



Olive plants

Innovation  
is in our  
nature.

25<sup>th</sup>  
ANNIVERSARY  
SHD  
OLIVE GROVE



# Courage is what makes you feel safe in unfamiliar territory.

25 years ago, together with the most audacious growers in the sector, we risked, innovated and achieved one of our greatest successes by gambling on something that had previously seemed totally impossible: super high density (SHD) olive groves.



**AGROMILLORA** – Olive plants

# 25<sup>th</sup>

ANNIVERSARY

# SHD

OLIVE GROVE



# Innovation for efficient olive cultivation

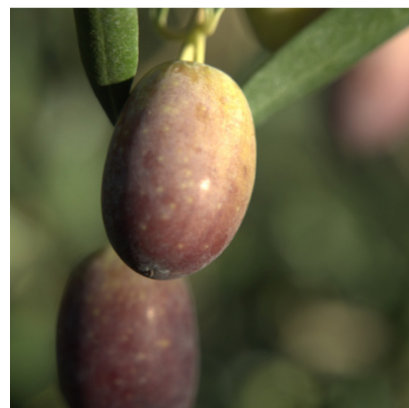
We are constantly innovating to guarantee our customers large-scale production of the highest genetic and health quality.

**Genetic quality:**  
We have the best genetic material suited to the SHD olive grove system.



## Exclusive varieties:

We have at our disposal selected varieties and clones and new material from our own and shared improvement programmes.



The Lecciana variety, obtained thanks to a collaboration between Agromillora and the University of Bari, provides excellent quality oil, especially suited for customers looking for a product with great personality.



## Mother plant fields:

We supply high quality products from material coming exclusively from our mother plant fields, monitored at both the genetic and health level.



## Quality control:

We make a meticulous selection of plants for our customers.



Agromillora is committed to product quality. For this reason, we make a meticulous selection of olive plants which we deliver with a uniform height between 30 and 40 cm (standard format), and between 50 and 60 cm (Smarttree format).

## Features:

Agromillora's olive plants come from semi-herbaceous staking, rooted beneath mist.



# Plant format

Agromillora has developed various commercial olive plant formats suited to the technological and health innovation requirements of the olive growing sector.

## Standard Format

- Plant: 40 cm
- Pot: 9x9x9 or 7x7x7
- Plant age: 9 months



## Smarttree® format

- Plant: 50 cm +
- Branched, with no central axis.
- Plant age: 11 months
- Including protector.
- Ideal for Smarttree staking or free vegetation of the hedge





# LECCIANA

BREEDER UNIVERSITÀ  
DEGLI STUDI DI BARI



## OVERALL EVALUATION

An ideal variety for growers looking for an oil with excellent characteristics and great personality.

Medium-low vigour, between Arbequina and Koroneiki.

Ripens 7 to 10 days earlier than Arbequina.

A variety with greater tolerance to cold, good resistance.

Early entry into production.

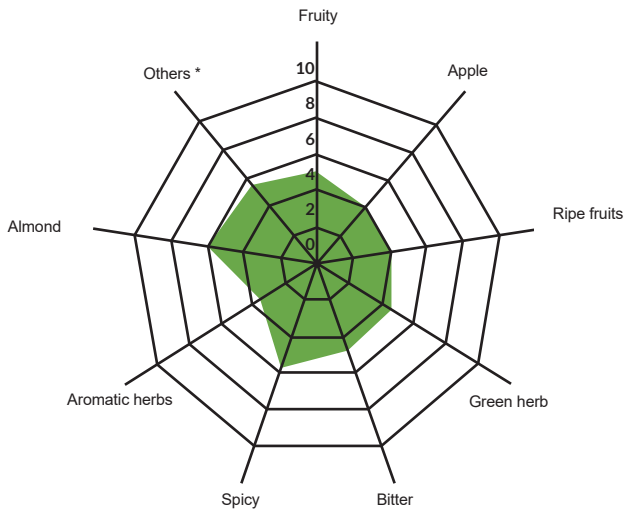
A variety suited to the SHD olive grove concept.

High yield.



## OVERALL OIL PROFILE

Corresponds to a green type of virgin oil with a strong personality, good harmony at the aromatic level and high levels of bitterness, spiciness and astringency. Persistent.



\*green tomato

## MAIN FEATURES

### TREE

Structure UPRIGHT

Vigour MEDIUM-LOW

### FRUIT

Olive weight (g) 3.3

Pulp/weight ratio 9.42

Fat yield (% dry matter) 52.80

## VIRGIN OIL

Mono/polyunsaturated ratio 10.7

Polyphenols (ppm of caffeic acid) 850

Bitterness (K232) 1.829

Stability (hours at 120 °C) 15.79

### FATTY ACIDS (%)

Palmythic (C16:0) 15.51

Palmitoleic (C16:1) 1.22

Stearic (C18:0) 2.21

Oleic (C18:1) 71.05

Linoleic (C18:2) 8.11

Linolenic (C18:3) 0.74

\*Specific health declaration for olive oil. Reg. UE 432/2012. EFSA



AGROMILLORA – Olive plants

# Arbosana i-43

## OVERALL EVALUATION

A variety well suited for the SHD system.

Medium vigour: the final size will depend on soil and climatic conditions and agronomic management.

Consistent, high yield.

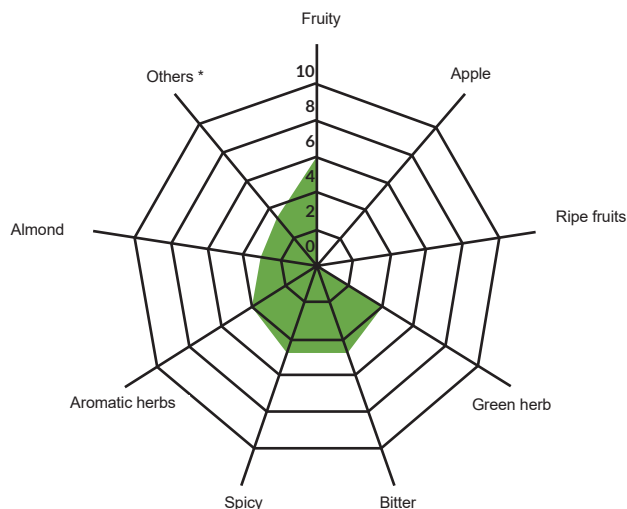
Early entry into production.

Ripening in the northern hemisphere:  
Starts in October in the earliest areas.  
Ends in December in the latest areas.

Relatively tolerant to cold.

## OVERALL OIL PROFILE

Corresponds to a green type of virgin oil with a strong personality, good harmony at the aromatic level and high levels of bitterness, spiciness and astringency. Persistent.



\*green almond, walnut, banana, artichoke and tomato.



## MAIN FEATURES

### TREE

Structure	OPEN
Vigour	LOW

### FRUIT

Olive weight (g)	1.43
Pulp/weight ratio	4.65
Fat yield (% dry matter)	51.80

## VIRGIN OIL

Mono/polyunsaturated ratio	10.23
Polyphenols (ppm of caffeic acid)	680
Bitterness (K225)	0.289
Stability (hours at 120 °C)	15.79

### FATTY ACIDS (%)

Palmythic (C16:0)	13.40
Palmitoleic (C16:1)	1.44
Stearic (C18:0)	2.14
Oleic (C18:1)	74.28
Linoleic (C18:2)	6.88
Linolenic (C18:3)	0.58

Samples from the 2009 crop, analysed by the "Unió Corporació Alimentària", Vilallonga del Camp (Tarragona). The data may vary depending on environmental conditions, growing techniques, degree of ripening and extraction system.

# OLIANA

ARBEQUINAXARBOSANA  
(Obt. 1998)

## OVERALL EVALUATION

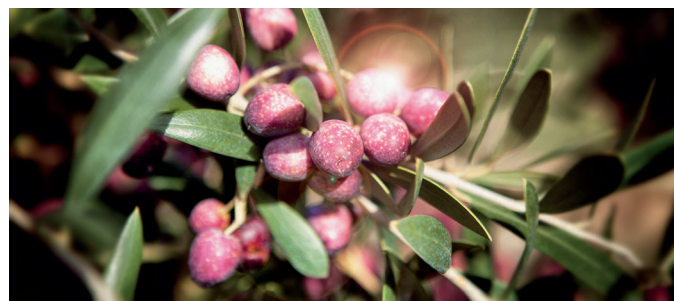
A variety with less vigour for the SHD system.

Natural benefit: ease of pruning renovation.

High yield and exceptionally early production

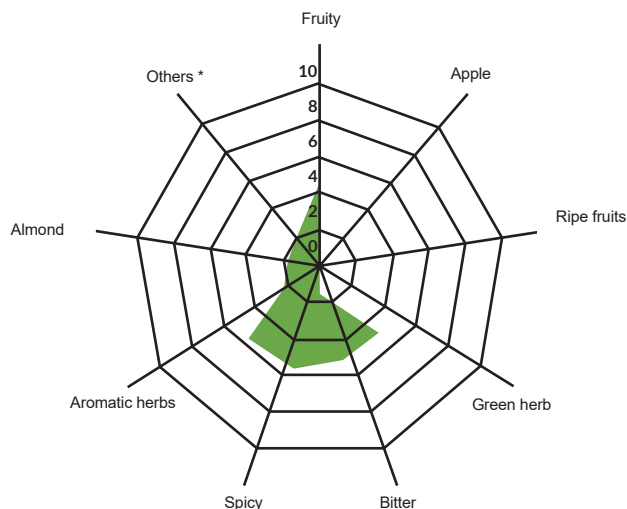
Late ripening, between that of Arbequina and Arbosana.

Tolerant to leaf spot disease and more suitable for low temperatures than Arbequina.



## OVERALL OIL PROFILE

Corresponds to a sweet type of virgin oil, well balanced and with good harmony at the aromatic level. Presents a medium to high level of fruitiness, light in bitterness and somewhat more intense in spiciness, making it highly suitable for the mass consumer market.



\*green almond, artichoke, green tomato and nuts.

## MAIN FEATURES

### TREE

Structure	COMPACT AND SEMI-UPRIGHT
Vigour	VERY LOW

### FRUIT

Olive weight (g)	1.58
Pulp/weight ratio	4.60
Fat yield (% dry matter)	43.5

## VIRGIN OIL

Mono/polyunsaturated ratio	11.92
Polyphenols (ppm of caffeic acid)	163
Bitterness (K225)	0.160
Stability (hours at 120 °C)	10.91

### FATTY ACIDS (%)

Palmythic (C16:0)	13.01
Palmitoleic (C16:1)	1.40
Stearic (C18:0)	1.75
Oleic (C18:1)	71.14
Linoleic (C18:2)	5.53
Linolenic (C18:3)	0.59

Samples from the 2013 crop, analysed by the "Unió Corporació Alimentària", Vilalonga del Camp (Tarragona). The data may vary depending on environmental conditions, growing techniques, degree of ripening and extraction system.

## OVERALLEVALUATION

A highly productive and optimal variety for high density plantations.

Dwarf and weeping structure.

Early entry into production.

Ripens one week earlier than Arbequina.

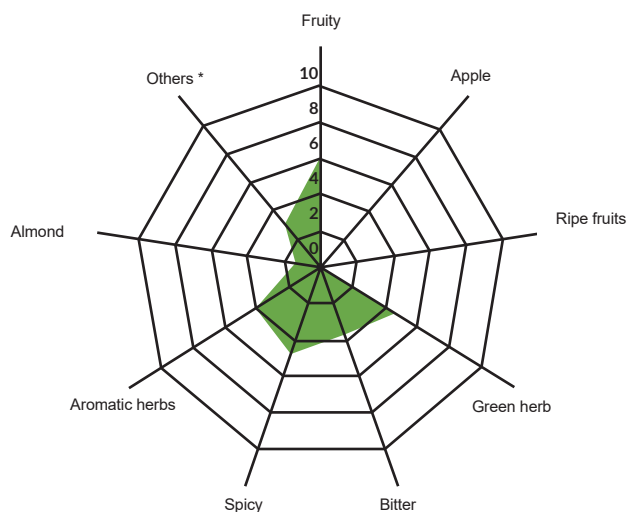
Good performance as regards fat and extractability.

Good behaviour in non-irrigated ground.

Relatively tolerant to cold.

## OVERALL OIL PROFILE

Corresponds to a sweet type of virgin oil with an intense fruity flavour with low levels of bitterness and spiciness. A soft oil, very fluid and well balanced in the mouth.



\*tomato, artichoke, green almond and banana



## MAIN FEATURES

### TREE

Structure	WEeping
Vigour	LOW

### FRUIT

Olive weight (g)	2.70
Pulp/weight ratio	5.50
Fat yield (% dry matter)	49.65

## VIRGIN OIL

Mono/polyunsaturated ratio	4.64
Polyphenols (ppm of caffeic acid)	323
Bitterness (K225)	0.172
Stability (hours at 120 °C)	6.99

### FATTY ACIDS (%)

Palmythic (C16:0)	16.69
Palmitoleic (C16:1)	2.09
Stearic (C18:0)	1.66
Oleic (C18:1)	64.21
Linoleic (C18:2)	13.55
Linolenic (C18:3)	0.82

Samples from the 2009 crop, analysed by the "Unió Corporació Alimentària", Vilallonga del Camp (Tarragona). The data may vary depending on environmental conditions, growing techniques, degree of ripening and extraction system.

# KORONEIKI

## OVERALLEVALUATION

A variety well suited for SHD olive grove.

Medium to high vigour and upright-open structure which makes it difficult to manage in fertile irrigated soils and mild climates.

Very productive and early.

Very high oil yield.

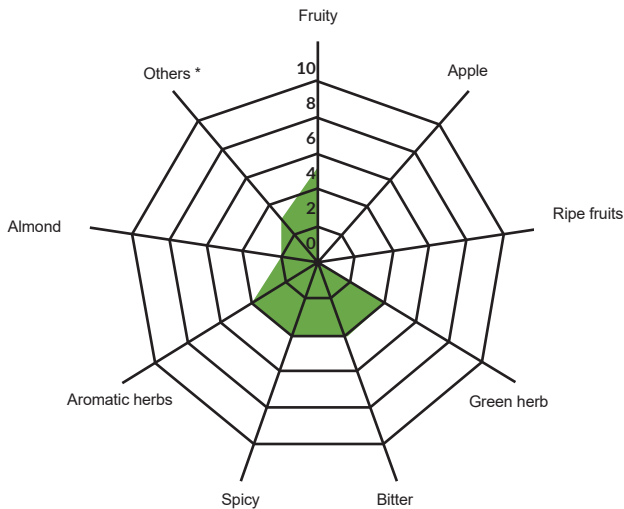
Ripens 2 weeks earlier than Arbosana.

Low resistance to cold.

Oil highly valued in the market.

## OVERALL OIL PROFILE

Corresponds to a green type of virgin oil, very complex and highly stable. Persistent, with high astringency. Characteristic dark green colour.



\*walnuts artichoke, green almond and almond



## MAIN FEATURES

### TREE

Structure	UPRIGHT-OPEN
Vigour	MEDIUM-HIGH

### FRUIT

Olive weight (g)	1.07
Pulp/weight ratio	2.70
Fat yield (% dry matter)	51.10

## VIRGIN OIL

Mono/polyunsaturated ratio	10.32
Polyphenols (ppm of caffeic acid)	384
Bitterness (K225)	0.237
Stability (hours at 120 °C)	12.80

## FATTY ACIDS (%)

Palmythic (C16:0)	11.61
Palmitoleic (C16:1)	0.83
Stearic (C18:0)	2.67
Oleic (C18: 1)	76.31
Linoleic (C18:2)	6.92
Linolenic (C18:3)	0.58

Samples from the 2009 crop, analysed by the "Unió Corporació Alimentària", Vilallonga del Camp (Tarragona). The data may vary depending on environmental conditions, growing techniques, degree of ripening and extraction system.



AGROMILLORA – Olive plants

# ARBEQUINA AS-1

AGROMILLORA  
SELECTION

## OVERALLEVALUATION

A reference variety of SHD olive plant.

Medium vigour: the final size will depend on soil and climatic conditions and agronomic management.

Consistent, high yield.

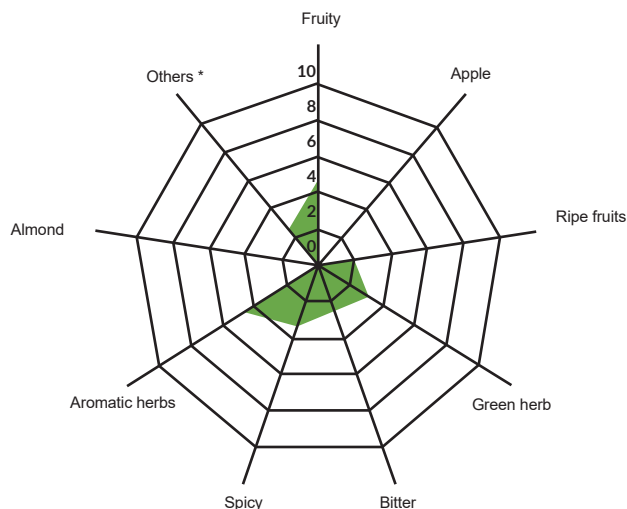
Early entry into production.

Ripening in the northern hemisphere:  
Starts in October in the earliest areas.  
Ends in December in the latest areas.

Relatively tolerant to cold.

## OVERALL OIL PROFILE

Corresponds to a sweet type of virgin oil. Delicate and fragrant. Medium fruitiness with low levels of bitterness and spiciness. Harmonious, enabling it to be marketed as mono-varietal or in combination with oils high in polyphenols in order to enhance its stability.



\*green almond, walnut, almond and tomato.



## MAIN FEATURES

### TREE

Structure	UPRIGHT
Vigour	MEDIUM

### FRUIT

Olive weight (g)	1.71
Pulp/weight ratio	4.20
Fat yield (% dry matter)	48.8

## VIRGIN OIL

Mono/polyunsaturated ratio	7.57
Polyphenols (ppm of caffeic acid)	270
Bitterness (K225)	0.124
Stability (hours at 120 °C)	7.89

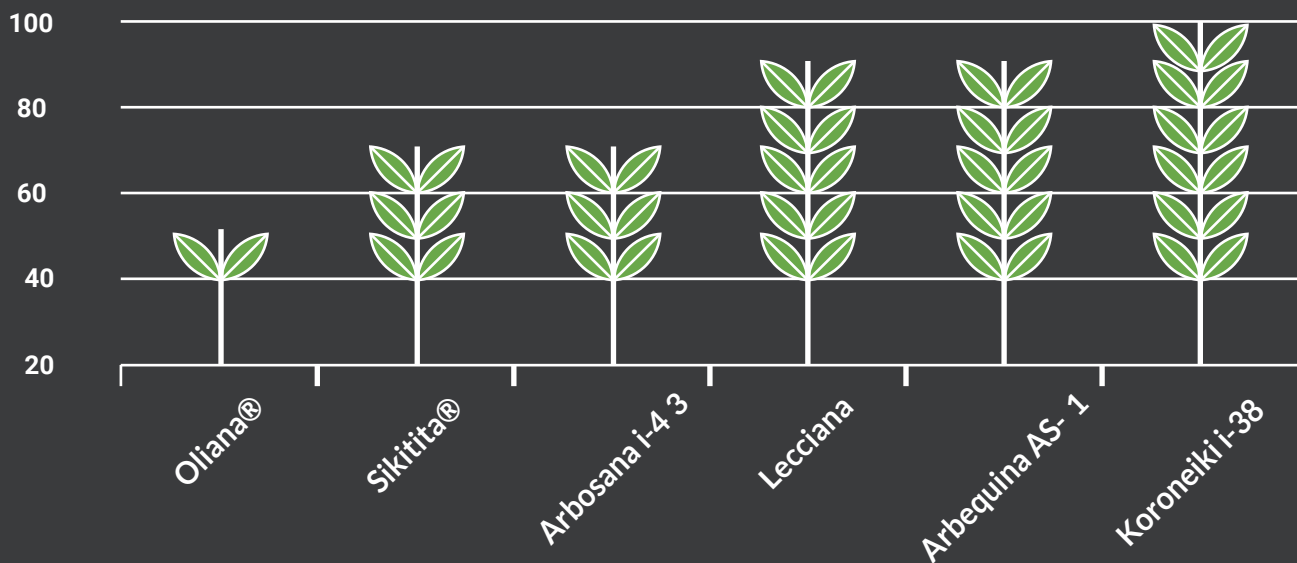
### FATTY ACIDS (%)

Palmythic (C16:0)	13.97
Palmitoleic (C16:1)	1.53
Stearic (C18:0)	1.83
Oleic (C18:1)	71.78
Linoleic (C18:2)	9.28
Linolenic (C18:3)	0.47

Samples from the 2009 crop, analysed by the "Unió Corporació Alimentària", Vilallonga del Camp (Tarragona). The data may vary depending on environmental conditions, growing techniques, degree of ripening and extraction system.

# Comparison of varieties

## Vigour scale



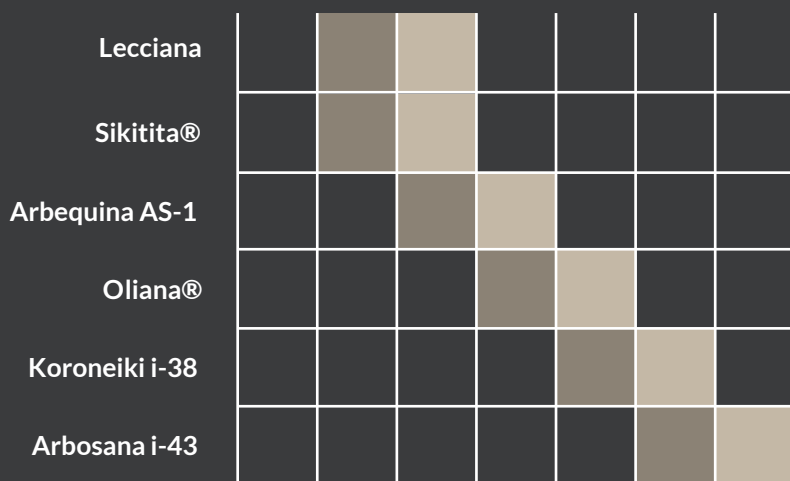
## Resistance to cold<sup>1</sup>



## Resistance to leaf spot<sup>1</sup>



## Ripening period



2

<sup>1</sup>Assessment on an arbitrary scale from 1 to 5, where 1 = Very low and 5 = Very high.

<sup>2</sup>1 week.

The specific climatic conditions of each zone may modify the results shown in these graphs.



# Keys to growing SHD olives groves on marginal soils, shallow soils and low rain

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Average rainfall  
<350 mm

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Varieties with high leaf/  
wood index (dwarf).

Reduced volume  
hedges needing  
very little water  
to produce good  
harvests.  
Width 0.8 m;  
Height 2.5 m

Proper management  
in terms of water,  
fertilization, pruning to  
maximize the growth  
and yield constantly up  
to 25+ years.

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Planting patterns  
3 to 3.5 m x 1.25 to  
1.3 m to aim for  
maximum sustained  
yield.

# Smarttree® keys

A format specially designed for super high density olive groves.

100% mechanised pruning using trimming.

Staking with bamboo cane (18-20 mm gauge, 1 m high) or fibreglass (7 mm gauge, 1 m high).

Ideal for creating a high yield hedge.

Maximum branching.

Lower investment: trellis structures are not needed.

Ease of rejuvenation pruning.

Better balanced trees.

We never cease to reinvent ourselves,  
either by designing new growing  
techniques with our collaborators  
and customers or by experimenting  
in the development of new varieties  
with major international growers.





**AGROMILLORA** – Olive plants

11 subsidiaries | 9 laboratories | Our global presence provides us with international vision and experience, thanks to which we have acquired in-depth know-how of the sector which we make available to our customers.



**At Agromillora we provide a range of products suited to the needs of the fruit industry: innovation, technology and sanitary quality.**

As a leading company in the in-vitro multiplication of woody species, and thanks to the strategic relationship we maintain with the major breeders of the sector worldwide, we have the ability to address any project for the propagation of new varieties.



OLIVES



STONE FRUIT TREES



PIP FRUIT TREES



NUTS



BERRIES



CITRUS



VINE



TROPICAL FRUITS



ROOTSTOCKS



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