYSUM

Helichrysum stoechas (L.) Moench.

MEDICINAL A	ND AROMA	ATIC		SIEMPREVIVA, PERPETUA SPANISH	VALENCIAN	ENGLISH	IMMORTELLE DES SABLES FRENCH
	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:				
EXTENDED	10-80 CM		TYPE:	MAGNOLIOPSIDA			
Texture	Shade	Root	ORDER:	ASTERALES			
FINE	LIGHT		FAMILY:	ASTERACEAE			
М	ORPHOLOGY		1	The second		200	
Stem	Bark	Color		105 -1	ALA.		
Leef	COMPOUND:	NO				24 C	1
Lear	HARDNESS:	SOFT		450		and the second s	
EVERGREEN	ARRANGEMENT:				St. de		1 1
SIZE: 20-30 MM	VENATION:		11-	1 AV			1 1
	SHAPE:	LINEAR	E A	× w	the second second		N.
COLOR: US:GR/GRAY	MARGIN:	ENTIRE			- the	1	ales !
LS:LIGHT GREEN	APEX:	ACCUMINATE	V P	~	Talk		
TEXTURE: TOMENTOSE	LEAF BASE:		10	-	200	6.	
	PETIOLE:	SESSILE	145 17		112		
Flower	Туре	Reproduction	1 1/2		6		
Flower	HERMAPHRODITE	HERMAPHRODITE			-		
SIZE:	Flowering	Aromatic	A STATE OF STATE	A Part And	STREET WAR	NORSK III III	AND STORES
FLC	ORET (0.8-1.2 CM)	YES	A CARDON	A FLAT	KB	AT W	The course is
	Туре	Color	31 S 81 18 A	Della della	A 10 - 201	SKI DRA	A A A A A A A A A A A A A A A A A A A
Fruit	ACHENE	GRAY		State Ball	State L.	ZDRHC AR	1 - 10 - 15 Mars
SIZE:	Edible NO	Fruiting season			Man to Mar 1	JANT	KNA (AL
Crowth	Rate	Longevity		1 3 2 1 8 - 1 I	12 000	CHER AND	VERY
Growth	FAST			Press Aver			and the second second
	ECOLOGY			SEVEN I	111111111111111	AS ALL	11150
	Temperature	Drought resistant	P 1 1 1 1 1 1 1 1	A A A A A A A A A A A A A A A A A A A	A REAL NO	1 5 1 5 S 1 1	1 8/1 A. 150
Climate	-12ºC,H3,Z5	YES	LEAN	P S AS CH	THE REAL PROPERTY OF	LEAD	
ALTITUDE: 0-1200	Sun exposure	Frost resistant	10 12 12	S CONTRACTOR DE STO	1 1 1 1 1 1 1 1	23021	and the second
IRRIGATION: LOW	FULL SUN	Up to -5°C		H. D. POPLER	212 1 4 1	214 对 11 1	一般印度
Soil	Texture LOAMY	Salt resistant		いの違い。			Land!
pH: INDIFFERENT	Drainage	Lime resistant	and the second		Stall K	S 1 7 7	1
FERTILITY: MODERATE	HIGH	YES		ST STATE	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	18/24	State A A
	11050		2.200	Sec. 36.4	and the last	Line and the	21 1 2/3
Pesistances	USES Applie	ations	3192 21	The states of th	AN OT PERS	気に対望る	
	SLOPES: YES	HEDGEROWS: NO	ALL ALLAND	N. CAR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SEL CIT	Se 2 8154
	RIVERBANKS: NO	BORDERS: YES	S. A. P. DO	12 6 6 6 9	The second	Contraction of the	
WIND: MODERATE	GROUPS: YES	ISOLATED: YES	- Provide S	The state of the second	Series 1	T ALL	A THE SALES
MODERATE				ASC. AND MAKE A DER			
			POIN	TS OF INTEREST			

"Helios" (Greek) = sun; "Chrysos" (greek) = golden (alludes to the color of the inflorescence). Origin/distribution: Southern and western Europe, north to France / on dry, bare ground, sandy areas, coasts, scrublands. Active substances: essential oil (variable composition): thujones (toxic), thiol, linalool, absinthol, pinene, flavonoids, tannins,... content: 2% (on dry matter.). Uses: officinal (anti-inflammatory, antiseptic, expectorant...)

When the leaves are crushed, it has a strong smell of curry.

SPACING :

Topiary shapes

NO

PLANTING AND PLANT HEALTH

Propagation: by seed, division of bushes; germination in 14-21 days. Pests/diseases: Very sensitive to excess moisture in the soil (radical suffocation and fungal attacks on the stem of the plant).

CHROMATIC CALENDAR								
Foliage, Flowering and Fruiting season	Presentation							
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	13TA (1L)							
	3							
Cultivation Calendar	ונ							
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC]							
	41							
Sowing Planting Pruning								
Treatment Calendar	1							
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC]							
	31							
Fungicides Pesticides Fertilizers								

COMMERCIALIZATION

10-20

HYSSOPUS

Hyssopus officinalis L.

MEDICINAL AND AROMATIC				HISOPO SPANISH	VALENCIAN	ENGLISH	FRENCH
5	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:		ALBUS (WHITE FLOWER)		
IRREGULAR	30-60 CM	60-90 CM	TYPE:	MAGNOLIOPSIDA	ROSE	EUS (RED FLOWER)
Texture	Shade	Root	ORDER:	LAMIALES	SSP. ARISTATUS (SMAI	LLER AND MORE COMPAC	T INFLORESCENCE)
MEDIOM	PARTIAL	TAP ROOT	FAMILT.	LAWIACEAE			
M	ORPHOLOGY				and the second s	14 2 2 3	1
Stem	Bark	Color		and the	- W	150 5	1
Leaf	COMPOUND:	NO	and the	4 3 4	- MALTINA -	the st	
Loui	HARDNESS:	CORIAECOUS				100	
EVERGREEN	ARRANGEMENT:	OPPOSITE			The Party of the P	14- NY	State .
SIZE: 10-50 MM	VENATION:	FLUPTICAL			STATISTICS -	St Ste	and the second
COLOR: USMID GREEN	MARGIN:	ELLIPTICAL	A VI	1000	10318		
LS:MID GREEN	APEX: OB	TUSE/ACUMINATE		5/12/2 20	S. 10 42	4	-
TEXTURE: SMOOTH	LEAF BASE:	ATTENUATE		12	States in	1 2	Mr.
	PETIOLE:	SESSILE			States St		N/
Flower	Туре	Reproduction			Jen -	1	- No
	HERMAPHRODITE	HERMAPHRODITE		1	ALL ST	-	
SIZE: 7-12 MM	Flowering	Fragrance	- in the	A state of the second stat		1	
	VERTICILLASTER (MIX)	TES Color	Star Port	A MARCHINE	T SUL	VI IL AL	- C.M.
Fruit	TETRA-ACHENES	BLACK	mine 1.	- Real and	San Barry	Jank .	S. Lot States
Truit	Edible	Fruiting season	AL SAL	THE REAL PROPERTY OF	A REAL PROPERTY	A	Sec.
SIZE: Up to 2 MM	NO	<u>5</u>	A. Altant		Inc.	Strand R	Sile Vit
Growth	Rate	Longevity	and the second second		TRANK FALL	GET VINE IN	A Starting
Glowin		4-5 YEARS	1000		S. Martine	10 S 10 J 1	VI SEE
	ECOLOGY		100 C 100	S SAN ANA	REAR SAVE	NA GEAR	De to
Climato	Temperature	Drought resistant	March 19 Carl	LUNE AND			
Gilliate	-12°C,H3,Z5	YES	10 A C A	Well A Stor		- AV 103	ALCONT
ALTITUDE: 0-2000	Sun exposure	Frost resistant	CE STATE	SWE TATOL	PER TABL	28 9 97 23	A Part
IRRIGATION: LOW	FULL SUN	OP TO -15°C		STATES 12 ST		32 3 3	N
Soil	LOAMY/SANDY				N		
pH: BASIC	Drainage	Lime resistant		S Standard L			1-1-1
FERTILITY: MODERATE	HIGH	YES		S IS MINER	NE E		Statistics of
	USES			ESSIR LES	AA	REED	and the second second
Resistances	Applic	ations		The second second	Section - M		
COASTAL:	SLOPES: NO	HEDGE ROWS: YES		State - State -			× 1
POLLUTION:	RIVERBANKS: NO	BORDERS: YES		Same and	- All	Horas - Labor	-
WIND:	GROUPS: YES	ISOLATED: YES	10 (N) (a state of the second			1. · 74
			POINT	S OF INTEREST			
"Hyssôpos" (Greek); "E	zob" (Hebrew) = Ho	oly grass	rangan ragion / Southorn	and Control Europa, Moditorran	oon area. Near East. North	Africa: on calcaroous	clopes and hills

Active substances: essences: 0.3-1% / Uses:Medicinal of environmentation and on the substances (marrubalin...); content in essence: 0.3-1% / Uses:Medicinal experimentation and other and digestive disorders,...), perfumery, cosmetics, seasoning, liquor, honey. Toxic: excessive consumption can cause epileptic disorders.

SPACING: 30-40 CM

PLANTING AND PLANT HEALTH

Polymorphous plant: pink and even white flowering is possible (all or part of the plant). Wild plants are more fragrant than cultivated ones. Propagation: by seed, cutting, division of the bush; seeds in 1g: 850-1260; germination in: 15-20 days; germinating power: 3 years. Pests/diseases: mites, nematodes, cicada, ant, spider mites.

CHROMATIC CALENDAR	CON	IMERCIALIZATI	ON
Foliage, Flowering and Fruiting Season)	Presentation (L)	Height (cm)	Topiary shapes
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	CT 11 (1)	40-50	NO
Cultivation Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Sowing Planting Pruning X			
Treatment Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Fungicides Pesticides Fertilizers Herbicides			

CT14 (1,5)

CT20 (5)

CT30 (17)

20-30

30-40

LAVANDULA	A		Lavan	dula angustifolia	Miller (sin.: L.	officinalis L., L.	vera D.C., <i>L. spica</i> L.)
MEDICINAL A		ATIC		LAVANDA, ESPLIEGO SPANISH	ESPÍGOL FEMELLA VALENCIAN	LAVENDER ENGLISH	LAVANDE, LAVANDE VRAIE FRENCH
	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:			FINA BLANCA	
ROUND	20-150 CM	30-120 CM	TYPE:	MAGNOLIOPSIDA		BARREME	
Texture	Shade	Root	ORDER:	LAMIALES		MAILLETTE	
MEDIUM	PARTIAL		FAMILY:	LAMIACEAE	MATEROON	E, FRITZ SAULT, VI	ESUBIE ,
M	ORPHOLOGY		To ke	Contract and	0.00		
Stem	Bark	Color	11/2 pl		- with		Robert
Loof	COMPOUND:	NO	A BEACH		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Par AN	IN WORKS
Leai	HARDNESS:	HARD				Cola N	
EVERGREEN	ARRANGEMENT:	OPPOSITE	5 3 1 A 3 3				
SIZE: 20-40 MM	VENATION:						
	SHAPE: LIN	IEAR-LANCEOLATE	2 17 17 19		- 46	THE REAL	
COLOR: US:GR./GRAY	MARGIN:	ENTIRE	11-1-11	The Carlos of the			
LS:MID GREEN	APEX:	ACUTE	COSCIENT IN	的一口,你想来 ,我们	the state		
TEXTURE: TOMENTOSE	LEAF BASE:	ATTENUATE	CAN AND	and the the			Mar Martin
	PETIOLE:	SESSILE		CARL MANY AND	241		
Flower	Туре	Reproduction	STA PAR	A STANK STARS	1000	2	
TIOWEI	HERMAPHRODITE	HERMAPHRODITE	A States	AN A DE AND A DE AND		2	The second second
SIZE: 10-12 MM	Flowering	Fragrant	11000	THE REAL PROPERTY OF	1	-	Children a la
	VERTICILLASTER (MIX)	YES	FRAN PT NEW	and the second second	PT		AND STREET
	Туре	Color	N.S Caller	ALL	Rob B Alet	311.00	
Fruit	TETRA-ACHENE	GRAY	SC ARES	二十八 元月 二月 一日 二日			at st
	Edible	Fruiting season	SU SHE'S	PERSONAL PROPERTY AND I	A CANSON	10 × 15	
SIZE:	NO		50 68 AUS	至于 计规则 为 》	E CHAN		
Growth	Rate	Longevity	STILL TO BE	A SALERS			- Araba
Growth	FAST	> 20 YEARS	NA TA TARY		REAR AND	in the second	a strait
	ECOLOGY		Sa - 6 18 183	A 1 3 4 2 4		S STAND	NENES
	Temperature	Drought resistant	South Parts (してくどうころ		Sthe a	R. C. F. L. S.
Climate	-12ºC,H3,Z5	YES	1. 1. 1. 1. 2. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.		AN LOW	6231	A CARA
ALTITUDE: 0-2000	Sun exposure	Frost resistant	TE E LES		ASSENT AS		S. S. E.S.
IRRIGATION: LOW	FULL SUN	UP TO -15°C		ALL	State State	The labor	TOTAL PROPERTY AND
0.11	Texture	Salt resistant		and a standard state	H	1 A 1	1.00.00
5011	LOAMY/SANDY		2.1.171.46				
pH: 7-8.5	Drainage	Lime resistant	1 A A & 2 A	AL			
FERTILITY: MODERATE	MODERATE	HIGH		LUNK SA			NY ALELA
1	LISES				8 3 M 1 2 M L		nav evener
Resistances	JJEJ Apolio	ations		AND SHE SHOW	1		
COASTAL: VES	SLOPES: YES	HEDGE ROWS: YES	A AREA IN	NUMY SALA	A CARLAN	K AL	E De Gas
POLI UTION:	RIVERBANKS: NO	BORDERS: YES	A CONT	NY AND A SUCK	NO NO STA	ALC: NO PARTY	No pick Sur
WIND:	GROUPS: YES	ISOLATED: YES			191472 0	Con AR	A Stand W
			NPW STATE				
			POINT	IS OF ITNEREST			
"Lavare" (Latin) = w	ash, purify; "Angi	uish", "Folia" (Lati	n) = narrow leaf.				
Origin/distribution:	Southern Europ	e, Mediterranear	n area, Asia Minor / M	lediterranean region; on arid	and stony slopes an	id hills, generally	dry and sunny. Active
substances: essent	atio andativo ho	cetate, limonene,	pinene, geranioi,) ric	ch in esters, unlike lavender	and lavandins; conte	nt in essence: 0.3	3-0.7% (on dry matter).
It supports high rainf	all (up to about 1	000 mm per vear) nevertheless the soil	must have adequate drainage	0		
it supports night failing	all (up to about 1	ooo min per year		must have adequate dramage	.		
							SPACING: 50 CM
			PLANTIN	G AND PLANT HEALTH			
Propagation: by any	d outting Boots	disease Chris	olino omorioano /Dese	many bootle (con be controlly	ad with oblorowrites) or	d Thomasiniana	lovandulaa (aall midaa)
and butterfly	caternillars / roy	ot rot due to ove	sound americana / Kose	oil (Sentoria Javandulae/Son	toria black spot) Bb	iu momasiniana oma lavandulao/E	avanuulae (gall midge) Phomonsis Javandulaa
Armillaria mellea/Ho	nev fundus) atta	ck the inflorescen	ces: it is controlled by n	emoving the affected plants 1	Needs: control with dir	chlobenil chlorthia	mide
,iniana menea/ mo	y rungus/ alla	and inforeacer	see, it is controlled by h	on oving the theolet pialits. I			
		CHROMAT	IC CALENDAR			COMMERCIAL	
	_						
L	Fe Ann	ollage,Flowering	and Fruiting season		Presentatio	on (L) Height (cm) Topiary Shapes
				SER. (N.)		15 1	

428

Sowing

Fungicides

Planting ľ

Pesticides

Cultivation Calendar

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

Fertilizers

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

LAVANDULA

ME

Lavandula dentata L.

MEDICINAL A	ND AROMA	TIC	LAVANDA	DENTADA, CANTUESO RIZADO SPANISH	GAL.LANDA DENTATE LAVENDER, FRENCH LAVENDER LAVANDE DENTELÉE VALENCIAN ENGLISH FRENCH
S	STRUCTURE		DIVISION:	MAGNOLIOPHYTA	VARIETIES
Shape	Height	Diameter	SUBDIVISION:		var. CANDICANS
ROUND	Up to 100 CM	60-90 CM	TYPE:	MAGNOLIOPSIDA	EDELWEISS (WHITE INFLORESCENCE)
Texture	Shade	Root	ORDER:	LAMIALES	DUSKY MAIDEN
MEDIUM	PARTIAL	FIBROUS	FAMILY:	LAMIACEAE	PLOUGHMAN'S BLUE
M	ORPHOLOGY		- 4 M	EL 1-1 30-20	
Stem	Bark	Color		Warmert.	
Leaf	COMPOUND:	NO	1-11-11	AN THE REAL PROPERTY AND	
Loui	HARDNESS:	SOFT	the second	S. Barris	
EVERGREEN	ARRANGEMENT:	OPPOSITE		·····································	
SIZE: 1.5-3.5 CM	VENATION:				
	SHAPE:	LINEAR		A STORE ST	
COLOR: US: GR./GRAY	MARGIN:	DENTATE	S A D	SAX AS	
TEXTURE: TOMENTOSE	APEX: A	CUTE-ROUNDED		AN MASSING	
TEXTORE. TOMENTODE	DETIOLE:	CUNEATE		The State	
	Type	Reproduction		APPeret S	And a state of the
Flower	HERMAPHRODITE	HERMAPHRODITE		Same and the	
SIZE: 8 MM	Flowering	Fragant	16 and 1	and the second second	
	SPIKE	YES			
	Туре	Color		A CARE A	
Fruit	TETRA-ACHENE	BLACK	306	A STATE	
	Edible	Fruiting season	A STATE ONE	9	
SIZE:	NO		12 3		
Growth	Rate	Longevity	10 M		
Growin	FAST	5-10 YEARS			
	ECOLOGY			States Sales	VERMINAN AND AND AND AND AND AND AND AND AND
Climata	Temperature	Drought resistant	1	STATE SAME AND	
Climate	-12ºC,H3,Z5	YES	21		E. C. M. M. M. M. Market & A.
ALTITUDE:	Sun exposure	Frost resistant	P		And the state of the state of the state of the
IRRIGATION: LOW	FULL SUN	NO	dete N	AND REAL PROPERTY AND	THE REPORT OF THE REPORT OF ALL
Soil	Texture	Salt resistant		Part of and and	State Field State International State
	LUAMIT/SANDT			Ara Sugar	belo de las las de calendar en las seres
PH: BASIC	Drainage	Lime resistant	-		Text sector of the sector of the
PERTILITT. MODERATE	нібн	MODERATE	84 PA 8 11 18		NAMES AND ADDRESS OF A DESCRIPTION OF A DESCRIPTION
	USES		the Miles	A STRANT WAR	ADDARD AND THE REPORT OF SECURIN
Resistances	Applic	ations	10000	A COLORADO A	STATE WHELE JAM TH AND DOUGH
COASTAL: YES	SLUPES: TES	ROBDERS: YES	al ca a do to	A SCIENTING ST	
POLLUTION:	GROUPS: VES		Mar Stat N	19718 3540 113	
www.ind:	3.000 3. TES	ISOCATED. TES	THE OCT OF		
			POIN	TS OF INTEREST	
"Lavare" (lat) = wash	, purify; "Dentata	" (lat) = toothed c	or dentate.		
Origin/Distribution:	Mediterranean /	Southern Europ	be, North Africa; arid,	dry, stony, sunny areas. It	preters limestone soils in thinned forests. Active substances:
essential oil (1-8 cine	oi,);content in e	essence: up to 2%	% (wet matter). Uses: 0	ornamental	

SPACING: 60 CM

PLANTING AND PLANT HEALTH

Propagation: by seed, cutting. Pests/diseases: Chrisolina americana (the Rosemary beetle) can be controlled with chlorpyrifos. Thomasiniana lavandulae (gall midge) larvae and butterfly caterpillars / root rot due to excess moisture in the soil Septoria lavandulae (Septoria black spot), Phoma lavandulae (Phomopsis lavandulae), Armillaria mellea (Honey fungus) attack the inflorescences; it is controlled by removing the affected plants. Weeds: control with dichlobenil, chlorthiamide.

CHROMATIC CALENDAR	COM	MERCIALIZATIO	N
Foliage, Flowering and Fruiting season	Presentation (L)	Height (cm)	Topiary shapes
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	Containers		
	CT 8 (0.2)	10-15	1 year
Cultivation Calendar	CT 11 (1)	10-20	
	SEED TRAYS (0.2L per cell)		
Sowing Planting Pruning X			
Treatment Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Fungicides Pesticides Fertilizers			

Topiary forms

No

LAVANDULA

Lavandula x hybrida (sin.: L. x intermedia)

MEDICINAL A	ND AROMA	ATIC		LAVANDÍN SPANISH	ESPIGOLINA VALENCIAN	LAVANDIN ENGLISH	LAVANDIN FRENCH
	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:			ABRIAL	
ROUND	40-120 CM	40-150 CM	TYPE:	MAGNOLIOPSIDA		GROSSO	
Texture	Shade	Foot	ORDER:	LAMIALES		SUPER	
MEDIUM	PARTIAL	FIBROUS	FAMILY:	LAMIACEAE	MAIME, SUMEINS, L	ADY, HIDCOTE WHI	TE, PROVANCE,
М	ORPHOLOGY			N N	COLUMN STR		13
Stem	Bark	Color	1414		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	
Leaf	COMPOUND:	NO			and the state of the	A Property in	This
	HARDNESS:	HARD				A Contraction of the	NUK.
EVERGREEN	ARRANGEMENT:	OPPOSITE			100 No. 100		517
312E. 10-40 WW	VENATION:	LINEAD			10/20	100	31/1
COLOR: USIGR GRAY	MARGIN:	ENTIDE			- 10 M		an
LS: GR. GRAY	APEX:	ROUNDED		11	121201	1-0-1	The second se
TEXTURE: TOMENTOSE	LEAF MARGIN:	ATTENUATE	21/2-1-22 M		12/11	1.242	
	PETIOLE:	SESSILE	1000 8410	and the second	11- Car.	No.	
Flower	Туре	Reproduction	1 SANATE SI	No.		100	A Contraction of the second
Flower	STERILE	_		1			and the second
SIZE: 6-8 MM	Flowering	Fragrant	134 335 4 1		1 1971		100 m
VERTIC	CILLASTER (mix) 3-4 CM	YES	A CAR A CAR	March 1999		190 6 20	
	Туре	Color	7.	A DE MANDOLAS	COM STREET STORE		NA AREAS
Fruit			Contra La Car	CONTRACTOR OF A CONTRACT		2.1 0	61 - C - C - C
0175	Edible	Fruiting Season		ET SON GARAGE	化化学学生 医白色		1. 1. 1. 1. 1.
SIZE:	Data	Lan na útra				안 바이로 가지?	
Growth	Rate	Longevity	and a state		新日本市村 市市市		MAR STATE
	MODERATE	13 TEAKS	A TRANSFER	日本のないで、	1 W/ - 1 - 5 - 5	17 N	的复数不能
	ECOLOGY	D	A State of the			11 4 1	
Climate	1 emperature	Drought resistant	Constant of	TEA DESTRICT		Tay Di at	1. 1. 1. 1.
ALTITUDE: 0.1800	Sup exposure	Frost resistant	1 4 2 0 T	1 1 × 100 ×	A DATE AL	in the free	AND BEALTS
IRRIGATION: LOW		MODERATE		Service Real VI	BENNDER -	13 127	1 - Chi - A -
	Texture	Salt resistant					· PARSIAN
Soil	LOAMY/SANDY			「時」を「使いい」」	1. 1. 2011/1010	6 F 19 3	500 M 11
pH: 7-8	Drainage	Lime resistant		CARLENEX I.T.	11 19 CAL	19 10 -	Stern Park
FERTILITY: LOW	HIGH	MODERATE	1992 27 22	Party and the second second	J 1 1 1	1 4 7.63	and a sealer of the
	USES		Sec. 1	1 CANTERNO			
Resistances	Applic	cations	14 A.	MARCH BESK	the second	an a	S S S S S S S S S S S S S S S S S S S
COASTAL:	SLOPES: YES	HEDGE ROWS: NO	S. 18 . 19 . 2	A CALL ST			12 - 32 - 1.
POLLUTION:	RIVERBANKS: NO	BORDERS: YES	1.		12 12 12 19 19	ALL SK LED	AND TO BE AV
WIND:	GROUPS: YES	ISOLATED: YES		LEASE BALLEY	States States		THE WEAR
			POINTS	S OF INTEREST			
"Lavare" (lat) = wash	h, purify,		10001				
Origin/Distribution:	Mediterranean /	Southern Europe	, North Africa; arid, dry,	stony, sunny areas. in ger	neral prefers dry and sur	nny areas. Active	substances: essential
oil (linalool acetate,	limonene, eucaly	ptol, camphor, li	nalool, geraniol, borned	ol,); content in essence:	1-3% (wet matter). Use	s: Medicinal (diur	etic, sedative, healing,
antiseptic, germicide	,), perfumery, c	cosmetics, honey,	veterinary. It can supp	ort high rainfall (up to abou	ut 1000 mm per year) if th	ne soil has adequa	te drainage.
							SPACING: 60 CM
			PLANTING	AND PLANT HEALTH			
Hybrids between L.	angustifolia and	L. latifolia.					
Propagation: cutting	<u>a</u> . Pests/disease	s: Chrisolina ame	ericana (the Rosemary I	beetle) can be controlled w	th chlorpyrifos. Thomasi	niana lavandulae	(gall midge) larvae and
(Hopey function) attact	root rot due to e	excess moisture i	n the soil Septoria lava	naulae (Septoria black spo	ot), Prioma lavandulae (H	-nomopsis lavandi	uiae), Armiliaria mellea
(noney rungus) attac	sk une inflorescen	ices, it is controlle	u by removing the affect	neu plants. weeds: control	i wiuri dichiobenii, chlorthi	amue.	



LAVANDULA

Lavandula latifolia Medicus (sin.: L. spica D.C.)

MEDICINAL A	ND AROMA	TIC		ESPLIEGO, ALHUCEMA SPANISH	ESPÍGOL MASCLE VALENCIAN	SPIKE LAVENDER ENGLISH	ASPIC, LAVANDE MÂLE FRENCH
	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:				
IRREGULAR	Up to 100 CM	Up to 100 CM	TYPE:	MAGNOLIOPSIDA			
l exture	Shade	Root	ORDER:				
MEDIUM	PARTIAL	TAPROOT	FAMILT:	LAIVIIACEAE			
M	ORPHOLOGY		X				
Stem	Bark	Color			30.00	15	and a state
	COMPOUND	NO	AN ALLEN			R. 164	a the second
Leaf	HARDNESS:	CORIACEOUS			Contraction of the local division of the loc		53
EVERGREEN	ARRANGEMENT:	OPPOSITE		Ster Old			S 800
SIZE: 30-60 MM	VENATION:		NY NY/10 Sec		AT SU	1 2 1	
	SHAPE: 0	BLONG-SPATULATE	AL AND LAD		11 1/	AL CON	
COLOR: US: GR. GRAY	MARGIN:	ENTIRE	ALL STRUCT				1
LS: GR. GRAY	APEX:	ACUTE	1 1 A A A A A A A A A A A A A A A A A A		MALL //		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
TEXTURE: TOMENTOSE	LEAF BASE:	ATTENUATE	A CANALA		A DIAN	Mr -	
	PETIOLE:	SESSILE				121	Conc. of Fig.
Flower	Туре	Reproduction				CONTRACTOR AND	CARACTER SPACE
0175	HERMAPHRODITE	HERMAPHRODITE	1011-85		ar shi ka di s	LACK ADDIAN	As to Bearing
SIZE: 8-10 MM	Flowering	Fragrant	VIII ICT		We will on Net at		LANDA TA
	VERTICILLASTER (MIX)	Color	X 11 X 1		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ARE ALL AND	AT SHARING
Fruit	Type	GRAY	186.254		AP IN ALL R	NAME AND ADDRESS	
Trait	Edible	Fruiting season		ANAL N MARK	A STALL STALLAND	S DUMPER	
SIZE: 2 MM	NO	r runnig oodoori			DE MARINI	CONTRACTOR -	ALL HOUSE / TA
0 //	Rate	Longevity			TAN BOSIN		SADA ADA at
Growth	MEDIUM	> 10 YEARS				C. Carlo and	ALCON CALL
	ECOLOGY				22		10 LA 18
Climate	Temperature	Drought resistant				CON CON	A ATO TA
Onnate	-12ºC,H3,Z5	YES	IV NZS	ALL AND SEE	Charles and a second	I PA ACA	ALC: NO
ALTITUDE: 0-1700	Sun exposure	Frost resistant				C.V. S. L.V.	
IRRIGATION: LOW	FULL SUN	YES	N SIP A	NUNU CAR	ALCON COM	Star hits	South Date of
Soil		Sait resistant	S 10 10	VE AN RES	Ar Mill Cal	WIN TO MAN	N A AND A
pH: 7-8.5	Drainage	Lime resistant	175		The state of		AN STATION
FERTILITY: MODERATE	HIGH	MODERATE	87.2 -			141 S 42 77	A CARLEND AND A CARLEND
Г	11050				Service and a	11 2 2 5 5	Star I V
Posistances	USES	ations				in a way	
COASTAL	SLOPES: YES	HEDGE ROWS: NO		A STATE	1000	AL AVERS	Carl Carlos V
POLITION: MODERATE	RIVERBANKS: NO	BORDERS: YES			And Shitter	1	A BANKAN
WIND: MODERATE	GROUPS: YES	ISOLATED: YES					And the second second
	1		DOINT		CONTRACTOR SERVICES		
"Lavare" (lat) = wash in	urify: "Lato" "Folia	= broad leaf	POINT	S OF INTEREST			
Origin/Distribution: Me (monoterpene hydrocar healing, antitussive,),	editerranean / Sout bons, camphene, b perfumery, cosmeti	thern Europe, North borneol, geraniol, p- ics, honey, veterinar	Africa; arid, dry, stony, s cymene, cineole, camphor y	sunny area. It prefers limestone r,); content in essence: up to 2'	soils; in cleared forests. A % (wet matter). Uses:Medi	Active substances: es icinal (stimulant, antise	ssential oil eptic, bactericide,
Colonizing plant in mou	ntainous areas.						
							SPACING: 50 CM
			PLANTING	AND PLANT HEALTH			

Propagation: by seed, <u>cutting</u> or division of plant; 1 g = 800-1300 seeds; germination in 40 days. Plagues/diseases: Chrisolina americana (the Rosemary beetle) can be controlled with chlorpyrifos. Thomasiniana lavandulae (gall midge) larvae and butterfly caterpillars / root rot due to excess moisture in the soil Septoria lavandulae (Septoria black spot), Phoma lavandulae (Phomopsis lavandulae), Armillaria mellea (Honey fungus) attack the inflorescences; it is controlled by removing the affected plants. Weeds: control with dichlobenil, chlorthiamide.

CHROMATIC CALENDAR	COM	MERCIALIZATIO	NC
Foliage, Flowering and Fruiting Season	Presentation (L)	Height(cm)	Topiary shapes
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	Containers		
	CT8 (0.2)	10-15	1 year
Cultivation Calendar	9 (036)	20-30	
	CT10 (0.45)		
	CT13	10-20	
	CT12 (1.1)		
Sowing Planting Pruning x	CT14 (1.6)		
	Seed trays (0.2 L per cell)		
Treatment Calendar			2 years
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Fungicides Pesticides Fertilizers			

LAVANDULA

Lavandula stoechas L.

MEDICINAL A	ND AROMA	ATIC		CANTUESO SPANISH	TOMANÍ, CAPS D'ASE SPANISH LAVENDER LAVANDE STÉCHADE VALENCIAN ENGLISH FRENCH
	STRUCTURE		DIVISION:	MAGNOLIOPHYTA	VARIETIES
Shape	Height	Diameter	SUBDIVISION:		ssp. PEDUNCULATA
IRREGULAR	Up to 100 CM	30-90 CM	TYPE:	MAGNOLIOPSIDA	LEUCANTHA SHAPE (WHITE FLOWER)
Texture	Shade	Root	ORDER:	LAMIALES	KEW RED
MEDIUM	PARTIAL	FIBROUS	FAMILY:	LAMIACEAE	DEVONSHIRE, SNOWMAN, MADRID PINK, MADRID PURPLE ,
M	ORPHOLOGY			and the second s	
Stem	Bark	Color	7	States -	
Leaf	COMPOUND: HARDNESS:	NO SOFT	33		
EVERGREEN	ARRANGEMENT	OPPOSITE	5.5		
SIZE: 10-40 MM	VENATION:	PINNATE	1 CA		
	SHAPE:	LINEAR		1 1 1 4 2 2	
COLOR: US:LIGHT GRN	MARGIN:	ENTIRE	11284		
LS: LIGHT GRN	APEX:	ROUNDED	100 (a)		
TEXTURE: TOMENTOSE	LEAF BASE:	ATTENUATE	54	A case of	
	PETIOLE:	SESSILE			and the second s
Flower	Туре	Reproduction			
i lower	HERMAPHRODITE	HERMAPHRODITE			The second second
SIZE: 6-8 MM	Flowering	Fragrant			And the second s
	VERTICILLASTER	YES			A DATE OF A
	Туре	Color	6		and the second se
Fruit	TETRA-ACHENE	BLACK			
SIZE:	NO	Fruiting season	Access to the	a distant a solar i	
	Rate	Longevity		AND AND AND AND	
Growth	MODERATE	5-10 YEARS	10. 10.		and the second second second second
	ECOLOGY		College Land		
	Temperature	Drought resistant		A 16 1	
Climate	-12ºC.H3.Z5	YES			
ALTITUDE: 0-500 M	Sun exposure	Frost resistant			
IRRIGATION: LOW	FULL SUN	Up to -5°C			Configuration of the Annual States of the
Soil	Texture LOAMY/SANDY	Salt resistant		A Contractor	
pH: ACIDIC	Drainage	Lime resistant		A (高橋) 世上	
FERTILIITY:	HIGH	LOW	State State N		
	LISES		- HARRIS	ALSO AND	The state of the second second second
Resistances	Applic	ations			
COASTAL: YES	SLOPES: YES	HEDGE ROWS: NO			Contract of the second s
POLLUTION:	RIVERBANKS: NO	BORDERS: YES		A CONTRACTOR OF A	
WIND:	GROUPS: YES	ISOLATED: YES	a stranger		
			POI	NTS OF INTEREST	
Floral spikes topped (camphor, fenchone, bo	by very showy p rneol, terpineol,),	ourple ovoid bract tannins,; content i	s. Origin/distribution : I n essence: 0.5-0.7% (dr	Mediterranean region / Mediterra y mattter). Uses: Medicinal (stimul	anean scrubland, non-calcareous soils. Active substances: essential oi lant, antiseptic, antirheumatic,),liquor, insect repellent,
					SPACING: 60 CM
			PLANTI	ING AND PLANT HEALTH	

CHROMATIC CALENDAR	COM	MERCIALIZATIO	N
Foliage, Flowering and Fruiting season	Presentation (L)	Height (cm)	Topiary shapes
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	Containers		No
	CT13 (1)	10-20	
Cultivation Calendar	CT (1.5)	20-30	
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	CT30 (17)		
	Seed tray (0.2 L per cell)		
Sowing Planting Pruning X			
Treatment Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Fungicides Pesticides Fertilizers			

LIPPIA

Fungicides

Г

Pesticides

Г

Lippia triphylla (L'Hér.) O.Kuntze (sin. L. citriodora L.)

MEDICINAL A		ATIC		HIERBA LUISA, VERBENA OLOROSA SPANISH	MARIALLUÏSA VALENCIAN	HERB LOUISE ENGLISH	VERVEINE ODORANTE FRENCH
	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:				
IRREGULAR	50-200 CM	Deat	TYPE:	MAGNOLIOPSIDA			
MEDIUM	LIGHT	ROOT	FAMILY	VERBENACEAE			
M				VERIOEI (VERE			100
	Bark	Color		A DECEMBER	-	1 1 2	
Stem		LIGHT BROWN		and the	Alex .	1883	
Leaf	COMPOUND:	NO	10			1 La Co	1/1
DECIDUOUS	ARDNESS:		20	K P	100	Mar Ward	
SIZE: 10 CM X 1 CM	VENATION:	PINNATE	1 2 1	CA OF		- March Mar	1. 36.25
	SHAPE:	LANCEOLATE				100 500	States Inthe
COLOR: US: MID GREEN	MARGIN:	ENTIRE		The second second		2181 200	12 3232
LS: MID GREEN	APEX:	ACUTE	1000	Car Dan			E WARDS
LS:SMOOTH	PETIOLE:	SHORT					- Jan
Flower	Туре	Reproduction			A A	N	AT THEY'RE
Flower	HERMAPHRODITE	HERMAPHRODITE	-			Sec. Part of a	1222 11 24
SIZE:	Flowering	Fragrant	the start way	and the second	Anna I a	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	Lek-
	SPIKE	Color			a star ha	2. Contraction	a state
Fruit	DRUPE	BLACK		1 MARTIN	State State	The starts	
	Edible	Fruiting season	Contract of the	2001	Plant Shares	al state	hat the
SIZE:	NO		2 2 10	The state	Service.	14 - 14 - 14 - 14 - 14 - 14 - 14 - 14 -	1-1-2-5
Growth	Rate	Longevity	5-21			E Coles	- Ter and
		21012/40		CINE DONE		Fee the t	
	Temperature	Drought resistant	St. State	NV2 200	10 ×	Sea Al	NOP SIN
Climate	-6°C,H4,Z6	NO		n stars a	KE NED	AN A	ALL AND ALL
ALTITUDE: 0-800 M	Sun exposure	Frost resistant		0	N/ Di		17 - 10-20
IRRIGATION: MODERATE	FULL SUN	Up to -7 °C		The second	110 59 8		1/2 - 1/2/18
Soil	Texture	Salt resistant	So - Marie	The Cast of the	State An	210-SAV	CAR DAM BARRIES
pH: 6.5-7.2	Drainage	Lime resistant		Star Start	An It -		Ser Se
FERTILITY: FERTILE	HIGH	MODERATE		All a loss of the			
	USES		A Vertil		Sand States	y las	105 Participation
Resistances	Applic	cations	19 5 1	ALL STA	CAN POLE	EAUN	State State
—	SLOPES: NO	HEDGE ROWS: NO	and a	SAELA	N A SUL	E Zis	
POLLUTION:	GROUPS: YES	ISOLATED: YES		New All		SALE C	1. S. R. P. C.
WIND							
			P	OINTS OF INTEREST			
The generic name al Origin/distribution: in essence: 0.20-0.2	Iludes to the bota South America 5% (wet matter).	anist A. Lippi (Frer (Chile), cultivated Uses: Medicinal	nch); "triphylla" = th d as an ornament (tonic, stomach, sp	ree leaves, refers to the ternary g al shrub. Active substances: ess asms,), flavoring (pastry,), liqu	rouping by node of t ential oil (citral, limo or store, / <u>Citrus ar</u>	he leaves. mene, geraniol, ver <u>oma.</u>	benalin,); content SPACING: 60-80 CM
			PLANT	ING AND PLANT HEALTH			
Propagation: by cu Weeds: no known se	tting, bush divisi elective herbicide	on, layering. Pest es.	t s/diseases : aphid	s / root suffocation due to exces	sive moisture in the	soil, rust in autumr	(control with maneb)
		CHROMAT	TIC CALENDAR			COMMERCIALIZ	ATION
	F	oliage, Flowering	and Fruiting Sea	son	Presentat	ion (L) Height (c	cm) Topiary shapes
JAN FEB	MAR ABR	MAY JUN	JUL AUG	SEPT OCT NOV I	DEC C21 (4)	
					333		
		Cultivatio	on Calendar				
JAN FEB	MAR ABR	MAY JUN	JUL AUG	SEPT OCT NOV	DEC		
Sowing	Planting	Pruning	x				

 Treatment Calendar

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

 Image: Colspan="4">Image: Colspan="4"

 Image: Colspan="4">Image: Colspan="4"
 Image: Colspan="4">Image: Colspan="4">Image: Colspan="4">Image: Colspan="4">Image: Colspan="4">Image: Colspan="4"

 Image: Colspan="4">Image: Colspan="4"
 Image: Colspan="4">Image: Colspan="4"
 Image: Colspan="4"
 Image: Colspan="

Fertilizers

MELISSA

Melissa officinalis L.

MEDICIN	IAL AND	ARO	MATIC		MELISA, TORONJIL SPANISH	MELISSA, TARONGINA VALENCIAN	BALMMINT, LEMON BALM ENGLISH	MÉLISSE, CIDRONELLE FRENCH
	STRUCT	URE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Hei	ight	Diameter	SUBDIVISION:			AUREA	
EXTENDED	Up to 1	100 CM	30-80 CM	TYPE:	MAGNOLIOPSIDA		ALL GOLD	
Texture	Sha	ade	Root	ORDER:	LAMIALES			
MEDIUM	DEN	NSE		FAMILY:	LAMIACEAE			
	MORPHOL	LOGY		Service and				the second second
Otom	Ba	ark	Color		AL A	The hard	And the Party of the	a la
Stem			GREEN				Sec. A sec.	3
Loaf	COMPOL	JND:	NO	A DECEMBER	111-34 A	a start	A. 200 - 2014	6 6 12 0
Leai	HARDNE	ESS:	CORIACEOUS		Market and		The set of the	
EVERGREE	N ARRANGEN	MENT:	OPPOSITE	Same All		1.1.1.1.1	1 8 1	
SIZE: 20-9	0 MM VENATI	ON:	PINNATE	and the		11		
	SHA	APE:	OVAL	1 m	and the second	· · · · ·		
COLOR: US:DK	. GREEN MAR	GIN:	CRENATE	1 1 1 1 1 1	North L	and have		STOR CONT
LS:MI	O GREEN AF	PEX:	ACUTE			12 11 1 2 3 1	and a state	
TEXTURE: US: R	ROUGH LEAF BA	ASE:	ROUNDED		A CONTRACTOR	the supervised		1
LS:TOM	MENTOSE PETIC	DLE:	SHORT	144 M A 19 1			The states	
Flower	Ту	ре	Reproduction					
1101101	HERMAP	HRODITE	HERMAPHRODITE	1.00	20 1 1 A 1 A 1 A 1 A 1 A			
SIZE: 8-1	5 MM Flow	rering	Fragrant	1.1		A CONTRACTOR		The second second
	VERTICI	LLASTER	YES		The Part of the			
	Ту	ре	Color	100		and the second		
Fruit	TETRA-/	ACHENE		100 m		11		
	Edi	ible	Fruiting season	- A	1 a la l			
SIZE: 1.5-	2 MM N	0		A.C.		the second	all have seen as	
Growth	Ra	ate	Longevity		FUFU			CRUN PRO
	FA	IST	5-10 YEARS	Contraction of the				
	ECOLO	GY			1			
Climate	Tempe	erature	Drought resistant			50%	144	and the
Climate			NO		and the second		A A A A	
ALTITUDE: 0	Sun ex	posure	Frost resistant	Silling N				
IRRIGATION:	HIGH SUN/PART	FIALSHADE	UP TO -15°C	allowith an		A Same	AL CARE	E/A lan
Soil	Tex	ture	Salt resistant		ALL REAL			A ALL AND A
3011	LOA	AMY	NO			The second second	the second se	
pH: 6	5.6-7.5 Draii	nage	Lime resistant			A. BOOLS		1 100.00
FERTILITY:	HIGH HIG	GH	YES		A Contract		NY YA	all
	USES	s		4453		A Martin	AN INCOME	CARL CARL
Resistance	es	Applic	ations		1-		AND HELL	
COASTAL:	SLOPES	S: NO	HEDGE ROWS: NO	E A			a la martin	Contraction (1)
POLLUTION:	RIVERBAN	NKS: YES	BORDERS: YES	1	A ALL LAND LET	State State	THE A	
WIND:	NO GROUP	S: YES	ISOLATED: YES	11	A Caller 1		and the little	Br. LAPP
<u> </u>								
				POIL	NTS OF INTEREST			

"Melissa" (Greek) = bee, alludes to its honey nature

Origin/distribution: Near Eastern, Southern Europe and Mediterranean Basin / Central Europe, North America, North Africa; temperate climatic zones; in cool and shady places, banks, orchards, streams,... / Active substances: essential oil (pinene, limonene, geraniol, linalool, citral, citronellal, rosmarinic acid, bitter substances....); content in essence: 0.05-0.25% (wet matter). Uses: Medicinal ("Carmen water") (antispasm, choleretic, treatment of digestive disorders,...), condiment, liquor store, aromas, herbalism, confectionery, perfumery, honey / <u>Citrus aroma.</u>

SPACING: 35-40 CM

Topiary shapes

PLANTING AND PLANT HEALTH

Propagation: by seed, cutting, division of the bush; 1 g = 1950-2000 seeds, germination in 15-35 days, germination power 4-7 years. Pests/diseases: snails and slugs, powdery mildew, Septoria melissae (leaf spot), Chrysolina americana (Rosemary beetle), Cryptocephalus ocellatus (Leaf beetle), Ocenthus pellucens (Italian tree cricket). Weeds: control with diuron, terbacillus.



COMMERCIALIZATION

20-40

MENTHA

MEDIC

Mentha x piperita L.

MEDIO	CINAL A	ND AROMA	TIC		SPANISH	VALENCIAN	ENGLISH	FRENCH
	5	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Sh	nade	Height	Diameter	SUBDIVISION:		var. OFFICINALIS o	r PALLESCENES	(WHITE PEPPERMINT)
EXTE	ENDED	30-90 CM	UNDEFINED	TYPE:	MAGNOLIOPSIDA	var. VULGARIS o	r RUBESCNCE (BLAG	K PEPPERMINT)
Te	xture	Shade	Root	ORDER:	LAMIALES	var. CITRATA	(LEMON or ORANGE PE	PPERMINT)
F	INE	DENSE	FIBROUS	FAMILY:	LAMIACEAE	MITCHA	M, MAINE ET LOII	RΕ,
	M	ORPHOLOGY		1		a a		
S	tem	Bark	Color	1		I STATE ONE	e po	and the second
			REDDISH		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		5 - 1 - S.	a strange
L	eaf	COMPOUND:	NO		all see	10.0		- Longer
EVED.	ODEEN	HARDNESS:	CORIACEOUS	All and the second	-1-			1
EVER	GREEN	ARRANGEMENT:	OPPOSITE	1000	1 3	1.1.1	14	E.C.
SIZE.	40-90 MM	VENATION:		ALLEN	to la contraction		m L w	A DUNCT
COLOR	US: DK GREEN	MARGIN:	CERRATE	1	16	CILLY W	REF TO LAR	
002010	LS:MID GREEN	APEY:	ACUTE		11	CALE.	ANN	No Contractor
TEXTURE	ROUGH	LEAF BASE	ROUNDED		Line -			
EXTORE.		PETIOLE:	SHORT					
		Type	Reproduction				and the star	and the second second
Flo	ower	STERILE	STERILE		Jack I and I	And the second		and the second second
SIZE:	3.5-6 MM	Flowering	Fragrant	No. of Concession, Name	THE OTHER DESIGNATION.	AND SHE POPPORT	STATE OF THE OWNER	STATISTICS IN INC.
		VERTICILLASTER	YES	4. 4.		19 19 19 19 19 19 19 19 19 19 19 19 19 1	a helder a	No. Contraction
		Туре	Color		50		C. C. MAN	
Fr	ruit				10 10 10 10 10	A	This cont	State Barress and and
		Edible	Fruiting season	1		A A		ALC: E
SIZE:			-	12.4 5 6 5		and the second	S	1. 2. 1. 2. 1.
Gr	owth	Rate	Longevity	the same	Star Starting	S.W.S. TAR	and shares	
GIG	owin	FAST			a contract of the		AL AL AL	
		ECOLOGY		A 28.44	April 18 4	1	6 - Care	
		Temperature	Drought resistant	1 8 1 8 PM	SAL CON	A. 2	and the second second	S Start
Clir	mate	-6ºC,H4,Z6	NO			1 4 4 4 4 A 10		Contraction of the
ALTITUDE	: 0-2100 M	Sun exposure	Frost resistant		a state of the	AV		A CARLE
IRRIGATIO	N: HIGH	SUN/PARTIAL SHADE	Up to -15 °C	A PARA	5 3 A 3 3 A 4	1 E L	A ANT	and a start of the
	oil	Texture	Salt resistant	2 1 2 3	A 44 0		- VA 9	- 11 s
3		LOAMY	NO		A SALES CA	Service and	Section 1	States B
pH:	6-7.5	Drainage	Lime resistant	1 5- 1.00			ALC: YANK	
FERTILITY	HIGH	HIGH	YES	1 Section	and a start of		M. H. Law	
		USES			and the second	A	20.25	
Resis	stances	Applic	ations	12 PL 1	Robard Barrow		and the second	and the state of the
COASTAL		SLOPES: NO	HEDGE ROWS: NO	and the second	STAN STR	8- 12 SAL	1. 1. 1.	A day and
POLLUTION	N :	RIVERBANKS: YES	BORDERS: YES	A ANT	and a state of the	5 30 4 3	The Ball	545
WIND:	NO	GROUPS: YES	ISOLATED: YES			A SPALE		and the second
				DOWN				
"Minthe"	Greek nym	ab transformed is	nto a plant by the	PUINI	"piper" (Latin) = pepper allu	ides to the strong and or	view smell and tests	
Origin/di	istribution:	Southern Euron	e and North Afric	a / cultivated in South	vestern Europe, the United S	States and Asia: in temp	erate zones, cosm	politan: in cool.
		e - anioni Europ						

"Mintha" (Origin/dis moist areas. Active substances: essential oil (45-86% menthol, menthone, pinene, cineole, rosmarinic acid, caffeic acid, flavonoids....); content in essence: 0.8-3% (dry matter) Uses: Phytotherapy (antispasmodic, antiseptic, antigastric, antifungal,...), condiment, liquors, aromas, herbalism, confectionery, perfumery. The essence can cause allergic reactions.

PLANTING AND PLANT HEALTH

Hybrid of M. aquatica L. (water sandalwood or curly mint) and M. spicata L. (spearmint) Propagation: by cutting, stolon, division of the bush. Pests/diseases: Spodoptera littoralis (African cotton leafworm), aphids, cicada, nematodes, Puccinia menthae causes rust spot or blight on the leaves, Phyllosticta menthae (a type of fungi), Chrysolina americana (Rosemary Beetle). Weeds: control with terbacillus. It forms showy stolons runners.

CHROMATIC CALENDAR	COM	MERCIALIZATIO	N .
Foliage, Flowering and Fruiting season	Presentations (L)	Height (cm)	Topiary shapes
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	13CT (1)	10-20	No
Cultivation Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Sowing Planting Pruning X			
Treatment Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Fungicides Pesticides Fertilizers Herbicides			

Mentha pulegium L.

MENTHA	MENTHA Mentha pulegium L.							
MEDICINAL	AND ARO	MATIC		POLEO SPANISH	POLIOL VALENCIAN	PENNY-ROYAL ENGLISH	POULIOT FRENCH	
	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES		
Shape	Height	Diameter	SUBDIVISION:			CUNNINGHAM MINT		
Texture	10-60 CM Shade	UNDEFINED	TYPE:	MAGNOLIOPSIDA				
FINE	LIGHT	ROOL	FAMILY:	LAMIACEAE				
M	ORPHOLOGY				121	R.		
Stem	Bark	Color	17	the shift	ERS.			
	COMPOUND:	NO			200		2 23	
Leaf	HARDNESS:	SOFT			100		12.05	
EVERGREEN	ARRANGEMENT:	OPPOSITE	The second second				8 W -	
SIZE: 8-30 MIM	VENATION: SHAPE:	PINNATE OVAL-OBLONG			8	102		
COLOR: US: MID GREEN	MARGIN:	ENTIRE		52 G 3 1 1 1	-	2. 新闻	122	
LS:MID GREEN	APEX:	ROUNDED	A Startes	1 - See	Contraction of the second		LAFL	
TEXTURE: US: SMOOTH	LEAF BASE:	ATTENUATE				N. anto		
LS:TOMENTOSE	PETIOLE:	SHORT	A Standards		and the second			
Flower	Туре	Reproduction	PT	100	S. M		2 La	
SIZE: 4.5-6 MM	Elowering	Fragrant		10 A 10 A		- 74	CAL NA	
4.0 0 1111	VERTICILLASTER	YES						
	Туре	Color	A STATE OF STATE		1.20	In the second	Contractory	
Fruit	TETRA-ACHENE	BROWN			的名称 的。由			
0.75	Edible	Fruiting season		A la region de				
SIZE: 0.75 MM	NO	L a a a suite :	and the second se	Berger State	6		and the second	
Growth	FAST	1-3 YEARS	1 - C. C. S. S.	and a start of the	Sec. Ch	1. 1. 1.	1 Call	
	1801	15 TEARS			1.1.1.1.1	Part and all an	1.8 A. DE	
	ECOLOGY	Descriptions	er die entre entre			and the second	A State State	
Climate	remperature	Drought resistant	and the lot of the	Spatial British	and the second	A Contraction	1.1.2	
ALTITUDE: 0-1500	Sun exposure	Frost resistant				ar or action	104	
IRRIGATION: HIGH	SUN	UP TO -15°C	T. HERE		A formation	8-97-77 U.S.	Start Ares	
Soil	Texture	Salt resistant	- Margarel	a could be see	444		1. 1. 1.	
3011	LOAMY		Electra est	13 4 3 3 W	192220	and the state of the	5 al 2 al	
pH:	Drainage	Lime resistant	14 M 1	LE AND		the mail and	15 M 14	
FERTILITY: HIGH	MODERATE	YES	100				A Carlos	
_	USES			1200	1014	a sur the	C. Stort .	
Resistances	Applic	HEDGE ROWS: NO		72	ASIS (SAS)	BAR AND	2.2	
COASTAL:	RIVERBANKS: YES	BORDERS: YES		1204 34			1 At Ar	
WIND: NO	GROUPS : YES	ISOLATED: YES	C. C.	CARLAND D		and pressing the	1-1-5	
			DOIN					
"Mintha" - Greek ny	mph transforme	d into a plant by th		13 OF INTEREST	ole floge)			
Origin/distribution:	Native to Spain.	Central and Sou	thern Europe, the Mid	Idle East. North Africa, the A	mericas / cosmop	olitan: in humid areas, ev	ven waterlogged. Ideal	
for cool somewhat s	hady areas. It p	orefers acidic soils	s. Active substances	essential oil (82-90% mixtu	ure of pulegone a	nd piperitone (very toxic)	, menthone, menthol,	
thymol, carvacrol, tar	nnins,); conten	t in essence: 1.5-	1.75% (dry matter). Us	ses:Medicinal (treatment of ga	astric disorders, di	gestive, spasms, antisep	tic,), insect repellent,	
refreshing, seasoning	g, liquor store, ar	romas, herbalism.	Very polymorphous p	lant. (toxic essential oil).				
			PLANTING	G AND PLANT HEALTH				
Propagation: by see	ed cutting stolo	n division of the	bush 19.000 seeds i	per a: aermination at 15-30 a	davs Pests/disea	ses: aphids field flea m	ealvhug nematodes	
Puccinia menthae ca	auses rust or blig	ht on the leaves.	Weeds: control with t	erbacillus, diuron, metribuzin.			oulybug, nomalouoo.	
The plant will root thr	ough the nodes	of the creeping st	ems.					
		CHROMATI	C CALENDAR			COMMERCIALIZ	ATION	
	F	oliage, Flowering	g and Fruiting Seaso	n	Prese	entation (L) Height (c	m) Topiary shapes	
JAN FEB	MAR ABR	MAY JUN	JUL AUG	SEPT OCT NOV	DEC Pot		No	
						1 13 (1)		
		Cultivati	on Calendar		Seed tray	U.2C per cenj		
JAN FEB	MAR ABR	MAY JUN	JUL AUG	SEPT OCT NOV	DEC			
Sowing	Planting	Pruning	х					
		-			===			
		Treatme	nt Calendar		DEC			
JAIN FEB		IVIAT JUN	JUL AUG	JEPT OUT NUV	DEC			

Fungicides

Г

Pesticides

Fertilizers

Herbicides

MENTHA

. MEDIC

Mentha spicata L. (sin.: M. viridis L.)

MEDIC		AND AROI	MATIC		SPANISH	VALENCIAN	ENGLISH	FRENCH
	5	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Sha	аре	Height	Diameter	SUBDIVISION:			var. CRISPA	
EXTEN	NDED	30-100 CM	UNDEFINED	TYPE:	MAGNOLIOPSIDA			
Tex	ture	Shade	Root	ORDER:	LAMIALES			
FIN	NE	DENSE		FAMILY:	LAMIACEAE			
	M	ORPHOLOGY				Value and a	A start	
Ste	em	Bark	Color	3.6				2 - and
		0011001110	GREEN	111 111	the second of the			and the second
Le	af	COMPOUND:	NU	10 m	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			A REAL PROPERTY AND
EVERG	DEEN	HARDNESS:	OPPOSITE	and the state				and in the
SIZE:	30-90 MM	VENATION:	PINNATE		and the second sec			Mar and
		SHAPE:	LANCEOLATE		and and and and		577	Arest
COLOR: L	US:MID GREEN	MARGIN:	SERRATE	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			- Aller	1 8 -
L	LS:MID GREEN	APEX:	ACUTE	A State of the second		and the second second	mar .	A second
TEXTURE: S	SMOOTH/ROUGH	LEAF BASE:	ROUNDED		2 4884	STRAIN STRAIN	100 B (10 27 5 10	a second
		PETIOLE:	SHORT		The Manderson	123	and a standard	10-10-1
Flov	ver	Туре	Reproduction		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			The second second
0175		HERMAPHRODITE	HERMAPHRODITE		State D-	146		
SIZE:	3.5-6 MM	Flowering	Fragrant			147 3 -	10 Y	- 1.V -
		VERTICILLASTER	Color	HINA AND AND AND AND AND AND AND AND AND A	1 1 0 1			All the lot of the
Fri	uit	TETRA-ACHENE	0000	1				
	an	Edible	Fruiting season		C MAN			1007
SIZE:		NO	5		Section and Parks	ALC ALCONT	NULL NO	A PARTY
Gro	wth	Rate	Longevity	- Hereit		200	115 10 1 20	AND AND
0.0	wen	FAST			1. 18 CO. 0 7 11	THE STATE		
		ECOLOGY		1. 天然人名		and the second		South A
Clim	nato	Temperature	Drought resistant			free and the		and the second
Cilli	late		NO			and the		And the second second
ALTITUDE:	0-2100	Sun exposure	Frost resistant				San Strange Lotter	Alter and an
IRRIGATION:	HIGH	FULL SUN	UP TO -15°C		and the second	All and a	Marken -	10-1-1
So	bil	LOAMY	Salt resistant	and the second second	and the second	THEST		
pH:	6.6-7.5	Drainage	Lime resistant	A ST		100 M	1504-00	5 . Sec.
FERTILITY:	HIGH	HIGH	YES		at The Date	S ARALS	CT	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
		USES	-	- A / A				
Resist	ances	Applic	ations	and some	Section 1		The second	
COASTAL:		SLOPES: NO	HEDGE ROWS: NO	1 7 1	A THE REAL		82.545	
POLLUTION:		RIVERBANKS: YES	BORDERS: YES	1	20 75	The second second second second	7400	
WIND:	NO	GROUPS: YES	ISOLATED: YES	· · ·			Star Call	Contraction of the
				POIN	TS OF INTEREST			
	talls utile as a	Coutborn and E	aatam Europa /		relized from sultivation in losse		ative exhetenees	coontial ail (convene

Origin/distril Itivation in large p d Eastern Europe / in humid ope. Active s aces, natura ed from c rts of Euro imonene, rosmarinic acid,...),... Uses: Medicinal (estringent, carminative (digestion), calming, febrifuge, stomach,...), seasoning, liquor store, aromas, herbalism, confectionery, perfumery.

PLANTING AND PLANT HEALTH

Propagation: by cutting, stolon, division of the bush. Pests/diseases: Spodoptera littoralis (African cotton leafworm), aphids, cicada, nematodes, Puccinia mentha causes rust spot or blight on the leaves, Phyllosticta menthae (a type of fungi) Chrysolina americana (Rosemary Beetle).

CHROMATIC CALENDAR	COMMERCIALIZATION
Foliage, Flowering and Fruiting season	Presentation (L) Height (cm) Topiary Shape
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	CT13 (1) No
Cultivation Calendar	
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	
Sowing Planting Pruning	
Treatments Calendar	
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	
Fungicides Pesticides Fertilizers	

MICROMERIA

Micromeria fruticosa (L.) Druce

MEDICINAL A	ND AROMA	TIC		POLEO BLANCO SPANISH	POLIOL MENTA VALENCIAN	HYSSOP TEA ENGLISH	THYM DU LIBAN FRENCH
	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISIN:				
IRREGULAR	10-50 CM		TYPE:	MAGNOLIOPSIDA			
Texture	Shade	Root	ORDER:	LAMIALES			
FINE	PARTIAL		FAMILY:	LAMIACEAE			
M	ORPHOLOGY		2 6 - 1	× 4	A II B		13 2 1 1 A 16
Stem	Bark	Color LIGHT GREEN			- She ite an		
Leaf	COMPOUND:	NO		14 IN	LAL AN	and the set	14 A.
EVEDODEEN	HARDNESS:	CORIACEOUS		Miles E	first start all		- Ala in
SIZE: UP TO 20MM	ARRANGEMENT:	OPPOSITE			CONTRACTOR NO.	- F	
ULL.	SHAPE: O		States -	Contraction of the second	C W		The second
COLOR: US:GR. GRAY	MARGIN:	ENTIRE	-				
LS: GR. GRAY	APEX:	ROUNDED					. Salter
TEXTURE: TOMENTOSE	LEAF BASE:		White the state	A.K.	Martin and and		0
	PETIOLE:	SHORT		11/10		A Star	Carlos and a start
Flower	Туре	Reproduction	CARE TO		Section 2 3		A MARTIN
Tiower	HERMAPHRODITE	HERMAPHRODITE	2	and the state of the	Mark works	A STATE A	
SIZE: 5-10 MM	Flowering	Fragrant	States and			de la se	and the second
	RACEMES	YES	111 2 11		化的 正常的 计	1. J. 1. S. 1. S	A STATE OF CO
Ei4	lype	Color	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Toria Charles		5 S 17 9	A TALE ALL
Fruit	Ediblo	Eruiting coocon		13.7 5.6	Set The Al		6月1日日日日日
SIZE:	NO	Finding season	10 A. D. C. H			有些"经济"和"	
	Rate	Longevity	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			(A) 20 - 20	S. T. Friday
Growth	FAST				「日本」を考える	1 2 10 10	的复数 计算机
·	ECOLOCY	· · · · · ·		L F VE VACE	N 19 24 8 11 1 1	E forst	
	Temperature	Drought resistant	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		調査を設め	a second	the second
Climate	remperature	YES			Commences of a	the second second	No ST DE C
ALTITUDE: 0-1200	Sun exposure	Frost resistant	1111日 日本	BACK PARA	1 Sec. 200		Martin Art
IRRIGATION: LOW	FULL SUN		A State States	CONTRACTOR AND		See State	A STATISTICS
Soil	Texture LOAMY	Salt resistant	N. N. M. H.	12.1		3	图14·2
pH:	Drainage	Lime resistant		State of the state of the	1 + 1 - 1 - 1	1	a special states
FERTILITY: LOW	HIGH	YES		达尔王的北京 古	St. PART IN	15 1 16	F # 18 10 - 20
	USES		Real Providence	CARLEN METERS	in the second	14 7 9 4	16 1/2 1
Resistances	Applic	ations	The second second	the second all	ALL SALES	West and the second	The dates
COASTAL:	SLOPES: YES	HEDGE ROWS: NO	and the second	LA KANA CARA SHA	A STATE ALL	James Jar V	13172 318
POLLUTION:	RIVERBANKS: NO	BORDERS: YES	S STATISTICS	ALL SALES	Carl Section	100	2 A 4
WIND:	GROUP: YES	ISOLATED: YES	1.200	1 Salar		12 1 1 2	The Artic
			POI	NTS OF INTEREST			
Active substance	s: essential o	oil (pulegone,	rosmarinic acid, ca	ffeic acid,). Uses:Med	icinal (digestive toni	c, carminative, s	stomach, antiseptic,
expectorant,),refree	shing,						
							SPACING: 50 CM

Propagation: by seed, cutting

CHROMATIC CALENDAR	CON	IMERCIALIZATIO	ON
Foliage, Flowering at Fruiting season	Presentation (L)	Height (cm)	Topiary shapes
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	CT13(1)	10-20	NO
Cultivation Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Sowing Planting Pruning X			
Treatment Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Fungicides Pesticides Fertilizers			

PLANTING AND PLANT HEALTH

438

NEPETA

Nepeta cataria L.

MEDICINAL A	ND AROMA	ATIC		HIERBA GATERA, NEBEDA SPANISH	VALENCIAN	CATNIP, CATMINT ENGLISH	HERBE AUX CHATS, CATAIRE FRENCH
5	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:			ssp. CITRIODORA	
IRREGULAR	30-100 CM	20-60 CM	TYPE:	MAGNOLIOPSIDA			
FINE	PARTIAL	ROOL		LAMIACEAE			
			TAME T.	EriminioEric	2010000		
M	Bark	Color		1	1.11		A DE A
Stem	Dark	GREEN/GRAY	100	22	a stand of	1	
Loof	COMPOUND:	NO	STA SA	Sans the -	30.815	-1978 -	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Lear	HARDNESS:	SOFT	7- 1	Distance in the	100 M		
EVERGREEN	ARRANGEMENT:	OPPOSITE	1 Jan		- ATTA		
SIZE:	VENATION:	PINNATE	1222	A 14	States a	12	
	SHAPE:	OVAL					3.4
LS: GR GRAV	MARGIN:			No.			
TEXTURE: TOMENTOSE	LEAF BASE	CORDATE			21		C
	PETIOLE:	SHORT			ALT TO		A COLOR
Flower	Туре	Reproduction		and the second second		5	
Flower	HERMAPHRODITE	HERMAPHRODITE				Her.	11.2
SIZE:	Flowering	Fragrant		and the second	1 - 7		1 NL
	VERTICILLASTER	YES	C. C. DOLLAR	and the second second	STAN 7 M		
Eit	Type	Color	ALX -	A State State	AND LONG	- Walks	1 STG
Fruit	Edible	Eruiting season		101 - 1			
SIZE:	NO	r running season		E LAND			
Crowth	Rate	Longevity	615		000		22/
Growth	FAST		A		SIZE:		
	ECOLOGY					- The	200
Climata	Temperature	Drought resistant	and the second second	and the second			
Climate	-6°C,H4,Z6	YES			A REAL PROPERTY		
ALTITUDE: 0-1200	Sun exposure	Frost resistant		STORE STORE DATE	AN RICHARD TO BUSH		TAX I STORES
IRRIGATION: LOW	SUN/PARTIAL SHADE	Up to -15°C			States Arth	if the life of	here at an a
Soil	I exture	Salt resistant	N. 184		and the state		1 10 3 2 12
pH: BASIC	Drainage	Lime resistant					AND A TR
FERTILITY: LOW	HIGH	YES		Non Weaker		RAN DEF	
	USES	•	AND		AN LOW AND	A SERIE	A Republic
Resistances	Applic	ations		A A MARINE	A CARLES	1. S. S. S. M.	The Alexand
COASTAL:	SLOPES: NO	HEDGE ROWS: NO	1. 15 8 15	and the self of the	and the second	NA SAN	
POLLUTION:	RIVERBANKS: NO	BORDERS: YES			And B A BAL	11158	
WIND:	GROUPS: YES	ISOLATED: YES		CONTRACTOR OF STATE		A 216 16 8	
			POIN	TS OF INTEREST			
"Catus" (Latin) = cat							

Origin/Distribution: Eastern Mediterranean / Europe; dump sites, roadsides. Active substances: fatty acids, essential oil (carvacrol, thymol, lactones, nepetalactone,...), phenolic acids (rosmarinic acid, caffeic acid,...), content in essence: 0.3-1% (dry matter of inflorescences). Uses: Medicinal (calming, digestive, treatment of gastric and respiratory problems,...), seasoning, insecticide, insect repellent,...

SPACING: 30 CM

PLANTING AND PLANT HEALTH

Propagation: by seed, cutting; germination in 7-21 days.

CHROMATIC CALENDAR	COM	MERCIALIZATIO	N
Foliage, Flowering and Fruiting season	Presentation (L)	Height (cm)	Topiary shapes
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	CT13 (1)	10-20	No
Cultivation calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Sowing Planting Pruning X			
Treatment calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Fungicides Pesticides Fertilizers			

ORIGANUM			Origa	num majorana	1 L. (sin.: A	lajorana horten	sis Moench.)
MEDICINAL A	ND AROMA	ATIC		MEJORANA SPANISH	MARDUIX VALENCIAN	SWEET MARJORAM ENGLISH	MARJOLAINE FRENCH
	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:			VARIEGATA	
ROUND	60 CM	45 CM	TYPE:	MAGNOLIOPSIDA			
Texture	Shade	Root	ORDER:	LAMIALES			
FINE	PARTIAL		FAMILY:	LAMIACEAE			
N	IORFOLOGY					1	EVEL BUT
Stem	Bark	Color				1.	
otein		LIGHT BROWN				1	Sec. St
Leaf	COMPOUND:	NO				FIL	a start of the
	HARDNESS:	SOFT					
EVERGREEN	ARRANGEMENT:	OPPOSITE				P	1000
SIZE: 10-30 MM	VENATION:	PINNATE					11 A.S.O.
COLOR: USIGE GRAY	MARGIN:	ENTIRE		C. C			
LS:GR_GRAY	APEY	ACUTE	A DECK	CT ALL MARKED AND	107 m. 1. 14	CHARLEN	A DECKER OF
TEXTURE: US: TOMENTOSE	LEAF BASE:	ATTENUATE	any there	and a lat	Ser 3 Andre	Mar Tolla	
	PETIOLE:	SHORT	A CONTRACT		A State of the A	100	
	Туре	Reproduction	1. 1.	1 18 1 1 Star	10000	200	
Flower	HERMAPHRODITE	HERMAPHRODITE		ALL SA THE	and the second second	APRIL DE	1 13 AU
SIZE: 4-7 MM	Flowering	Fragrant	30 TE	CON DI	and the second		1 500 1
	SPIKE	YES		Part and	Carl and	I NOT THE	
	Туре	Color	A CALL		Mr. AV H	1. 1. 1. 1. 1.	
Fruit	ACHENE	DARK BROWN	A MARTIN		A ROLL		31.14
0.75	Edible	Fruiting season	100 100				-
SIZE:	NU					0.00	
Growth	Rate	Longevity	A Designed				
	PAST	6-TU TEAKS				2	
	ECOLOGY		1000		and a break has		
Climate	Temperature	Drought resistant	1000				
	-15,H2,Z5	YES				Store and	
ALTITUDE: 0-1200	Sun exposure	Frost resistant	10 A 10		COLUMN 1	TILL.	
IRRIGATION. MODERATE	Toxturo	Solt registent	And the second second				
Soil	LOAMY	Gait resistant	A PARTY OF	SREET STORES	of the second		ALL STREET
pH: NEUTRAL	Drainage	Lime resistant		AND MOTOR	Ser Chernes	A 13 13 14	S Martin
FERTILITY: FERTILE	HIGH	YES		A State States	S SALK PICK	to the second	
	LISES				A PART AND AN	A REAL FORM	1.580 15 30
Posistancos	USES Appli	ontions		31.724 319 - 14		Read The same	and the second
COASTAL	SLOPES: NO	HEDGE ROWS: NO		A A A A A A A A A A A A A A A A A A A		ALL PAR	
POLLUTION:	RIVERBANKS: NO	BORDERS: YES		11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	S States	And all spaces of	
WIND:	GROUPS: YES	ISOLATED: NO	12 2 2 2	A LAN AMARIAN CAN PLAN			
I	1		Pol				
"Oros" - mountain:	"Ganos" - ornor	ment: alludes to it	POI		"Origanon" (Grook	r) - bitter berb: "Amor	co" (Greek) - bittor
alludes to the taste of	of the leaves. Ori	ain/distribution	Middle East and Arah	bia / Mediterranean area North	Africa and America	a: also cultivated, feral	Active substances
essential oil (carvac	rol, thymol, linald	ool, terpinene, ros	marinic acid, caffeic	acid, flavonoids,); content in	essence: 0.7-3%.	Uses: Medicinal (antisi	pasmodic, antiseptic
stomach, antioxidant	, diuretic,), con	diment, preservat	ive, liquors, herbalism	n, perfumery, confectionery (se	eds). Toxic (essentia	al oil).	
							SPACING: 20 CM

Propagation: by seed, cutting, division of the bush; 1 g = 4000-4500 seeds; germination in 10-15 days; Germinating power: 3-7 years. Pests/diseases: cicadas, mites aphids and Puccinia origani (fungus/white rust) Weeds: control with Lenacil.



440

ORIGANUM

MEDI

Origanum vulgare L.

MEDICINAL A	AND AROMA	ATIC		ORÉGANO SPANISH	ORENGA VALENCIAN	WILD MARJORAM ENGLISH	MARJOLAINE SAUVAGE FRENCH
	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:		SSP. VIRENS (GREEN OREGANO, WHITE FLOWER)		
ROUND	20-80 CM	20-60 CM	TYPE:	MAGNOLIOPSIDA	ssp. VULG	ARE (RED OREGANO, RI	ED FLOWER)
Texture	Shade	Root	ORDER:	LAMIALES		AUREUM CRISPUM	
FINE	PARTIAL		FAMILY:	LAMIACEAE	COMPACTUM, AURE	EUM, HEIDEROS, THU	MBLE'S VARIETY,
	MORFOLOGY		30 0				
Stom	Bark	Color		The second second			
Stelli		BROWN	and the second				
Leaf	COMPOUND:	NO	9145	A CONTRACT	100		
	HARDNESS:	SOFT	1	11 10 10		/	
EVERGREEN	ARRANGEMENT:	OPPOSITE		-1/ 1 · · ·	A Vieles		
SIZE: 10-40 MM	VENATION:	PINNATE		11	a 31		
	SHAPE:	OVAL			-		
COLOR. US:DK. GREE	MARGIN:	ENTIRE	a second second second second second	10	ALC: ALC: NO		
LS: MID GREE	N APEX:	ACUTE		Ashield		S SAA	A Startes
TEXTURE: US:TOMENTOS	SE LEAF BASE:	ROUNDED	The Party State	and the second			1 20 - 5
	PETIOLE:	SHORT	No. State		-	100	ALL AND
Flower	Туре	Reproduction	1442 A 14			and the second	
TIOWEI	HERMAPHRODITE	HERMAPHRODITE		Land Care	- 10- Car		22
SIZE: 4-7 MM	I Flowering	Fragrant	Carrier -		Ac- Minist	A STATE	The second
	SPIKE	YES		-	State of the		16 0 M 2
	Туре	Color	16-		123-12-17 B		
Fruit	ACHENE		Caller and	and the second	a the	A CONTRACTOR	
	Edible	Fruiting season	the states	Canal Canal	A ANDA	The second	199 4
SIZE:	NO		the second	A salaria	Colores Colores	- VARS	1. 22
Growth	Rate	Longevity		STATIN STATIS	IN STREET		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Growth	FAST	8-10 YEARS	112				1 1 2 2 2 2 2 2
	ECOLOGY		ELS S. J	1 242	3 Martin	and and	a a madage
	Temperature	Drought resistant	15	a grant a harring	See 1 al and		
Climate	-15°C,H2,Z5	YES	the second second	1 15 2 MM 7		Stand	and the second
ALTITUDE: 0-3000	Sun exposure	Frost resistant	Sun Parts	a later to the	The has		n. 18 523
IRRIGATION: MODERATI	FULL SUN	Up to -15°C	MAG.	S. C. S. S. N. S.	A THE A	State ?	the stand
	Texture	Salt resistant	S. S. S.	A MAGRE	21.23	3-23 A 4	
Soil	LOAMY		the states	A FOR MALLINA	23 200	all all a c	AT ALL AND
pH: 7-8.5	Drainage	Lime resistant	C++ 2 3/	15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	AND COST	S. Com	
FERTILITY: MODERATI	E HIGH	YES	the second		An 215 als		N. 22 184
	LISES		and the second	A DALESS		2.3. 2.	
Desistances	USES		Rest Sa.		A CAL PARTING		5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Resistances	SLOPES: NO	HEDGE POWS: NO		the thirty the	123.75	A PART	ALC: NOT A
CUASTAL:	DIVERDANKS NO	ROBDERS: NO	AT ALL A	K - 1C	A A A A		a land when a
POLLUTION:	CROUDS: NO	BORDERS: YES			L'AN PR	The second second	LAND HARD
WIND:	GROUPS: TES	IGOLATED: NO	A later				A State of the second
			POIN	ITS OF INTEREST			
'Oros" = mountain; "G	anos" = ornament; al	lludes to its decorati	ve character in mountainc	ous areas; also "origanon" (Greek) = bitter herb		
Origin/distribution: M	lediterranean area a	nd in a large part of	Europe, reaching Asia / v	ery adaptable to different habitats	. Active substances: esse	ntial oil (carvacrol, thym	ol, linalool, terpinene,

"Oros" = Origin/dis rosmarinic acid, caffe ic acid, flavonoids,...). Content in essence: 0.4%. Uses: Medicinal (antispasmodic, antiseptic, stomach, antiasthmatic, healing,...), condiment, preservative, liquors, herbalism, perfumery, cosmetics, honey.

Very variable in terms of color and size of the inflorescences. Polymorphous plant. The stems root at their base.

SPACING: 35 CM

PLANTING AND PLANT HEALTH

Propagation: by seed, cutting, division of the bush; 1 g = 20,000-30,000 seeds; germination in 25 days; germinating power: 5 years. Pests/diseases: cicadas, aphids, Puccinia origani (fungis/white rust). Weeds: control with Lenacil, Terbacil.

CHROMATIC CALENDAR	COM	MERCIALIZATIO	N
Foliage, Flowering and Fruiting season	Presentation (L)	Height (cm)	Topiary shapes
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	Pot		No
	CT13(1)	20-30	
Cultivation Colondar	Seed tray (0.2L per cell)		
Cultivation Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Sowing Planting Pruning X			
Treatment Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Fungicides Pesticides Fertilizers			

RICINUS

Ricinus communis L.

MEDICINAL A	ND AROMA	TIC		SPANISH	VALENCIAN	CASTOR BEAN, CASTOR OIL PLANT ENGLISH	FRENCH
S	TRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:			NIGRA	
IRREGULAR	2-4 M	1-4 M	TYPE:	MAGNOLIOPSIDA		CARMENCICK	
Texture	Shade	Root	ORDER:	EUPHORBIALES		IMPALA	
COARSE	PARTIAL		FAMILY:	EUPHORBIACEAE			
MO	ORPHOLOGY			16		-	The second
Trunk	Bark	Color		NAME OF		A COLUMN TWO IS NOT	26
TUIK	SMOOTH	DARK RED				Address of	100 m
Leaf	COMPOUND:	PALMATE					A State
	HARDNESS:	_	VE		A. 199.00	Sec. Sec.	230
ANUAL-EVERGREEN	ARRANGEMENT:	ALTERNATE			L'ALLER CONTRACT		
SIZE: 30-60 CM	VENATION:	PALMATE		and a	2		SA 12 //
	SHAPE: PA	LMATE 5-11 LOBES	17		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		2. 8 11 /-
COLOR: US:DK. GREEN	MARGIN:	DENTATE	A set of	- ANDER	ALL STAN		
LS:DK. GREEN	APEX:	ACCUMINATE	100	CRUTE	100		States -
TEXTURE: US: SMOOTH	LEAF BASE:		CONTRACT OF	Casheren -	1 A A		
-	PETIOLE:	LONG (10-20 CM)	the last	ALEX			
Flower	Туре	Reproduction		Same in	St. And		
0.775	UNISEXUAL	MONOECIOUS	STATE A	STALL STREAME IN			A State of the second s
SIZE: 0/F 15-30MM	Flowering	Fragrant	7/ 100		2	The second	Set of the
¥/M	PANICLE	NU	10 2 1 20 20 M		Cr. Lan	and a second second	
	Type	Color	10000	1 1 1 7		200 Million	1 - F - F - F - F - F - F - F - F - F -
Fruit	CAPSULE	RED			Torrest of	A REAL PROPERTY OF	ALC: NO
SIZE: 45 00 MM	Edible	Fruiting season	etter a	THE TEST			A States
512E. 15-20 MM	Bata	Longovity		Collins and	Street Com		
Growth	Rale	Longevity	a let	An internet	ALC: Y	and the second	Antes
	FAST	>= I TEAK	125	1997 - A	0	A 101 m	MAN AND SECTION
	ECOLOGY			San Jerry			
Climate	Temperature	Drought resistant	P 1 1			1-1-1	E
Onnate	-1ºC,H5,Z6	MODERATE					P CUNERD S
ALTITUDE: 0-500	Sun exposure	Frost resistant			- 160		The table
IRRIGATION: LOW	SUN	NO	A CAL	the first		31.00	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Soil	Texture	Salt resistant				1 m	
	LOAMY/SANDY	NO		The A	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		A Barton California
pH: 4.5-8	Drainage	Lime resistant		REALIN	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	A 444	24 112 22
FERTILITY: HIGH	HIGH	NO	NOW PA	Ist and the feet	- 1		and the second
	USES			Sun Participant			
Resistances	Applic	ations			1	Concert In 1	STAN DR.
COASTAL:	SLOPES: NO	HEDGE ROWS: NO	Stored L.	11/00		- 10- The 201	A STATE OF A
POLLUTION:	RIVERBANKS: NO	BORDERS: NO	The state			A State of the second second	1. St. C. 19
WIND: NO	GROUPS: YES	ISOLATED: YES			122013		PHOTO A LONG

POINTS OF INTEREST

"Ricinus" (Latin) = tick, alludes to the resemblance of the seeds to ticks (Pliny).

Origin/distribution: Tropical Africa / in the Mediterranean area; in vacant lots, adapted to many types of soil. It has been cultivated and naturalized. Active substances: Oil (ricinoleic acid, alkaloids, ricin (toxic), stearin, toxystearic acid,...)... Uses: Medicinal (purgative "castor or castor oil" nowadays in disuse, anthelmintic,....), industrial (as a high-grade lubricant). Monoecious plant. Its characteristic seeds (1.5 x 1 cm) are shiny, ellipsoid, smooth and marbled. Toxic (ricin albumin).

SPACING: 1-1.5M

PLANTING AND PLANT HEALTH

Propagation: by seed; 1 g = 2.5 seeds; germination in 15 days (t>12°C); Germinating power: 2-3 years. Pests/diseases: Gray mold (*Botrytis* sp.), leaf spots (*Cercosporina* sp.), castor bean caterpillar (*Achoeta* sp., attacks young plants). Disinfect seeds before sowing.

CHROMATIC CALENDAR COMMERCIALIZATION Foliage, Flowering and Fruiting season Presentation (L) Height (cm) Topiary shapes JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC CT17 (2.8) 60-80 No **Cultivation Calendar** JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC Pruning Sowing Planting х Treatment Calendar JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC Fungicides Pesticides Fertilizers

ROSMARINUS

Rosmarinus officinalis L.

MARY, ROSM ENGLISH

ROMARIN FRENCH

		TRUCTURE		DIVISION
Char	300	Hoight	Diamotor	
IRREGU	IAR	Feight	50-100 CM	TYPE
Taute		She de	Doot.	OPPER
MEDI		DARTIAL	ROOL	
MEDIC		PARTIAL		
	M	ORPHOLOGY		
Ster	n	Bark	Color	1.26
			GRAY	- And
Lea	f	COMPOUND:	NO	
		HARDNESS:	CORIACEOUS	19
EVERGR	REEN	ARRANGEMENT:	OPPOSITE	1. The second
SIZE:	15-35 MM	VENATION:		-
		SHAPE:	LINEAR	
COLOR: US	DK. GREEN	MARGIN:	ENTIRE	1
LS	GR./GRAY	APEX:	ROUNDED	
EXTURE: U	S:GLOSSY	LEAF BASE:	ATTENUATE	- A
LS:	TOMENTOSE	PETIOLE:	SESSILE	
Flow	or	Туре	Reproduction	
FIOW	er	HERMAPHRODITE	HERMAPHRODITE	
SIZE:	10-12 MM	Flowering	Fragrant	100
		RACEMES	YES	
		Туре	Color	ALC: N
Frui	it	TERTA-ACHENE	BLACK	Art al
		Edible	Fruiting season	2 3 7
SIZE:		NO		28.0
C	14 I a	Rate Longevity		1 A A
Grow	'n	MODERATE	10-12 YEARS	
		ECOLOGY		1.12
Clim	-	Temperature	Drought resistant	- 31 C
Clima	ate	-18,H2,Z5	YES	1000
ALTITUDE:	0-1400	Sun exposure	Frost resistant	
RRIGATION:	LOW	FULL SUN	Up to -5°C	41.0
e - 1		Texture	Salt resistant	J.
201	1	LOAMY/SANDY		1.
pH:	BASIC	Drainage	Lime resistant	
FERTILITY:	MODERATE	HIGH	YES	The Factor
		USES		China and
Resista	inces	Applic	ations	8 24
	YES	SLOPES: YES	HEDGE ROWS: YES	All and
COASTAL:				
COASTAL: POLLUTION:		RIVERBANKS: NO	BORDERS: YES	1 -

DIVISION: SUBDIVISION: TYPE: ORDER: FAMILY:	MAGNOLIOPHYTA MAGNOLIOPSIDA LAMIALES LAMIACEAE	VARIETIES BARBACUE HOJA FINA MOZART, ALBU'S, ARP, BENENDEN BLUE, CORSICAN BLUE, PROSTRATUS (Creeper group)			

ROMANÍ VALENCIAN

ROMERO SPANISH

POINTS OF INTEREST

"Ros" (Latin) = dew, bush, rosy; "marinus" (Latin) = maritime, alludes to its aroma and habitat close to the coast / "Rhos" (Greek) = shrub; "myrinos" (Greek) = aromatic Origin/distribution: Southern Europe, the Mediterranean basin and Southwest Asia. Found in most places in Spain but scarce/disappearing in the north-northwest. This shrub prefers low altitudes. Common on limestone substrates. Active substances: Essential oil (camphor, cineol, pinene, camphene, rosmarinic acid, flavonoids, phenolic acids....); content in essence: 0.5% (dry matter.) Uses: Medicinal (analgesic, anti-asthmatic, anti-flu, cardiotonic, digestive, febrifuge, sedative, scalp stimulant....), gastronomy (leaves, pungent flavor), honey, iquor, herbalism, aromatherapy,... Colonizing plant.

SPACING: 50 CM

PLANTING AND PLANT HEALTH

Propagation: by seed, cutting, division of the bush; 1 g = 950-1000 seeds; slow and poor germination (50%); germinating power: 4 years. Pests/diseases: Chrisolina americana, attacks ems and leaves (effectively combated with chlorpyrifos), fungal attack problems (soil fungi) in case of excess soil moisture. Weeds: control with Linuron, Terbacillus.

CHROMATIC CALENDAR	COM	IMERCIALIZATIO	NC
Foliage, Flowering and Fruiting Season	Presentation (L)	Height (cm)	Topiary shapes
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	Pots		
	CT9 (0.33)	10-20/20-30	1-2 years
Cultivation Calendar	CT10(0.45)		
	CT13 (1)	10-20/20-30	normal/creeping
JAN PEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	CT12 (1.1)		
	15TC (1.3)	30-40	
Sowing Planting Pruning X	CT17 (2.8)		
	CT20 (5)		normal/creeping
Treatment Calendar	CT (7.5)		creeping/piramidal
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	CT25 (10)		ball
	CT40 (25)		
Fungicides Pesticides Fertilizers	Seed tray (0.35L per cell)		

RUTA

Ruta graveolens L.

MEDICINAL A	ND AROMA	ATIC		RUDA SPANISH	RUDA VALENCIAN	HERB OF GRACE ENGLISH	RUE FÉTIDE FRENCH
	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:			JACKMAN'S BLUE	
IRREGULAR	Up to 150 CM	45 CM	TYPE:	MAGNOLIOPSIDA		VARIEGATA	
Texture	Shade	Root	ORDER:	SAPINDALES			
MEDIUM	PARTIAL		FAMILY:	RUTACEAE			
M	ORPHOLOGY		ALC: NOTE:	S May - S May		CILO	
Stem	Bark	Color		S Star			
	COMPOUND:	IMPARIPINNATE	0	A SHALL SHE			
Leat	HARDNESS:	CORIACEOUS				(A 10)	
EVERGREEN	ARRANGEMENT:	ALTERNATE	1000	Constant of			115 11
SIZE: LEAF: 7-12CM	VENATION:	PINNATE	the state of the	A A A		A A A A A A A A A A A A A A A A A A A	
LEAFLET: 8-12 MM	SHAPE:	OVAL LEAFLET		i the second		States and	d
COLOR: US:BLUE/GREEN	MARGIN:	ENTIRE	State State The		CARE NO CONTRACTOR	Sec. Share	A Starter
LS:BLUE/GREEN	APEX:	ACUTE		A ALTA		43 W	No second
TEXTURE: SMOOTH	LEAF BASE:	ATTENUATE	TELED ANY ST				No AN
	PETIOLE:	LONG				Stoks A.	St. And
Flower	Туре	Reproduction		Parser's W			State of the
SI7E:	HERMAPHRODITE	HERMAPHRODITE					a series and
SIZE: 1.5-2 CM	Flowering	Fragrant			NAT AND		Service P
	CORYMB	Color					diama and
Erwit	Туре	BLACK		AND CONTRACT	All all and		
Truit	Edible	Fruiting season		Contraction The	and and the states	ATT AL	1. S. M. M.
SIZE:	NO	r rulang boubon		Contraction of the		C STORE	
	Rate	Lonaevitv		and the second		and the second	
Growth	SLOW	>10 YEARS		S. S. Martin	1	Tenter	
	ECOLOCY			Sec. Sec. Sec.	Pater As	A PARA	
	Tomporatura	Drought registant			the second second	No have a second	CONFERENCE OF
Climate	-1200: H4: 76	VES			The second of	AN AND ALL ALL ALL	
ALTITUDE: 0-1200	Sun exposure	Frost resistant	A REAL PROPERTY OF	a state of the second	A CONTRACTOR	Wat and the second second	
IRRIGATION: LOW	FULL SUN	Up to -15°C	Contraction of the second		1	Alter and a second	
	Texture	Salt resistant		是自己的 化二、合约合	and the second		e l'alle a la calendaria de la calendaria d
Soil	LOAMY/SANDY			State Carls State	1. Sale Bar	A CARLES	A SHALL SHAL
pH: BASIC	Drainage	Lime resistant			人会に同時入当	The second second	
FERTILITY : MODERATE	HIGH	YES	NZASO POR		and the second second	- And	11233
	USES		A CONTRACTOR	WI STATISTICS		the state of the state	
Resistances	Applic	ations		12 1		國和自然國家	
COASTAL:	SLOPES: NO	HEDGE ROW: NO	The state of the s	THE WAR		Alt - The Alt	and the second
POLLUTION:	RIVERBANKS: NO	BORDERS: YES	a Mr Sin	and the set of	Ly - Frank	a strange and the	- Andrews -
WIND:	GROUPS: YES	ISOLATED: NO	A MARY				123
			POINT	S OF INTEREST			
"Rhutos" (Greek) =	shielded, alluc	les to its long h	istory as an antidote.	Origin/distribution: Sout	hern Europe, Medite	erranean area, Balkans	s. Cosmopolitan in

"Rhutos" (Greek) = snielded, alludes to its long history as an antioote. Origin/dustribution: Southern Europe, Mediterranean area, Balkans. Cosmopolitan in the Mediterranean area, on sunny plains in coastal areas, wastelands and arid. Active substances: Essential oil (methyl salicylate, limonene, pinene, furocumanine, tannins,...). Uses: Medicinal (antiepileptic, ophthalmic, vermifuge, carminative, anthelmintic,...). Gastronomy (flavoring). Toxic if swallowed. May cause allergic reactions upon contact with the plant. Pungent aroma, sometimes unpleasant. Ornamental plant from the Middle Ages.

SPACING: 45 CM

PLANTING AND PLANT HEALTH

Propagation: by seed, cutting; 1g = 250-440 seeds; germinates in 10-15 days; Germinating power: 2-5 years.



SALVIA

Salvia microphylla Kunth.

MEDICINAL A	ND AROMA	TIC		SALVIA ROSA, SALVIA GRANADINA SPANISH	BLAC	KCURRANT SAGE, BABY SAGE ENGLISH	SAUGE GRAHAMII FRENCH
S	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:			NEWBY HALL	
Texture	Up to 120 CM Shade	Root	ORDER:			KEW RED TREBAH	
MEDIUM	PARTIAL	Root	FAMILY:	LAMIACEAE	TREL	ISSICK, NEUPETIA, P	NINK
M	ORPHOLOGY						
	Bark	Color	1000	and the state of the second	Art Martin		
Stem		DARK GRAY	Sec. 10	a service a service of the	and the second		10 10
Leaf	COMPOUND:	NO		the state of the	ALCONT OF		
EVERGREEN	HARDNESS:	CORIACEOUS	IN THE	The start the			
SIZE:	VENATION:	PINNATE	AN TE			3	
	SHAPE:	OVAL	den de		E AT	2	
COLOR: US:MID GREEN	MARGIN:	CRENATE			A with the		
LS: GR.GRAY	APEX:	ACUTE	NY SAS	service sta	W and Price	M	
EXTURE: US:TOMENTOSE	LEAF BASE:	ROUNDED	2004 A 28	TY AND A SY		1	127
LS: ROUGH	Type	Reproduction		A CASE OF VE	100		
Flower	HERMAPHRODITE	HERMAPHRODITE	12 1 1	The Strates			
SIZE:	Flowering	Fragrant	1 1 1 1 1	1-24 20 20 20 20	Rest Arte		
	ISOLATED	YES	A NIT IS	a contract and		3 200	-
	Туре	Color	EST IS				1000
Fruit	TETRA-ACHENE	BLACK	- Ball		L. Star		
SIZE:	NO	Fruiting season			K 6 5 6 5 1		
Onerth	Rate	Longevity			CONSCIENCE.		
Growth	FAST		1000	5 5 5 5	78 6 6 6	H	
	ECOLOGY		A PARTY AND		110-121	2 Sol	
Climate	Temperature	Drought resistant	1.		and a		
Clinate	-12ºC,H3,Z6	YES	1.25		1354 2		
ALTITUDE: 300-1500	Sun exposure	Frost resistant	x + c	- 1 - and frankler			
RRIGATION: HIGH	FULL SUN	Salt resistant	A PROPERTY	The Constitution	+ 15-91.		
Soil	LOAMY/SANDY	our resistant	All and				
pH: 6.5-8.5	Drainage	Lime resistant		and the second second	10 -11		
FERTILITY: HIGH	HIGH	YES		source of the	16 13 26		The second se
	USES		1-3-5-4-	and a state	10	1 Allerand	A Best
Resistances	Applic	ations	Second a	24.12	the second		
COASTAL:	SLOPES: YES	HEDGE ROWS: YES	-	40-4-			
WIND:	GROUPS: YES	ISOLATED: YES	Co Marine	the state of the second second			
WIND.							AND DECISION
Prigin: Movico, Lloor	· Modicipal (fobr		P	OINTS OF INTEREST			
rigin. Mexico. Oses	S. Medicinal (lebi	iluge,),ill coniec	suomery, seasoning	and honey.			
			PLANT	NG AND PLANT HEALTH			
PROPAGATION: by	seed, cutting. Ge	ermination in 14 d	ays. Pest and dise	ases: fleas and gastropods.			
		CHROMATI	C CALENDAR			COMMERCIAL 174	
			and Englisher C				····-·
		MAY UNIN	and Fruiting Seas		Presentat	ion (L) Height (cm) Topiary shapes
UNU FED	MDR		JOL AUG		0113	(1)	NU

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

Fertilizers

Pruning x Treatment Calendar JAN FEB MAR ABR MAY JUN JUN AUG SEPT OCT NOV DEC

Planting

Pesticides

Sowing

Fungicides

SALVIA

Salvia officinalis L.

		ATIC .		SPANISH	VALENCIAN	ENGLISH	FRENCH
STRUCTURE		DIVISION:	MAGNOLIOPHYTA	VARIETIES			
Shape	Height	Diameter	SUBDIVISION:		ALBA o	r ALBIFLORA (WHITE	FLOWER)
IRREGULAR	60-80 CM	Up to 100 CM	TYPE:	MAGNOLIOPSIDA		ICTERINA	
Texture	Shade	Root	ORDER:	LAMIALES	BER	GGARTEN (DWARF PL	ANT)
MEDIUM	PARTIAL	FUSIFORM	FAMILY:	LAMIACEAE	PU	RPURESCENS GROU	IP
М	ORPHOLOGY		Sec. 3		A COMPANY	1/2	1000
Stem	Bark	Color LIGHT GREEN	C. Sales		1 100		1.5
Loof	COMPOUND:	NO			1.1	-	
Lear	HARDNESS:	SOFT	States Basis	See 11 me	A Participant P		100
EVERGREEN	ARRANGEMENT:	OPPOSITE		1/18-1-1	4 100		
SIZE: Up to 5 CM	VENATION:		1997 A.	See Maria	The Party of the P		- 7
	SHAPE: O	VAL/LANCEOLATE	10 A 10 A 10			1900	
COLOR: US:GR. GRAY	MARGIN:	CRENATE		NY BAN MAR	NA JACK TO	3 - 10	C.C.
LS:GR. GRAY	APEX:	ACUTE	A STATE STATE	AL DUCAT		24 1 kg	VERV
EXTURE: TOMENTOSE	LEAF BASE:	ROUNDED	61 6 4 25				The las
	PETIOLE:	LONG		V ZI SI	Contraction of the second		44 74
Flower	Туре	Reproduction		DA DE ANTE	TOTAL		78.57
0175	HERMAPHRODITE	HERMAPHRODITE			10		1.55
SIZE: <35 MM	Flowering	Fragrant					
	VERTCILLASTER	1E3	S IN S		× 3 150	AL	
E an side	туре		International States	AND SCALLY MELSION	THE REAL PROPERTY.	A STATEMENT	S IP
Fruit	TETRA-ACHENE	Enviting accord	States -	CONTRACTOR	Sec. 1		
SIZE:	Edible	JUI -AUG			States I have	11	
	Pate	Longevity	and the second second	La substanting the Co	and the state of t		17
Growth	FAST	4-5 YEARS	States and	States and the second		Part I	
	500L00Y						-
	Temperature	Drought registent	E ANY TO BE				-
Climate	-120C H2 76					and the second	1
	Sun exposure	Frost resistant		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		and the second	1
RRIGATION: LOW	FULL SUN	Up to -15°C		The second second			100
	Texture	Salt resistant		A DECK ALL		CIA A	1
Soil	LOAMY/SANDY	Call Toblotant		N. Contraction			A
pH: 5-9	Drainage	Lime resistant	N. S. Shirts				1
FERTILITY: POOR	HIGH	YES	and the state of the	Ser de Martine I			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	LISES			a strategies			
Resistances	Annlic	ations		ALL		-	
COASTAL:	SLOPES: YES	HEDGE ROWS: YES	A Star Star	Alexa No.	State and	-	1
OLLUTION: YES	RIVERBANKS: NO	BORDERS: YES					1-2
WIND:	GROUPS: YES	ISOLATED: YES		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		-	1
	•		DOWN				
alvare" (lat) - to source	alludes to its booli	na properties	POIN	IS OF INTEREST			
(iai) - i0 save	r, anauco to no lical	ing proportioo					

Ordgindistribution: Southern Europe (Spain, France and the Balkan Peninsula). It has been naturalized in much of Europe, Russia and the United States; in dry and arid areas, very rustic it prefers limestone soils. Active substances: Essential oil (pinene, salviene, thujone, cineol, borneol, camphene....), mucilage, tannins, resins...; content in essence: 1-2.5% (dry matter.) Uses: Medicinal (digestive, antiperspirant, cholagogue, antiasthmatic, carminative, antiseptic, antioxidant, antibacterial...), liquor, cosmetics, perfumery, seasoning, Ilavoring. Its essential oil is

SPACING: 20-40 CM

PLANTING AND PLANT HEALTH

Propagation: by seed, bush division, cutting; seeds in 1g: 160-250, germination in 14-21 days, germination power: 3-7 years. Trimming/pruning: as soon as flowering stems are distinguished. This will stimulate follage. Pests/diseases: various insects (Chrisolina sp.) (control with chlorpyrifos); different fungi (Cercospora salviicola (a type of fungi), Puccinia sp. (rust), Erysiphe sp (fungi), Sclerotinia (fungi)white mold) Peronospora (mildew disease), Fusarium (fungi) Rhizoctonia (fungi) Armillaria mellee (honey fungus). Weeds: control with Linuron (before sprouting), norflurazon, bentazon, dicamba. Simazine is phytotoxic for Salvia.

CHROMATIC CALENDAR	COM	MERCIALIZATI	N
Foliage, Flowering and Fruiting season	Presentation (L)	Height(cm)	Topiary shapes
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	Pots		No
	CT11 (0.6)	10-20	
Cultivation Calendar	CT13 (1)	20-30	
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	Seed tray (0.02L per cell) Seed tray (0.35L per cell)	2 Years	
Treatment Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Fungicides Pesticides Fertilizers			

toxic.

SALVIA

Salvia sclarea L.

MEDICINAL A		ATIC		SALVIA ROMANA, AMARO SPANISH	SÀLVIA ROMANA VALENCIAN	CLARY, CLARY SAGE ENGLISH	SCLARÉE, SAUGE SCLARÉE FRENCH
	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:			var.TURKESTANCIA	
IRREGULAR	40-150 CM	60 CM	TYPE:	MAGNOLIOPSIDA		ARGENTEA	
Texture	Shade	Root	ORDER:	LAMIALES			
COARSE	PARTIAL		FAMILY:	LAMIACEAE			
M	ORPHOLOGY		a the set	Tist a			
Stem	Bark	Color MID GREEN	Without int	AND THE REAL PROPERTY OF		A Standy	
Leaf	COMPOUND:	NO	14 - X - X - X			S 1/1	
Loai	HARDNESS:	SOFT			Ser.		
BIENNAL - EVERGREEN	ARRANGEMENT:	OPPOSITE	San Stranger		10 20	115	
SIZE: 70-180 MM	VENATION:	PINNATE			AND DOT		
	SHAPE:	CORDATE			State of the second	1000	
COLOR: US:DK. GREEN	MARGIN:	CRENATE			8 1		
LS:GR.GRAY	APEX:	ACUTE			and the second		
TEXTURE: US:TOMENTOSE	LEAF BASE:	ROUNDED			Series	PA AN	
LS: ROUGH	PETIOLE:	LONG				ACTING	
Flower	невмарнворите	HERMAPHRODITE	and the second		CALE VALUE	177 J	
SIZE: 20-30 MM	Flowering	Fragrant	L. THELE	And And		West of the second	
20 00 1111	PANICLE	YES			AVICE RESERVE		
	Type	Color				25.5	
Fruit	TETRA-ACHENE	BROWN	1111、11、1942	Carlo and a state		1000	
	Edible	Fruiting season	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 Stranger	ALL ALL	a name	
SIZE:	NO	°,				of a concelland	
Growth	Rate	Longevity	8 5-11-19-	AND THE REAL		a stand	
Growth	MODERATE	5 YEARS		The states			Contraction of the
	ECOLOGY		State of the second	E S	5-4	diam'r and	The leave
011 /	Temperature	Drought resistant		as -	ALC: NO	S and Sold	Sans Illing
Climate	-12ºC,H3,Z6	NO	and the second second		END BUZE	The State of State	Provide Atom
ALTITUDE: 0-1200	Sun exposure	Frost resistant		1 14 ×	2010		
IRRIGATION: HIGH	FULL SUN	UP TO -15°c	a state of	Y TO LOO Y	10 A 10 A 10		
Soil	Texture LOAMY/SANDY	Salt resistant	Jul.				
pH: 6.5-8.5	Drainage	Lime resistant		A ARE	and the second		
FERTILITY: MODERATE	HIGH	YES		A Connected		1. 3. 100	THE DOWN
	USES				A	-05-50	AL PACING
Resistances	Applic	ations	and a state	ALT A	-978-		CO PORT
COASTAL.	SLOPES: NO	HEDGE ROWS: NO	1 500			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
POLLUTION:	RIVERBANKS: NO	BORDERS: YES					
WIND:	GROUP: YES	ISOLATED: YES	and the second	1.000			
			POINT	S OF INTEREST			
"Salvare" (Latin) = to	o save, alludes to	its healing prope	rties.				
Origin/distribution:	Southern Europ	e, Central Asia, N	lear East and in Americ	a. Dry and sunny areas but a	also on humid slope	es, understory of popla	irs and elm groves. It
prefers somewhat h	umid and nitrified	d environments a	nd limestone and stony	soils. Active substances: E	Essential oil (sclared	l, linalool, linalyl aceta	te, bitter substances,
tannins,),; conter	nt in essence: 0	.1-0.4% (dry mat	ter). Uses: Medicinal (a	antispasmodic, sedative, reli	et of digestive disc	rders, antiseptic,), p	ertumery, herbalism,
cosmetics, soap.							

SPACING: 50 CM

PLANTING AND PLANT HEALTH

Propagation: by seed, division of bushes; 1 g = 260-350 seeds; germination in 7-21 days. Weeds: control with Linuron, Lenacil, Methobromuron It is demanding in fertilization.

CHROMATIC CALENDAR	CON	MERCIALIZATIO	N
Foliage, Flowering and Fruiting Season	Presentation	Height (cm)	Topiary shapes
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			No
Cultivation Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Sowing Planting Pruning X			
Treatment Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Fungicides Pesticides Fertilizers			

SAMBUCUS

Sambucus nigra L.

MEDICINAL A		ATIC		SPANISH	VALENCIAN	ENGLISH	FRENCH
	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:			PURPUREA	
OVIOD	4-5 (10) M	2-3 M	TYPE:	MAGNOLIOPSIDA		BLACK BEAUTY	
Texture	Shade	Root	ORDER:	DIPSACALES		MADONNA	
MEDIUM	PARTIAL	FASCICULATE	FAMILY:	CAPRIFOLIACEAE	AUREA ,GUINCHO F	PURPLE, MARGINATA, L	ACINIATA FORM
M	ORPHOLOGY						1 A 18
Stem	Bark	Color			-Val		1.
Stelli	FURROWED	LIGHT/DARK GRAY		AN AND		P. AB	S. C. Corgo
Leaf	COMPOUND:	IMPARIPINNATE		1118			1 × 1
	HARDNESS:	CORIACEOUS					3 SEA.
DECIDUOUS	ARRANGEMENT:	OPPOSITE					
SIZE: Leaf: 15 CM	VENATION:	PINNATE					N 58
Leaflet. 3-8 CM	SHAPE:	LANCEOLATE			A REAL OF		and the second second
COLOR: US: MID GREEN	MARGIN:	DENTATE					
TEXTURE: SMOOTH	APEX:	ACCUMINATE					
TEXTORE. SMOOTH	DETIOLE:	LONG	March And Andrews		A CONTRACTOR		
	Type	Reproduction		C Pres	No. of Concession, Name	1 Stationers	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Flower	HERMAPHRODITE	HERMAPHRODITE	Tonit	Rost and a second	March March		Sec. 1
SIZE: 4-5 MM	Flowering	Fragrant	HEN DAI TO	the second second	25.5 St	11 11	1.11
со	RYMB (10-20 CM)	UNPLEASANT		Part Size It		1. A.	3. F. 1. S.
	Туре	Color	1	NEW CONTRACTOR	AND THE PARTY OF	220	18 A.
Fruit	BERRY	BLACK	and the second		A day		Peter Sec
	Edible	Fruiting Season	Carl Comment	and the state	and the second second		SAL ST
SIZE: 6-8 MM		END OF SUMMER	C-202	PROMINE CON	as many	Contraction of the	A Real
Growth	Rate	Longevity	TTO NEA	2 Maria	States .	A STREET	COMP. The State
0.01	FAST		the second	- A star las	ALC: NO		
	ECOLOGY		1 Brancia	A Provide La			
Climate	Temperature	Drought resistant			2000		
Climate		NO	The state	110			
ALTITUDE: 0-1600	Sun exposure	Frost resistant					
IRRIGATION: HIGH	SUN/PARTIAL SHADE	YES	Vinter St.	1777	20 A2		× . *
Soil	Texture	Salt resistant	and the second		New York	a hallow the	
0011	LOAMY/CLAYEY	NO	1	A State 2	1 2 2	1. A & A & A & A	AN
pH: 5.5-8.5	Drainage	Lime resistant			The second	Section Section	and the second
FERTILITY: FERTILE	INDIFFERENT	MODERATE			ALC AL P	5 St 1 1	A POST AND A
	USES		ALCAP	- Andala		A State Lo	Sec. Sec.
Resistances	Applic	cations		AL TON DE		A - 18 + - 16	and the second
COASTAL: 1ST LINE	SLOPES: NO	HEDGE ROWS: NO	1	PRE MALE		and solar	A STATE OF
POLLUTION: YES	RIVERBANKS: Yes	BORDERS: NO	I ADLERY	1 Martin	Station .	wante	1
WIND: YES	GROUPS: Yes	ISOLATED: YES			A A A	. States	And the second

o u ú o c

a . 0 a .

POINTS OF INTEREST

Sambuke" (Greek) = musical flute that was made with elder shoots; "Nigra" (Latin) = black, refers to the color of its ripe fruit. Origin/Distribution: Europe, North Africa, North Asia. In any humid and fertile soil. Can be found in valleys, stream banks, clear forests, slopes. Active substances: Essential oil (flavonoid phenolic acids (chlorogenic and caffeic), triterpenes, urosolic acid, sambunigroside,...), sugars, tannins, mucilages, potassium salts. Uses:Medicinal (anti-inflammatory, diuretic, laxative, contributes in slimming regimens,...), veterinary (laxative), liquor, cosmetics ("elderwater"), flavoring food, insecticide, dye wool and fabrics, fruits are used in jams, juices, wood as fuel. Toxic (resh fruits, roots, stems); the leaves and berries can cause dermatitis.

SPACING: 1-1.5M

PLANTING AND PLANT HEALTH

Propagation: by seed (somewhat complicated), stake or regrowth with root; 1 g = 245 seeds, germination in 5-7 months. Pests/diseases: attacks by aphids, moderate resistance to Armillaria mellea (honey fungus).

Complicated planting (necessary stratification is necessary). Plantation of cuttings: tender (summer), withered (autumn), hard (winter). Rooted renewals in March.

CHROMATIC CALENDAR	COMMERCIALIZATION
Foliage, Flowering and Fruiting Season	Presentation Height (cm) Topiary shapes
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	Pots No
	30-40
Cultivation Calendar	40-50
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	50-60
	60-80
Sowing Planting Pruning X Division of bush	
Treatment Calendar	
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	
Fungicides Pesticides Fertilizers	

SANTOLINA

Santolina chamaecyparissus ssp.chamaecyparissus L.

MEDICINAL AND AROMATIC		MANZANILL	A AMARGA, ABRÓTANO HEMBRA SPANISH	CAMAMILLA DE MUNTANYA VALENCIAN	LAVENDER COTTON ENGLISH	SANTOLINE, LAVANDE Coton FRENCH	
5	STRUCTURE		DIVISION:	MAGNOLIOPHYTA	1	VARIETIES	
Shape	Height	Diameter	SUBDIVISION:		LEMON QUEEN	V (DWARF CREAM-COLO	RED FLOWER)
ROUND	20-70 CM	60 CM	TYPE:	MAGNOLIOPSIDA	PRE	TTY CAROL (COMPAC	т)
Texture	Shade	Root	ORDER:	ASTERALES		NANA (H and Ø 15 CM)	
MEDIUM	PARTIAL		FAMILY:	ASTERACEAE		PRETTY PINK	
M	ORPHOLOGY		113 THA 31 D		and what when whe		1.0
Stom	Bark	Color					Va
Stelli		GRAY	18 Sty 5- 14.1		alle alle		1
Leaf	COMPOUND:	PINNATE	2000				1
Leai	HARDNESS:	SOFT		MAREN CON	AND -		8 3
EVERGREEN	ARRANGEMENT:	ALTERNATE	2. all 2.		Arrest and	A CONTRACT	
SIZE:	VENATION:	_	144 - 1 Mar 12			and the second second	1
	SHAPE:	LINEAR			All		
COLOR: US: GRAY	MARGIN:	SERRATE	REAL PROPERTY	A DE CAR DESCRIPTION	NUMBER OF THE OWNER	-week -1	12-workful
LS: GRAY	APEX:	-	2 1 - 22 1 - A		「「「「「「「「「「「」」」		
TEXTURE: US: TOMENTOSE	LEAF BASE:	-	A line - P	1. 30 m	1000		
LS: VISCOSE	PETIOLE:	SESSILE	建建的主要		the state of the		
Flower	Туре	Reproduction	See 1		Att a start		
0.75	HERMAPHRODITE	HERMAPHRODITE	A NO ROLL	Alles and the second	211 200 200	18 255	S. 2 6 P.
SIZE:	Flowering	Fragrant			and the second	Contract of the local division of the local	Constant And Line of
FL	ORET (6-15 MM)	TES		4 12 3	- 2 - A &	ATTIC VIEW	
Envit	Type	Color	114 - E. C. A.	A		Street Berlin	ALP THE STALL
Fruit	ACHENE	En iting angeog		4.	and start to be	1.11	
SIZE	Edible	Fruiting season		A Report of	Atric	Res Land	
JIZE.	Bata	Longovity		Lound Roberts	A Balle Let		N 45 5 5 1 1
Growth	Kale	Longevity		A LANS LAND AND	States States	A CONTRACTOR OF	PERCENT STREET
	WODERATE	5-10 TEAR5		SCALSPINK		11120 10 10	AR THE THE SE
	ECOLOGY		A 14 14 14 14	States 11	1.18.042	1.50.000	A THINK
Climate	Temperature	Drought resistant		A Carta and	1 to said	15 J	NAL DE DE
· · · · · ·	-12°C,H3,Z4	YES	A PERSONAL AND	CAR SINA	A SPACE		N. J.C. N.
ALTITUDE: 0-2000	Sun exposure	Frost resistant	and a standard	14 14 C 2.3 (4	1000 Mar 3 10 1		No. of the second
IRRIGATION: LOW	FULL SUN	UPTO -15°C	Pattern	The state of the			17月29日代
Soil	Texture LOAMY/SANDY	Salt resistant	and the set	1122.28	a state of the		STOL AND
pH: BASIC	Drainage	Lime resistant	and the second se	TAL T ALLAND		1000	101515232
FERTILITY: POOR	HIGH	YES	2.6-25	A STAR BELLE		1000	A COLOR
			Port of the	CARLAND CONTRACT	Contain and		1208 6710
	USES		P. Allardia	and the second second	Mar and a second	Prove State	A CARLES
Resistances	Applic	ations	and a set	The set of the	Start Start	No - 12-	
COASTAL: YES	DIVERBANKS: NO	ROPDERS: YES	- Barris	- The Man al	States Store	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	121333
POLLUTION:	GPOLIDS: VEC	ISOLATED: VEO	and a settle	100 A 23 23	A Charles	- WAR	A STATES
WIND:	GILUUFS. TES	ISOLATED. TES		A MARCH AND		E AN A	1.1.1
			POIN	TS OF INTEREST			
"Xanthos" (Greek) =	yellow; "sanctun	n linum" (Latin) = s	sacred linen				
Origin/distribution:	Western Medite	rranean / warm I	European regions, e	specially in the Mediterran	ean area. Active substa	inces: Essential oil	(azulene, flavonoids,

phenolic acids,...), resins, tannins,...; content in essence: 0.7-1% (dry matter). Uses: Medicinal (anti-inflammatory, antiseptic, antispasmodic, vermifuge, vulnerary, healing...), perfumery, insecticide. Colonizing plant.

SPACING: 50 CM

PLANTING AND PLANT HEALTH

Pruning: deadhead after flowering. Thorough pruning is recommended every 2-3 years in April. Propagation can take place in the summer by means of 8 cm cuttings in a seed box.

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
						XXXX	XXXX				
Sowing Planting Pruning X											
Treatment Calendar											
JAN	FEB	MAR	ABR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC

Presentation (L) Height (cm) Topiary shapes ots 10-15 8C (0.2) 1 year CT9 (0.33) 10-20 CT10 (0.45) round CT13 (1) 10-20/15-25 round CT12 (1.1) round CT14 (1.6) round CT17 (2-8) round CT20 (5) round CT22 (6) round C32 (11-5) round Seed tray (0.35L per cell)

COMMERCIALIZATION

SATUREJA

Satureja montana L.

MEDICINAL A	ND AROMA	TIC		AJEDREA, MORQUERA SPANISH	SABORIJA, HERBA D'OLIVES VALENCIAN	WINTER SAVORY ENGLISH	SARRIETTE VIVACE FRENCH
	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:			NANA	
EXTENDED	10-40 CM	20-60 CM	TYPE:	MAGNOLIOPSIDA			
Texture	Shade	Root	ORDER:	LAMIALES			
FINE		TAP ROOT	FAMILY:	LAMIACEAE			
M	ORPHOLOGY			CASH Y	10 M	Table Topological State	100 C 10
<u>a</u> ;	Bark	Color			and the second second	CONTRACTOR OF STREET	and the second
Stem		REDDISH	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		NVC-	1000	and the
Leaf	COMPOUND:	NO				2 2 2 2 3	-
Loan	HARDNESS:	CORIACEOUS				200	A CONTRACT
EVERGREEN	ARRANGEMENT:	OPPOSITE	1 44 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			10 10	No.
SIZE: 5-30 MM	VENATION:		THAN THE PARTY	ACCESS FOR THE		AND A DOT THE	Sull as
	SHAPE: LIN	EAR-LANCEOLATE	The second second		p w / toma	10 A	NA CONTRACTOR
COLOR: US:MID GREEN	MARGIN:	CILIATE	ALCON THE ALCON	Read International Internation		Section Section	N/A
LS:MID GREEN	APEX:	ACUTE			< 1 / P	Contraction of the	115
TEXTURE: GLOSSY	LEAF BASE:	CUNEATE	12 A 10	5 4 M	and a second	1	Section 1
	PETIOLE:	SESSILE	Provide and		NV AND		
Flower	Туре	Reproduction	1. 1. 1. 1.		V Lor		a la
Flower	HERMAPHRODITE	HERMAPHRODITE	A REAL PROPERTY	1 14 2	V Aller	N/C-	5
SIZE: 6-12 MM	Flowering	Fragrant		March Thomas		20 10/10	ALL THE PARTY
	VERTICILLASTER	YES	March Strate	1 1	and the second	Set to Set	WE -
	Туре	Color	The second second		les a con	- The little	
Fruit	TETRA-ACHENE	BLACK		A TO NET	1		
	Edible	Fruiting season			and the second s	AVA	
SIZE:	NO	-	Lee Start		10000	A March	
Growth	Rate	Longevity			Sec. Barris		the state of the s
Growin	FAST	5-10 YEARS			NE AR BUS	and the second	
	ECOLOGY		1. 200	AST A SEA DEL	Sill Franks		NPA
	Temperature	Drought resistant				1	- Mar
Climate	-6°C.H4.Z6	YES	1 6 1		and the second second	201	S 11 7 12
ALTITUDE: 0-1800 M	Sun exposure	Frost resistant		16 1 S (S - 2)	LA Particip	and the second	
IRRIGATION: LOW	FULL SUN	Up to -15°C	and the second	一次的《 合论》	Total States	and I	
0.11	Texture	Salt resistant	A CONTRACT	金融 一次能力	ALC 是了 mail	Start -	
Soil	LOAMY/SANDY			atta in the	Towner the se		1.18
Ph: 7-8.5	Drainage	Lime resistant	Carlo and an		A TOTAL ST		N
FERTILITY: MODERATE	HIGH	YES	- There is a feature		IS STATE	There NA	A COLORED STATE
			14名 前的 4名		Carl Care		11 miles
Desistance	USES	- 41	and the second	ATT SAME	The second		
Resistances	Applic	ations		Per an and a series	REPERTING AND A	BLF N	Contraction of the local division of the loc
COASTAL:	BIVERBANKS: NO	ROBDERGI VEO	A NEW YORK	A BUT A	10 S. 10 6	See 1	
POLLUTION:	CROUPS: NO	BORDERS: YES	The second	Sector Sector			
WIND:	GROUPS: YES	IOULATED: YES		all and the second			
			POI	NTS OF INTEREST			
"Coture" (Lotie) steur	alludaa ta ita analia	tion on a concering					

Origin/distribution: Southern Europe and Northern Africa, Medilerranean, Southern Asia. It tolerates limestone, wasteland, stony, poor soils of much of the Iberian Peninsula. Active substances: Essential oil (carvacrol, linalool, thymol, terpineol, cymene, rosmarinic acid...); content in essence: approx. 1.7% (up to 3% dry matter). Uses: Medicinal (digestive, carminative, tonic, antispasmodic, germicidal, antioxidant...), seasoning and food preservative (germicidal, fungicidal), herbalism, fluor, melliferous.... The peripheral branches take root easily.

SPACING: 30-35 CM

PLANTING AND PLANT HEALTH

Propagation: by seed, cutting, division of the bush; 1 g = 1300-1500 seeds, germination in 20-25 days, germination power: 2-7 years. Pests/diseases: This species of plant is prone to fungal attacks from the soil in situations of excess humidity, but, in general, there are few conditions due to the high content of carvacrol. Weeds: It presents allelopathies against weeds; control with terbacil (controls a wider range of weeds and with greater persistence), lenacil. Complicated direct sowing (March-April). Nursery plant planting (with a minimum height of 10 cm) in May, approx. The bush can be divided towards March.



SIDERITIS

Sideritis angustifolia L.

MEDI	CINAL A	ND AROMA	TIC		RABO DE GATO SPANISH	CUA DE GAT VALENCIAN	IRONWORT, MOUNTAIN TEA ENGLISH	HERBE DE REFLUX FRENCH
	ę	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Sł	nape	Height	Diameter	SUBDIVISION:				
IRRE	EGULAR	30-60 CM	/	TYPE:	MAGNOLIOPSIDA			
Te	exture	Shade	Root	ORDER:	LAMIALES			
ME	EDIUM	LIGHT	TAP ROOT	FAMILY:	LAMIACEAE			
	M	ORPHOLOGY	·					
		Bark	Color	Street State	Store Land	C. C. State	the second second	
S	tem	Duik	GREEN		See a land	12 - 4B	and the se	.90
· · · ·		COMPOUND:	NO		and the state of t	Contrast The	and the second and	
L	eaf	HARDNESS:	CORIACEOUS		Store States	a service	a de la	- 3 - + F
EVER	RGREEN	ARRANGEMENT:	OPPOSITE			2	111	24
SIZE:	7-8 MM	VENATION:	0	The second second		The server of	field and	1 - all the
0		SHAPE:	LINEAR	2		Star Starting	and set	1. 19 8.2
COLOR:	US: MID GREEN	MARGIN:	ENTIRE	and a star of	S. At the second	a 2-2 72	CI Z CIVI	SPS sales
	I S' MID GREEN	APFX: OF	AT ISF/ACLIMINATE	A CALLER AND A CAL	NA STA	Mit and a state	1 15	11 1883 84
TEXTURE:	TOMENTOSE	I EAE BASE				2 1 2 2 4	P Area	Carl Contract
ILA.2	1 Ginzeri i i	DETIOLE	SESSI F	22, 2 -	- Charles	Survey and	And a starter of	No. of the second second
		Type	Reproduction	11		and the second	No. 22	2 million
Flo	ower	HERMAPHRODITE	HERMAPHRODITE	and the second	126 1	At the set	3 6 6 6 1	
SIZE:	7-12 MM	Flowering	Fragrant	and and the second	ALL AL	Part of the		1 frages
-		VERTICILLASTER	YES	100 - MI		MA A CO		IF
		Type	Color	and a second	No. No.	the state of the	+ 11	and the second
F	en it	TETRA-ACHENE	BLACK	2-2 VI SI		State Ser Ser	and the states of the	2.2.78-2
•	Tun	Edible	Fruiting season	and the second s		AN ALLAN CO	A CONTRACTOR	143 2
SIZE:	Lip to 2 MM	NO	Fluiding account	" elli		El Tour	a financial and	The first
-	op to 2	Rate	Longevity			Hole State 198	Carl and a state of the state o	and straight of
Gr	owth	MODERATE	4-5 YEARS	- Na		ALL SAL		Service -
					111 111 11	Tool Street	and the second second	
		ECOLOGY	-	- 1 - 44	ALC: NOT	HOLE BEACH	1 - 3 - 3 - 3 - 3	the second
Cli	mate	Temperature	Drought resistant YES	11	STATISTICS IN THE	110 902 330	ILERIA I	- A Partis
	- 0-1000 M		Frost resistant	1 1 1 1	ANALS SERVICE	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1227 - 14 -	1
RRIGATIO	NI- LOW	FULL SUN	r iost iosistant	10 10 M	VERY COMMENT	100 - 10 - 10 - 10 - 10 - 10 - 10 - 10	Martines 130 D	hi - Dal
	n	Texture	Salt resistant	E. A. A.	and the second second		MAL YO	P
S	Joil	LOAMY/SANDY	Oun rooic	19 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		自己的 有些关键	1 5 V
pH:	BASIC	Drainage	Lime resistant				AND ROTATION OF	
FERTILITY	Y: POOR	HIGH	YES		CONTRACTOR OF	Real Press	STREE SILLES	AND NE
			<u> </u>	States and	Same and the second	ALL PRES		-
Deel		USES		State State	A REAL PROPERTY	S	8/201 WAR	And the
Resis	stances	Applica	ations	and the second second	With the second	A Providence	AF A ST	ALL STOR
COASTAL	i. I	SLUPES. NO	POPDERS VES	der ter son	A BAR BAR	a start and	AND SAME	2.2.
POLLUTIO	N:	CROUDE: VEE	BORDERS: 1ES	State - No	A MARKEN AND A MARKAN	SY SEAL OF	200 10 10 10 10 10 10 10 10 10 10 10 10 1	1 10 m 1 1 1 1 1 1
WIND:		GROUPS: 1E0	ISOLATED: NO		1021 MIC		ACREAL CONTRACT	10 10 10
	·			POIN	ITS OF INTEREST	·		
Origin/g	eographica	I distribution: S	outhern and Cer	ntral Europe, Mediterra	anean region, Near East, Ne	orth Africa. Shrub fo	ound on slopes and calca	areous hills. Active
substan	ces: Essent	tial oil (pinene, s	sabinene, cineole	e, fenchone, bisalobo	I,). Uses: Medicinal (vulne	erary, digestive, ant	lirheumatic,). This shru	b is also used by
herboliste	s.							

SPACING: 20CMS

PLANTING AND PLANT HEALTH

It stands out among the other species of its family (*Lamiaceae*) for its yellow inflorescences. Propagation: by seed, <u>cutting</u>.

CHROMATIC CALENDAR	COM	MERCIALIZATIC	N
Foliage, Flowering and Fruiting Season	Presentation (L)	Height (cm)	Topiary shapes
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	CT13 (1)		No
Cultivation Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Sowing Planting Pruning X			
Treatment Calendar			
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC			
Fungicides Pesticides Fertilizers			

THYMUS						Thymus vu	Igaris L.
MEDICINAL A	ND AROMA	ATIC		TOMILLO, TOMILLO COMÚN SPANISH	TIMÓ, TOMELLO VALENCIAN	THYME ENGLISH	THYM FRENCH
5	STRUCTURE		DIVISION:	MAGNOLIOPHYTA		VARIETIES	
Shape	Height	Diameter	SUBDIVISION:		E	RECTUS (WHITE FLOWER)	
IRREGULAR	20-40 CM	30-60 CM	TYPE:	MAGNOLIOPSIDA		SILVER POSIE	
Texture	Shade	Root	ORDER:	LAMIALES		AUREUS	
FINE	LIGHT	TAP ROOT	FAMILY:	LAMIACEAE		ORANGE BLOSSOM	
M	ORPHOLOGY		A A A				
Stem	Bark	Color BROWN	- CALLED	Variat.	1	Salle .	
Leaf	COMPOUND:	NO	100	144	100	-Ja - m	Lat
Loui	HARDNESS:		1	A CONTRACTOR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10 m	the set
EVERGREEN	ARRANGEMENT:	OPPOSITE			and and the second	21	4
SIZE: 3.5-8 MM	VENATION:				11202		W Pr
	SHAPE:	LANCEOLATE	1				- V -
COLOR: US: MID GREEN	MARGIN:	ENTIRE	The Marth				
LS:GRAY/GREEN	APEX:	ACUTE-OBTUSE		where the state of		The Make Street St. Store	and the
TEXTURE: SMOOTH	LEAF BASE:	CLICOPT	1	ALC: NOT A		A. The state	100
	Turpo	Boproduction			and a	1 2 2 2 2 2	and the
Flower	HERMAPHRODITE	HERMAPHRODITE		A STATE OF A	-La Carte	したのまま	ASA GOUL
SIZE: 5-6 MM	Flowering	Fragrant			All and the second second	1 . Y	221 24 15
	riotioning	YES	10 18 P.S.		TOL TOL	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	
	Туре	Color	1 . S. S		Same!	ALTERNA DE LA	AND AND A
Fruit	TETRA-ACHENE	BLACK	Contraction of the second		10000	A LARD RANGE	ALL ALL
	Edible	Fruiting season	A COMPANY A				
SIZE:	NO			Server As Galast	1000		
Growth	Rate	Longevity			Science of the		Aplan
Growth	MODERATE	5-10 YEARS	1	A CONTRACTOR	1940.4	in the rat	Store Land
	ECOLOGY				A COST	4 9 4 m	Kine and
Climata	Temperature	Drought resistant	ALL ST	2	2 A 2 4	Contraction of the second	10000
Climate	-12ºC,H3,Z5	YES		and the second	and the second	Rep 1 and 1	A STATE OF STATE
ALTITUDE: 0-1800	Sun exposure	Frost resistant	CENE.	A STATE	E.Z. F.M.S.	A 31. 3 4 4	17. July 24
IRRIGATION: LOW	FULL SUN	YES	Constant - Co		1		A CARLON
Soil	Texture LOAMY/SANDY	Salt resistant	Sec. Se	. Alexander		Sector and	Carlos P. A
pH: NEUTRAL	Drainage	Lime resistant	6 19 9 9 9 1 9 1 9 1 9 1 9 1 9 1 9 1 9 1			THE SHE CAL	14
FERTILITY: POOR	HIGH	YES		to The hast	120		
	USES			A CARLON	12 2 C 11 1	AND PAR	1
Resistances	Applic	cations	A SUN STA	The Martin States		14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	A PARTIN
COASTAL:	SLOPES: YES	HEDGE ROWS: NO	and the second		Call of the second	1 Parts M	
POLLUTION:	RIVERBANKS: NO	BORDERS: YES	1 Parks	A STATEMENT	10/2	A RUN	A PLANE
WIND:	GROUPS: YES	ISOLATED: YES	N-1-7-11 11	APRIL A PLANE	a. 14- 124		Start States
			POIN	TS OF INTEREST			

"Thyo" (Greek) = fragrance; "Thymos" (Greek) = strength

Thy of clearly a raginate, Thylins (crearly a surgering) Origin/distribution: Native to Western Mediateranean region. In dry and and areas, scrub in stony and sunny spaces; prefers calcareous soils. Active substances: Essential oil (thymol, carvacrol, cineol, camphor, borneol, bitter substances, flavonoids....); content in essence: up to 3%. Uses: Medicinal (antiseptic, stimulant, antitussive, vermifuge, balsamic,...), honey, seasoning, herbalism, cosmetics, perfumery. It is considered a colonizing plant. Very polymorphous plant. Toxic (essential oil).

SPACING: 25-30 CM

PLANTING AND PLANT HEALTH

Propagation: By seed, <u>cutting</u>, division of the bush; 1g = 3500-6000 seeds; germination in 15-20 days; Germinating power: 3-7 years. Pests/diseases: This species is prone to Meloidogyne hapla (nematodes) Weeds: Control with monolinuron, simazine, lenacil, terbacil.

CHROMATIC CALENDAR	COMN	IERCIALIZATION	1
Foliage, Flowering and Fruiting season	Presentation (L)	Height (cm)	Years
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	Pots		
	CT8(0.2)	10-15	1/2 years
Quilingting Onlander	CT9(0.33)	10-20	
	CT11 (0.6)		
JAN FEB MAR ABR MAY JUN JUL AUG SEPI OCI NOV DEC	CT13 (1)	10-20/15-25	
	CT12 (1.1)	20-30	
Sowing Planting Pruning X	15TC (1.3)	20-30	
	CT14 (1.6)		
Treatment Calendar	CT20 (5)		
JAN FEB MAR ABR MAY JUN JUL AUG SEPT OCT NOV DEC	Seed tray (0.2L per cell)		
	Seed tray (0.35L per cell)		2 years
Fungicides Pesticides Fertilizers			

Subchapter 8.3

Commercialization, use and planting

THE SECTOR OF MEDICINAL AND AROMATIC PLANTS IN VALENCIA

The garden sector in Valencia is in continuous expansion. Although producers and crops undergo periodic changes, they adapt both to the growing demands of the local and international markets. Spain and, more specifically, the Valencian Region, have the adequate starting material and environmental conditions to produce medicinal and aromatic plants.

In addition, plant producers (nurseries) have been diversifying the supply of plants, considering both the needs of aromatic plants for landscape revegetation or regeneration, as well as those necessary for public and private gardens and parks. It is not surprising therefore the considerable interest on the part of the consumer (administrations, companies, and individuals) in these plants, which necessarily must obtain a response from nurseries, "garden centers", florists, events (contests, fairs...).

COMMERCIALIZATION

There is no national or international standard regarding marketing regulations for medicinal and aromatic plants. Some regions in Spain and other organizations are working on the development of minimum guidelines that set the quality standards and regulate the marketing for these species. It should be noted that the Technological Standards for Gardening and Landscaping, prepared by the Official Chamber of Agricultural Technical Engineers and Agricultural Experts of Catalonia, are currently disseminated but not mandatory. A homogenization of present and future regulations would be desirable, based on valid criteria on both a national and international level.

In order to elaborate this chapter on medicinal and aromatic plant species the following frameworks have been considered: Technological Standards for Gardening and Landscaping (NTJ 07) and the Quality Regulations for Ornamental Plants for their distinction with the "CV" 8 (Community of Valencia) quality mark published by the Ministry of Agriculture, Fisheries and Food of the Valencian Community (DOGV 4782, 2004) on June 24, 2004.

The technical regulations applicable to medicinal and aromatic plants is divided between NTJ 07F (shrubs), NTJ 07G (bushes and sub-shrubs) and NTJ 07J (ground cover plants).

Shrubs (NTJ 07F)

Shrubs are classified according to their structure as indicated in the following Figure 8.3.1.



Figure 8.3.1. Shrub structure (NTJ 07F)

Quality Specifications

Shrubs must be supplied with identification and proof of purity level in relation to the genus, the species and where applicable, the cultivar.

They may be grown on field conditions or in containers, considering the specific needs of the speciescultivar, age, and location.

They will be subjected to pruning and/or formative pruning if necessary.

Open Field cultivation

They will be supplied in bare root or root ball form. Likewise, they can be cultivated in the field to later be potted in a container or vice versa; in the latter case, they must remain in the container for a minimum period of one cycle to form a suitable root ball system.

The planting framework (spacing) in the field will be determined by the needs derived from the speciescultivar, mechanization system, soil texture, irrigation system and age of the plant when it is uprooted.

If the plant is supplied with a root ball, it will be formed exclusively with the soil adhered to the roots after extraction, without adding any other soil or substrate.

Container cultivation

When cultivating plants in containers, the spiraling of ro ots should be carefully avoided. Therefore, depending on the growth rate of the plant, it should be repotted to progressively larger containers every two or three years, except in the case of very slow-growing shrubs.

The substrate used must be of a quality adapted to the characteristics of the species-cultivar, destination of the plant, type of crop, climate of the area, etc., allowing the development of the root system in all its volume. Undesirable residues should be removed in the final plantation.

Dimensions and sizes

The number of branches or main stems influences the quality of the bush. These must sprout from the lower third of the plant, be regularly distributed and present a thickness and length in accordance with the proportions of the rest of the plant.

Shrub aerial dimensions will be based on height (ground level to top) and average crown diameter. The minimum dimension of the root system will be determined by the height of the shrub (in the case of supplying bare root plants). The measurements used for the classification will be those indicated in Tables 8.3.1. and 8.3.2.

Height in cm	Width of root system In cm (minimum)*
10-20	
20-40	20
40-60	20/25
60-80	25
80-100	30
100-125	35
125-150	40
150-175	45
175-200	50
200-225	
225-250	

* Refers to bareroot plants

Table 8.3.1: Minimum size of the root system in relation to shrub height (NTJ07F)

Average crown diameter in cm					
10-20					
20-40					
40-60					
60-80					
80-100					

Table 8.3.2: Size categories of shrubs according to the diameter of their crown (NTJ07F)

Root ball plant				Container plant				
Height(cm)	Minimum diameter of root ball (cm)	Minimum depth of root ball (cm)		Height (cm)	Minimum volume of container (L)	Upper and lower minimum diameter of container (cm)		
20-40	20	15		20-40	1.5-2	15-16		
40-60	20-25	15-20		40-60	2	16		
60-80	25	20		60-80	3	18		
80-100	25-30	20-25		80-100	3-5	18-22		
100-125	30-35	25-30		100-125	5	22		
125-150	35-40	30		125-150	7.5	24		
150-175	40-45	30		150-175	10	26		
175-200	45-50	35						
200-225	50-55	35						
225-250	55-60	40						

For medicinal and aromatic plants supplied in root ball or container formats, the following dimensions will apply:

Table 8.3.3: Minimum Root ball and Container dimensions (NTJ07F)

Bushes and subshrubs (NTJ 07G)

Bushes and subshrubs can be classified according to:

- Size of the plant
- Degree of lignification
- Location of resistance shoots and buds
- Persistence of foliage

Therefore, the following groups in table 8.3.4. are considered

Group		Size (cm)
Bushes (small shrubs)	Woody plants	50-100
Soft wood shrubs	Plants whose stems are not completely lignified	> 50
Large sub shrubs	Plants that are only woody at their base	> 50
Chamaephyte	Small bushes and subshrubs	< 50

Table 8.3.4: Classification of bushes and subshrubs

Quality Specifications

Bushes and subshrubs must be supplied with identification and level of purity in relation to the genus, the species and where applicable, the cultivar.

They are usually grown in containers, considering the specific needs of the species-cultivar, age and location. In some cases, they are first grown under field conditions and later potted. Some large plants are marketed in bare-rooted or in root ball form.

They will be subjected to pruning and/or staking if necessary.

Plants cultivated in containers

Containers that prevent a root spiraling must be used. In relation to the growth of the plant, they should be repotted to bigger containers.

Types of containers:

- Container
- Truncate cone pot
- Truncated pyramid pot
- Seed plug tray (for seedlings and rooted cuttings)

A containerized medicinal or aromatic plant 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 the container is removed.

Roots should not show symptoms of spiraling and should not protrude significantly through drainage holes.

The substrate must be of a quality adapted to the characteristics of the species-cultivar, destination of the plant, type of crop, climate of the area, etc., allowing the development of the root system in its entire volume. Undesirable residues in the final plantation should be avoided.

In the nursery, the containers must be sufficiently separated to ensure that all the plants receive enough light and avoid signs of etiolation.

The dimensions of bushes and subshrubs cultivated in containers must be related to the size of the container used. A guideline is outlined in Table 8.3.5.

Volume of recipient (liters)	Diameter of recipient (cm)	Minimum width of plant (cm)		
0.5	10-11	10		
0.5-1	11-13	12		
1-1.5 or 2	13-15	14		

Table 8.3.5: Relation between container size and width of plants

For the classification of bushes and subshrubs, the scale of plant height or width is usually followed using these three ranges: 5/10, 10/20 and 20/30 cm.

There must be an appropriate balance between the aerial part of the plant and its underground part (roots and root ball). The aerial part must cover, as a minimum, the surface of the container.

Groundcover plants (NTJ 07J)

Ground cover plants can be classified according to:

- Bearing or shape of the plant
- Extension system or floor covering
- Persistence of foliage

Quality Specifications

Groundcover plants must be supplied with identification and level of purity in relation to the genus, the species and where applicable, the cultivar.

They can be grown in the field or in a container, considering the needs of the species-cultivar, age and location. In some cases, they are first grown under field conditions and later potted.

They will be pruned, trimmed, grafted and or repotted if necessary.

Cultivation in containers

Containers that prevent root spiraling must be used. As plants grow, they should be repotted to bigger containers.

Types of containers:

- Container
- Truncate cone pot
- Truncated pyramid pot
- Seed plug tray (for seedlings and rooted cuttings)

A containerized plant should have been 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 the container is removed.

Roots should not show symptoms of spiraling and should not protrude significantly through drainage holes.

The substrate must be of a quality adapted to the characteristics of the species-cultivar, destination of the plant, type of crop, climate of the area, etc., allowing the development of the root system in its entire volume. It must not leave undesirable residues in the final plantation.

Size and proportions

The dimensions of the aerial part of the ground cover plants are based on the width of the plant and, additionally where appropriate, on the length of the stems and their number. These all depending on the species, the volume of the root ball or the recipient/container.

Plant width (cm)	Number of stems
5-10	1
10-20	2
20-30	3-4
30-40	5-7
40-60	8-12
60-80	
80-100	

Table 8.3.6: Measurements to classify ground cover plants (aerial part)

The root ball of the underground part of groundcover plants must be proportional to the type of growth of the species or the cultivar, the development of the plant, and the soil conditions. Therefore, for

containerized plants, the relationship between the width of the plant and the volume of the container should be considered, as shown in the following Table 8.3.7.

Plant width (cm)	Min. volume of container (liters)				
5-10	0.5				
10-20	0.5-1				
20-30	1-1.5				
30-40	1.5-2				
40-60	2-2.5				
60-80	3-5				
80-100	5-7.5				

Table 8.3.7: Minimum volume of	container in relation to	plant width
--------------------------------	--------------------------	-------------

General considerations

Supply

The plants considered in this chapter may only be supplied by authorized suppliers and following quality criteria that will refer to both the aerial and underground parts. They must be healthy, well-formed, and sufficiently hardened off to ensure their survival in their final placement.

Where appropriate, plants must be marketed with a label, clearly indicating the cultivar (following international naming standards), as well as the description of the cultivar, its most important distinguishing characteristics, the propagation technique that was carried out, and the main indications for plant conservation.

In the case of a plant with a single stem supplied in a container, the stem must be centered.

Plants supplied in containers must have a volume of substrate and roots equivalent to 90-95% of the total volume of the container. They must not show cut roots with a diameter greater than 2 cm.

Plants supplied bare root must come from areas with environmental conditions (especially regarding temperature regime) similar to the final planting area.

Plant Health

Plants must not show any signs of disease or be affected by pests or diseases in their leaves, stems and trunks. The branches and foliage should be turgid, as well as the roots. They must not show deterioration or dryness and the roots cannot present symptoms of rot.

The substrate must be in all cases (plants supplied in plugs and containers) free of weeds, mosses, and lichens.

There should be no harmful organisms as a result of quarantine.

Species	Foliage	Basic shape	Plant height (cm)	Plant width (cm)	Min. stems	Container volume (L)	Interest	Presentation	Observations
				SHRUE	S (NTJ 07	F)			1
Lavandula dentata L.	Evergreen	Round	20 min.		3	1.5	Flower/leaf	Container	Aromatic/hedge
Ricinus communis L.	Evergreen	Round/bush	40 min.		1+	5	Flower/leaf	Container	
Rosmarinus officinalis L.	Evergreen	Round	20 min.		3	1.5	Flower/leaf	Container	Aromatic/hedge
Salvia microphylla Kunth.	Evergreen	Round	30 min.		3	1.5	Flower	Container	
Sambucus nigra L.	Deciduous	Round/bush	50 min.		3	3	Flower/fruit	Container /bare root.	Hedge
			BUS	HES AND SU	JB SHRUB	S (NTJ 07G)			
Artemisia absinthium L.	Semi-dec.	Subshrub	30-90	30-60			Leaf		Aromatic
Helichrysum stoechas (L.) Moench.	Evergreen	Chamaephyte	40-50	60-90			Flower/leaf		Aromatic
Hyssopus officinalis L.	Semi-dec	Chamaephyte	20-60	60-100			Flower		Aromatic
Lavandula angustifolia Miller	Evergreen	Bush	50-100				Flower/leaf		Aromatic
L. dentata L.	Evergreen	Bush	60-100				Flower/leaf		Aromatic
L. latifolia Medicus	Evergreen	Chamaephyte	30-80				Flower/leaf		Aromatic
L. stoechas L.	Evergreen	Bush	30-100				Flower/leaf		Aromatic
<i>Micromeria fruticosa</i> (L.) Druce	Evergreen	Chamaephyte	20-60				Flower/leaf		Aromatic
Origanum majorana L.	Evergreen	Subshrub	60-80	30-45			Leaf		Aromatic
Ruta graveolens L.	Evergreen	Subshrub	60-100	50-75			Leaf		Aromatic.
Salvia officinalis L.	Evergreen	Bush	50-80	60-90			Flower		Aromatic
Santolina chamaecyparissus L.	Evergreen	Chamaephyte	40-60	60-100			Flower/leaf		Aromatic
Satureja montana L.	Evergreen	Chamaephyte	10-40	10-20			Flower		Aromatic
Thymus vulgaris L.	Evergreen	Chamaephyte	10-30	40-60			Flower		Aromatic
GROUNDCOVER PLANTS (NTJ 07J)									
Helichrysum stoechas (L.) Moench.	Evergreen	Subshrub	40-50	60-90			Flower/leaf	Container	Aromatic
Mentha x piperita L.		Vigorous	30-50	70-100			Leaf	Container	Arom./Rhizome plant
M. pulegium L.		Vigorous	2-10	50-90			Flower	Container	Arom./ not walkable
Rosmarinus officinalis L. 'Prostratus'	Evergreen	Shrub creeper	10-15	100-150			Flower/leaf	Container	Aromatic
Santolina chamaecyparissus L.	Evergreen	Bush	40-60	60-100			Flower/leaf	Container	Aromatic
Thymus vulgaris L.	Evergreen	Subshrub	25-30	40-60			Flower	Container	Aromatic

semi-dec = semi deciduous; arom. = aromatic

Table 8.3.8: Measurements to classify ground cover plants (aerial part)

Regulation of Quality of Ornamental Plants for its distinction with the quality mark "CV"

The commercialization o f ornamental plants u nder t he "CV" quality m ark must f ulfill th e following requirements:

- Origin of the plants from an authorized nursery, which meets the legal requirements, especially the provisions of the regulation.
- Compliance with the characteristics listed in Table 8.3.9.

- Presentation of optimal phytosanitary conditions and absence of pests and diseases showing the plants typical development of the variety, healthy and clean appearance, absence of dry flowers, absence of wounds other than those of the crop, absence of chlorosis symptoms, well developed root system and balanced with the aerial part.
- A minimum tolerance is admitted when batches of plants destined for commercialization are evaluated.

The Regulation also refers to the minimum conditions that farms must meet:

- The cultivation techniques and the management of the facilities must meet minimum criteria in terms of environmental respect: maximum energy savings, rational use of resources (water, nutrients, phytosanitary products, recyclable materials, proper waste management), and monitoring of standards of recognized environmental management.
- If plant material from other farms is used, they must be duly authorized and registered, where appropriate, in the Register of Nursery Plant Producers, accompanied by the material with its corresponding phytosanitary certificate.
- The farm staff must be properly trained, especially in technical management and the application of phytosanitary products.
- A register must be kept and the control of other records (maintenance of facilities and equipment, inputs, and outputs of phytosanitary products...).

Regarding the marketing conditions, the following must be considered:

- Presentation, considering the general aspects indicated above.
- Labeling of each unit of sale to the public (name of the plant, trademarks, in addition to what has been established by current legislation).
- Transport that guarantees adequate conditions for its subsequent planting and that preserves the integrity of the plant during the journey and handling process.

Species					Plant width (cm)	Diameter of container (cm)
Rosmarinus officinalis	R. officinalis 'Prostrata'/ Lavandula officinalis	Santolina chamaecyparissus	Thymus vulgaris 'Compacta' and 'Aureus'			
х				15-25	15-20	12-14
x				20-35	20-30	18
x				30-45	25-35	23
	x			15-25	15-20	12-14
	x			25-35	20-30	18
	x			20-30	25-40	23
		х	x	15-20	15-20	12-14
		х		20-30	20-30	18
		x		30-40	30-40	23
			x	15-30	20-30	18
			x	25-40	30-40	23

Table 8.3.9: Dimensions of commercialized plants (DOGV, 2004)

Subchapter 8.4

Maintenance

Medicinal and aromatic plants, especially Mediterranean varieties adapted to harsh environmental conditions (poor soils, low water supply, extreme temperatures...), require low maintenance. On many occasions, plant replacement is low as many species can be maintained for several years in their location.

For maintenance purposes ,medicinal and aromatic plants can be grouped according to their water needs:

- medicinal plants for "non arable land" (rainfed)
- medicinal plants for "arable land"

The first group of medicinal plants for non-arable land (rainfed) include:

- Artemisia absinthium L. (Grand wormwood)
- Helichrysum stoechas (L.) Moench. (Mediterranean strawflower)
- Artemisia absinthium L. (Grand wormwood)
- Lavandula angustifolia Miller (True lavender/English Lavender)
- Lavandula dentata L. (Fringed lavender/French lavendar)
- Lavandula dentata (Fringed lavender/French lavendar)
- Lavandula latifolia Medicus (Broadleaved lavender/Spiked Lavender)
- Lavandula stoechas L. (Spanish lavender/topped lavender)
- Micromeria fruticosa (L.) Druce (whiteleaved savory)
- Nepeta cataria L. (Catnip)
- Origanum majorana L. (Marjoram)
- Origanum vulgare L. (Oregano)
- Rosmarinus officinalis L. (Rosemary)
- Ruta graveolens L. (Rue/Common rue/ Herb-of-grace)
- Salvia microphylla Kunth. (Baby sage/blackcurrant sage)
- Salvia officinalis L. (Common sage)
- Salvia sclarea L. (Clary sage)
- Santolinachamaecyparissus ssp. chamaecyparissus L. (Cotton lavender)
- Satureja montana L. (Winter Savory/mountain Savory)
- *Sideritis angustifolia* L. (Ironwort/Mountain tea)
- Thymus vulgaris L. (Thyme)

The second group of medicinal plants for arable land include:

- Acanthus mollis L. (Bear's breeches/sea dock/sea holly/oyster plant)
- Chamomilla recutita (L.) Rauschert sweet chamomile)
- Lippia triphylla (L'Hér.) O.Kuntze (Lippia)
- Melissa officinalis L. (Lemon balm)
- Mentha x piperita L. (Peppermint)
- Mentha pulegium L. (Pennyroyal/ Pennyrile/mosquito plant)
- Mentha spicata L. (Spearmint)
- Ricinus communis L. (Castor oil plant)
- Sambucus nigra L. (Elder/elderberry/European black elderberry)

It is essential to consider these two groups when deciding on irrigation needs, nutritional needs (fertilization), pruning, mowing, cutting and phytosanitary protection, etc.

MEDICINAL PLANTS FOR IRRIGATED LAND

The plants considered for arable land have similar needs to other ornamental plants with high water demands: higher nutrient supply (fertilization) due, logically, to their higher growth rate; greater control of pests and diseases (more intensive control, for example by using phytosanitary products); and greater control of aerial development through pruning or cutting back, due to the more intense rate of leaf development.

Pruning or mowing

Special care must be taken with the group of plants belonging to the genus *Mentha*. Due to their creeping growth habit (main – pennyroyal- or secondary – mint and spearmint) their extension must be limited in the garden area. Otherwise, they compete with other ornamental plants or become "weeds" due to their ease for forming rhizomes and stolons and, therefore, of vegetative propagation. The pruning of these plants can be severe (mowing). This implies cutting a few centimeters from the ground and repeat several times a year if necessary. In addition, mowing after the end of the flowering period is always recommended.

As for the *Lippia* genus, it is important to observe the dimensions of the bush it forms. Its long shoots can give the plant an ungainly appearance. It is easy to prune and allows, in ornamentally appropriate cases, the formation of small trees.

Fertilizing

Very little information is available regarding specific fertilization guidelines for medicinal and aromatic plants when they are used for ornamental purposes. However, the recommendations that are available when these plants are cultivated for agricultural purposes (for instance to produce leaves, flowers or essential oils) can be somehow of interest also in the garden. In any case, medicinal and aromatic plants adapt well to what is already established for other ornamental plants that can be found in the garden, logically depending on the environmental characteristics (soil, water, climate).

Irrigation

The species of plants outlined in this section need a regular supply of water. They adapt well to any irrigation system; however, drip irrigation is preferred as it saves water. It also deters weed development, reduces the appearance of spots on the leaves (caused by a sprinkler irrigation system) and the settling of dust (quite common to the area) or pollution in urban areas (with the subsequent damage on the leaves and the whole appearance of the garden). However, if used correctly, a sprinkler irrigation system for this group of plants is acceptable but paying special attention to the flowering period. If care is not taken possible rotting of inflorescences, higher incidence of phytosanitary problems due to the humidity-heat combination can occur.

Likewise, and as a general rule (already established for other plants), it is interesting to avoid sprinkler irrigation when the sun is at its highest point (it may cause burns on the leaves). Watering in strong winds should also be avoided (less irrigation effectiveness). Poor quality water for irrigation is not recommended, especially in situations of handling water with a high salt content.

Phytosanitary protection

These plants do not present excessive phytosanitary problems. As ornamental plants, they present us with even greater ease in their handling. However, its application (used to obtain better quality leaves or essences) is limited due to possible repercussions in human health and residues.

A substrate that does not provide good drainage can provoke soil fungi. To avoid this pathology, the soil must not get waterlogged. The use of fungicides is acceptable as long as it is viable (technically and economically).

Since these plants for considered for irrigated land (greater leaf volume, tender leaves, intense sprouting...) they are more prone to attacks by aphids and beetles (*Chrisolina sp.*) among other pests. They can be controlled with well-known and widely used phytosanitary products, both in garden and crop conditions. This is also supported by information provided in the first paragraph regarding their limitations due to possible residues.

PLANTS FOR NON-ARABLE LAND (RAINFED PLANTS)

Rainfed medicinal and aromatic plants require less maintenance than those described in the previous section:

- Lower contribution of nutrients (fertilization) due, logically, to its lower rate of growth.
- Less control of pests and diseases.
- Less need for pruning or mowing, due to their low rate of leaf development.

Pruning or mowing

The pruning of these plants can be severe (mowing). This implies cutting a few centimeters from the ground as long as the main wood is not too old (the plants can be kept for several years in the garden) and the basal buds show signs of sprouting. Mowing that is carried out on ornamental plants prevents the appearance of a woody bush with excessively dry and lignified areas. Care must be taken with those species that allow the formation of roundish aerial part (*Origanum sp., Santolina sp.; Thymus sp...*). Mowing at the end of the flowering period is always recommended.

In the case of wormwood, mowing or pruning can impede it from invading nearby areas of the garden due to its exuberant development under suitable conditions. The fringed lavender and the *Lavandula semidentata* (semi-fringed lavender) have similar characteristics as the wormwood, pruning being especially important in the latter case because the stem becomes lignified rather quickly and the vegetative buds lose vigor. Mowing or pruning should also be carried out with the rosemary of the *Prostrata* group, which stands out for its ability to create a creeping carpet effect.

Fertilizing

As mentioned above, very little information is available regarding fertilization for medicinal and aromatic plants when they are used for ornamental purposes. However, information from their agricultural use can be of partial interest when they are planted in a garden.

In any case, they are relatively undemanding plants in terms of nutrients, which, in most cases adapt well to what is established for the maintenance of other ornamental plants. However, if there is an excess of

fertilization, a reinforcement of the vegetative activity can occur to the detriment of the flowering patterns. The influence of the richness of the soil in certain elements (fundamentally trace elements) on the coloration of the flowers is also well known since they participate in the composition of the pigments.

Irrigation

Plants in this group do not need a regular supply of water. However, they adapt well to sprinkler or drip irrigation, as long as proper drainage is ensured to avoid waterlogging in the soil. Great care must be taken as these plants are sensitive to fungal attacks from the soil, especially in conditions of high humidity. The fungi that affect the stems of the plant are very aggressive.

Regarding special recommendations for these irrigation systems, it is advisable to refer to previous paragraphs.

In the revegetation and restoration of slopes, it is interesting to provide the plants used (generally rainfed species) with a support irrigation (e.g., drip) to facilitate their initial establishment and maintenance. The special characteristics of slopes (gradient, poor soil, etc.) make it difficult for these plants to survive and therefore, it is recommended to fix or stabilize the soil (for instance with biodegradable meshes) and to keep the humidity of the soil (for instance by adding a mulch).

These plants are also ideal for the composition of non-irrigated gardens (dry gardening), combined with other herbaceous and/or woody species.

Phytosanitary protection

In addition to what has been established for arable plants, it should be mentioned that medicinal and aromatic plants in general (some more than others) are capable of limiting the development of some pests and diseases by storing certain active substances in their roots and aerial parts. In some cases, the insecticidal, anti-mite, fungicidal or anti-nematodes properties, of some species (wormwood, rosemary, sage...) is known. Some even limit the development of weeds due to allelopathic effects (wormwood); an interesting factor when designing and considering the maintenance of a garden.

The appearance of symptoms due to fungal attack (sudden deaths or drying of plants) that affect the stems of plants, or the root system are quite prominent. The most practical way to combat these problems is to eliminate the affected plant and the neighboring ones, disinfect the soil and replant with other species (varying the family and growth habit, if possible).

Care must be taken when planting on land where woody species affected by fungi have grown (e.g., *Armillaria*), as medicinal and aromatic may be affected.