NATIONAL OLIVE CONFERENCE
ADELAIDE - October 2010

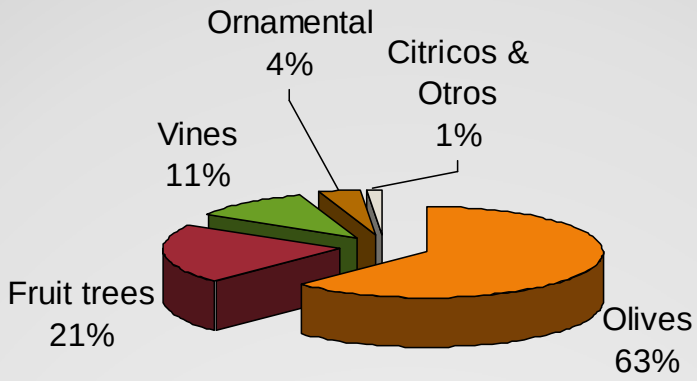
SHD ORCHARDS
the solution for olive growers

Olint® OLIVE TREES

Xavier Rius – Agricultural engineer.
AGROMILLORA
Barcelona (Spain)

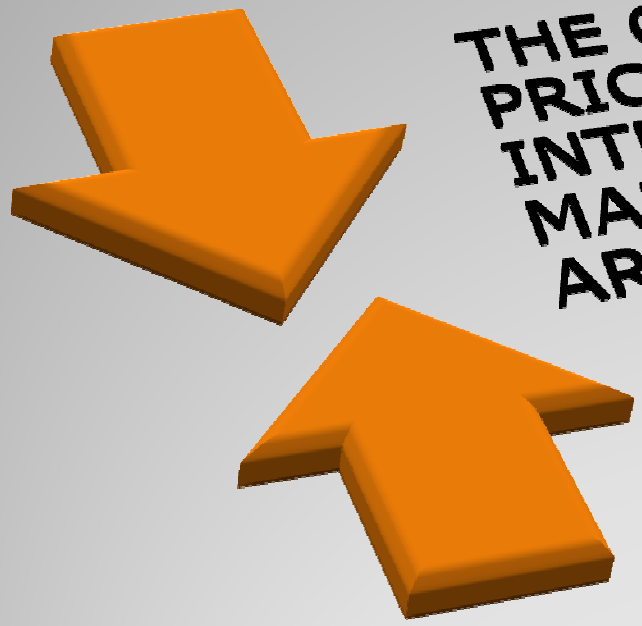
AGROMILLORA GROUP

Foundation in 1986
Location in Sadurní d´Anoia (Barcelona)
International Projection: 11 subsidiary companies in 10 countries
Greenhouses Area in 2009: 300.000 m²
***In vitro* laboratories : 3**
Human Resources 2009: 500 employers, 50 technical *staff*
Sales 2009: 45 millon US *dollars*
Production 2009: 30 milion plants



SHD ORCHARDS
THE SOLUTION FOR OLIVE GROWERS

CURRENT STATE

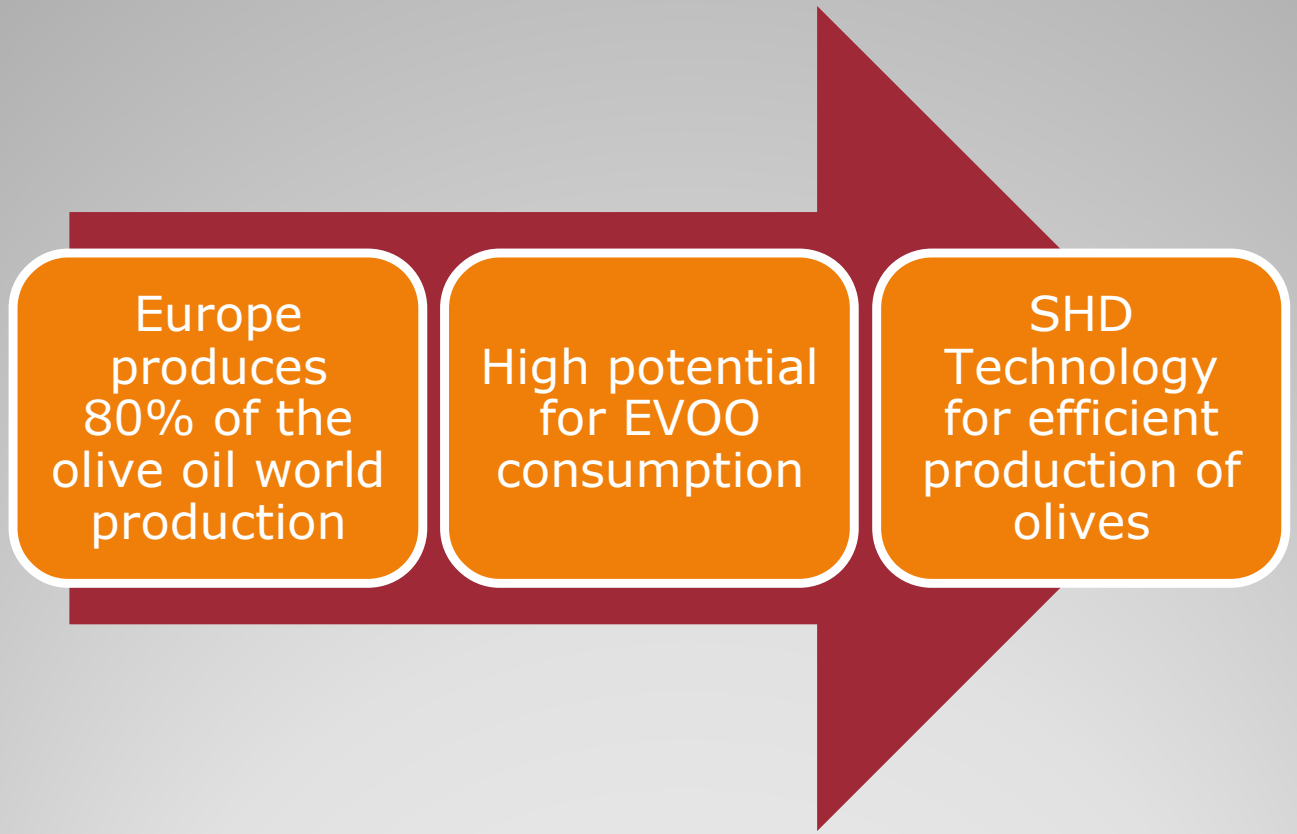


THE OLIVE OIL PRICES IN THE INTERNATIONAL MARKET NOW ARE LOW

IS AN OPPORTUNITY NOW TO PLANT OLIVES

WHY...?

CURRENT STATE



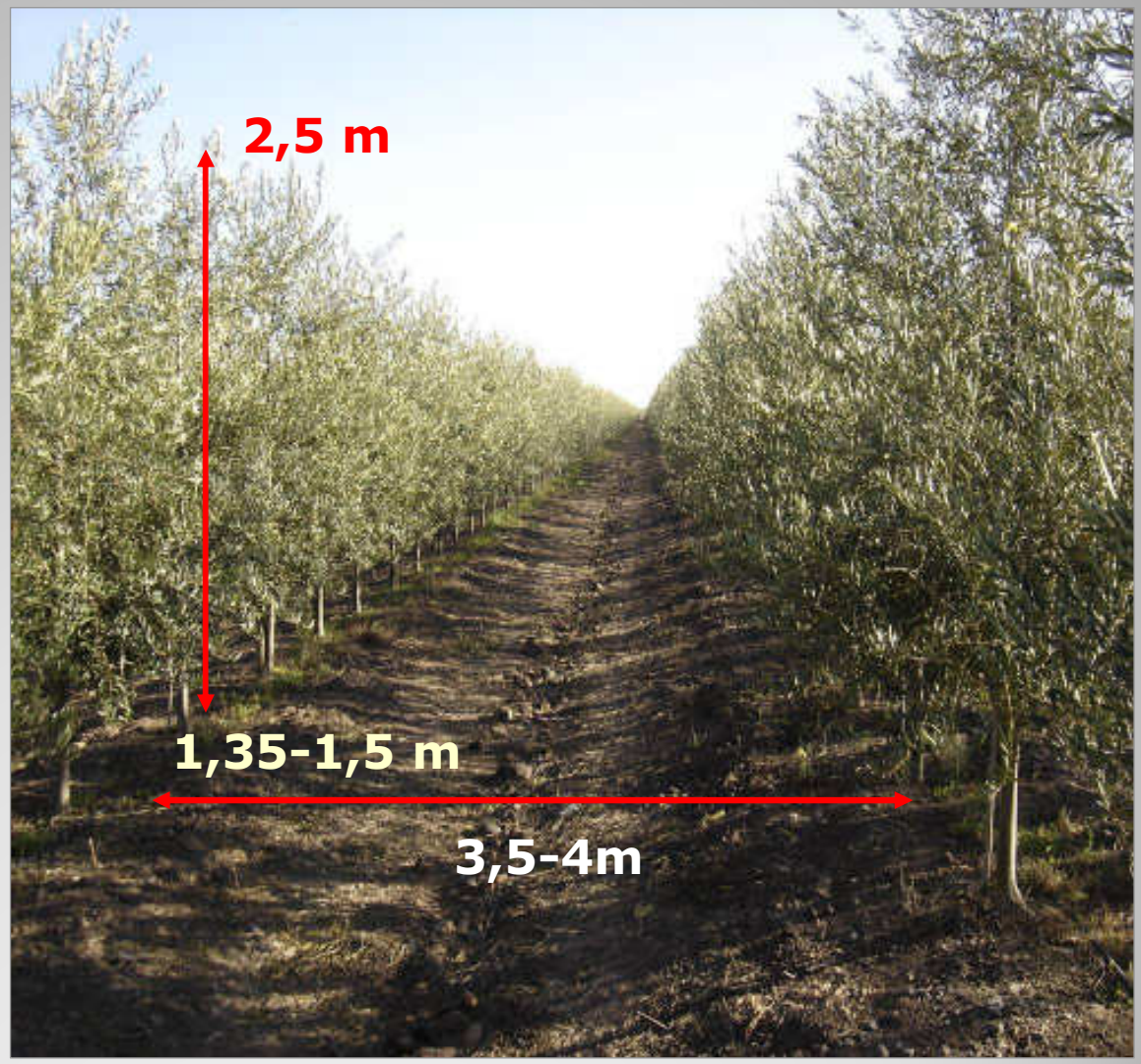
OPPORTUNITY

SHD RESULTS TO DATE

- Harvesting costs around 63 $Au/Tn
- Grape Harvesting machine implemented 100 %
- Third year average yield 3-4 Tn/Ha
- Sustainable productions from year 4th 10 – 12 Tn/Ha
- Improved olive oil quality
- Very low labour, mechanical prunning

PRINCIPAL CHARACTERISTICS OF THE SHD

- Planting density: 1600-2100 trees/Ha.
- Varieties: Arbequina, Arbosana, Koroneiki, Tosca, Sikitita, FS17, Other
- Training system: central axis.
- Aprox. topping height: 2,5 m.



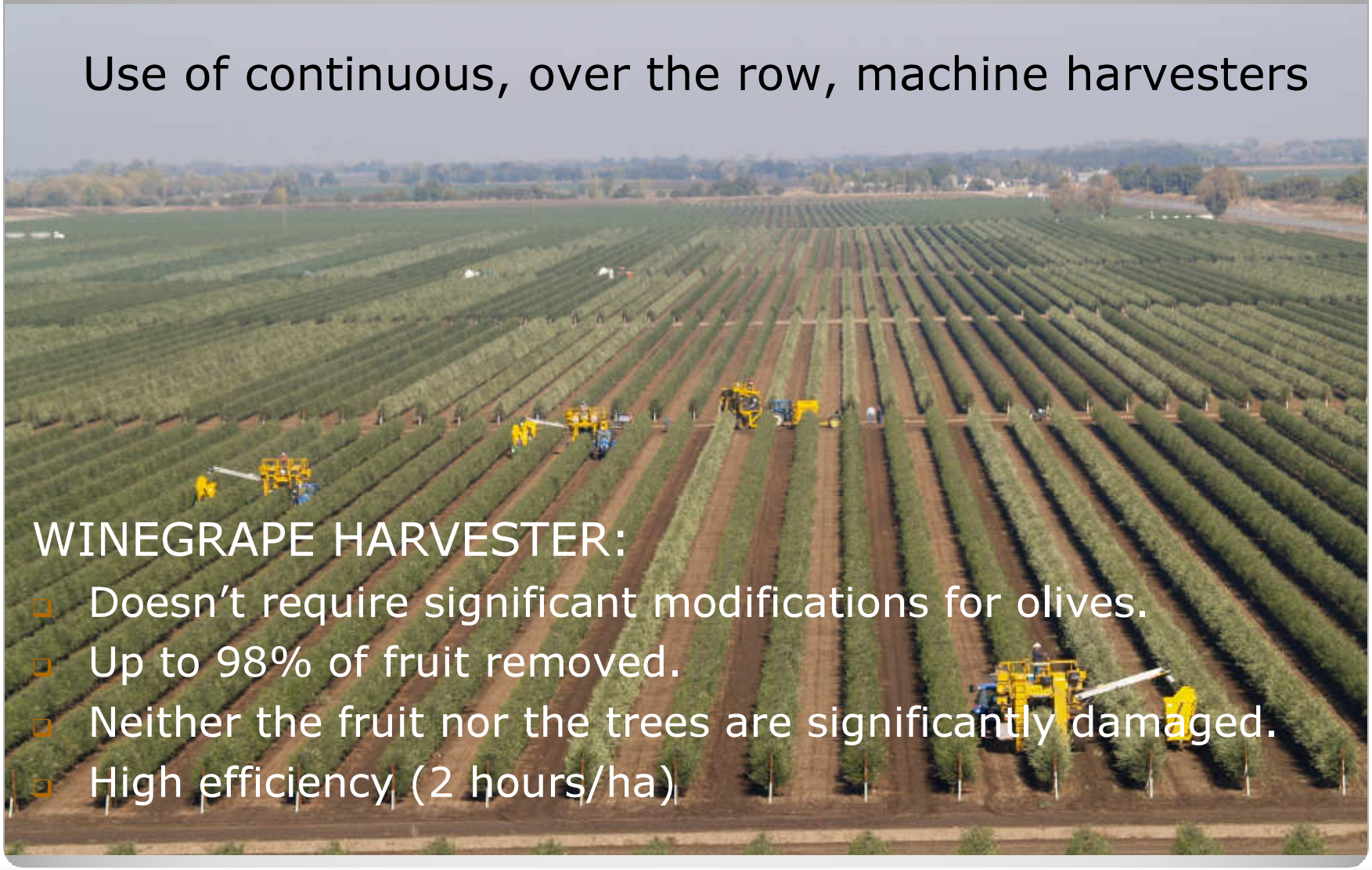
SHD KEY FACTORS

1. Harvesting machines

2. Correct variety choice

KEY FACTOR 1: HARVESTING

Use of continuous, over the row, machine harvesters



WINEGRAPE HARVESTER:

- Doesn’t require significant modifications for olives.
- Up to 98% of fruit removed.
- Neither the fruit nor the trees are significantly damaged.
- High efficiency (2 hours/ha)

KEY FACTOR 2: CORRECT VARIETY CHOICE

Low vigour

Precocity

THE BEST VARIETIES FOR SHD DESIGNS SHOULD POSSESS

Little tendency towards alternate bearing

Self-fertility

ARBEQUINA

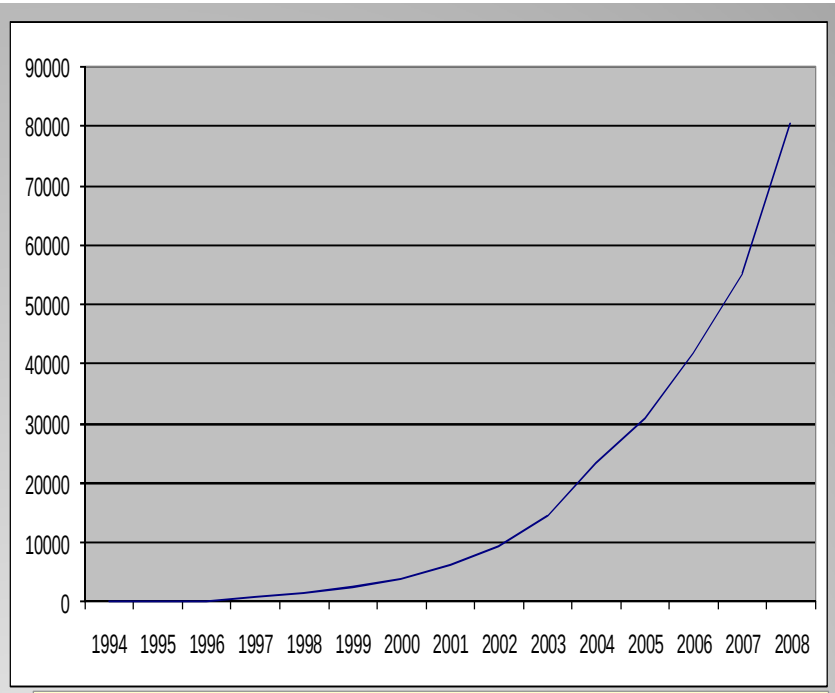
ARBOSANA

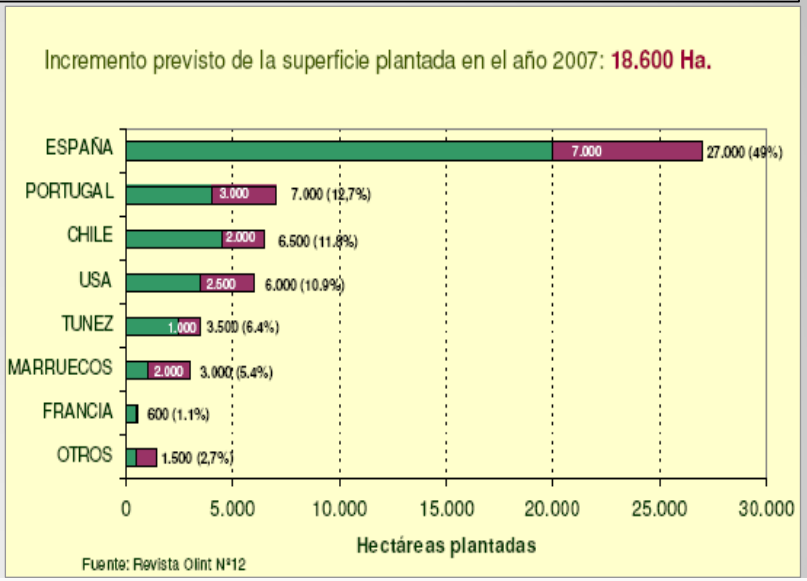
KORONEIKI

TOSCA

SIKITITA

YEAR	Ha
1994	6
1995	50
1996	200
1997	400
1998	700
1999	1000
2000	1500
2001	2500
2002	3000
2003	5000
2004	9000
2007	18600
2008	25000
2009	20000
TOTAL	**100300**





GENETIC MATERIALS: VARIETIES

ARBEQUINA

- Medium-low vigour variety, enters quickly into production and reaches full production more rapidly than most olive varieties.
- It has high productivity and does not show alternance.
- High resistant to cold conditions.
- Mid-early season maduration. Around second week in April.

CLONS AVAILABLE: AS-1, IRTA i-18 ®

GENETIC MATERIALS: VARIETIES

ARBOSANA

- Variety very productive with constant productivity.
- Enters very quickly into production.
- Low vigour.
- Late ripening, three weeks later than Arbequina.
- Less resistant to cool conditions than Arbequina, but more than Koroneiki.

CLONS AVAILABLE: i-43

COMPARISON

GENETIC MATERIALS: VARIETIES

KORONEIKI

- Origin from Greece.
- It represents 50 % of the area in this country.
- Variety with medium-high vigour.
- Resistant to peacook.
- Late ripening, two weeks later than Arbequina.

CLONS AVAILABLE: i-38

NEW VARIETIES IN 2009

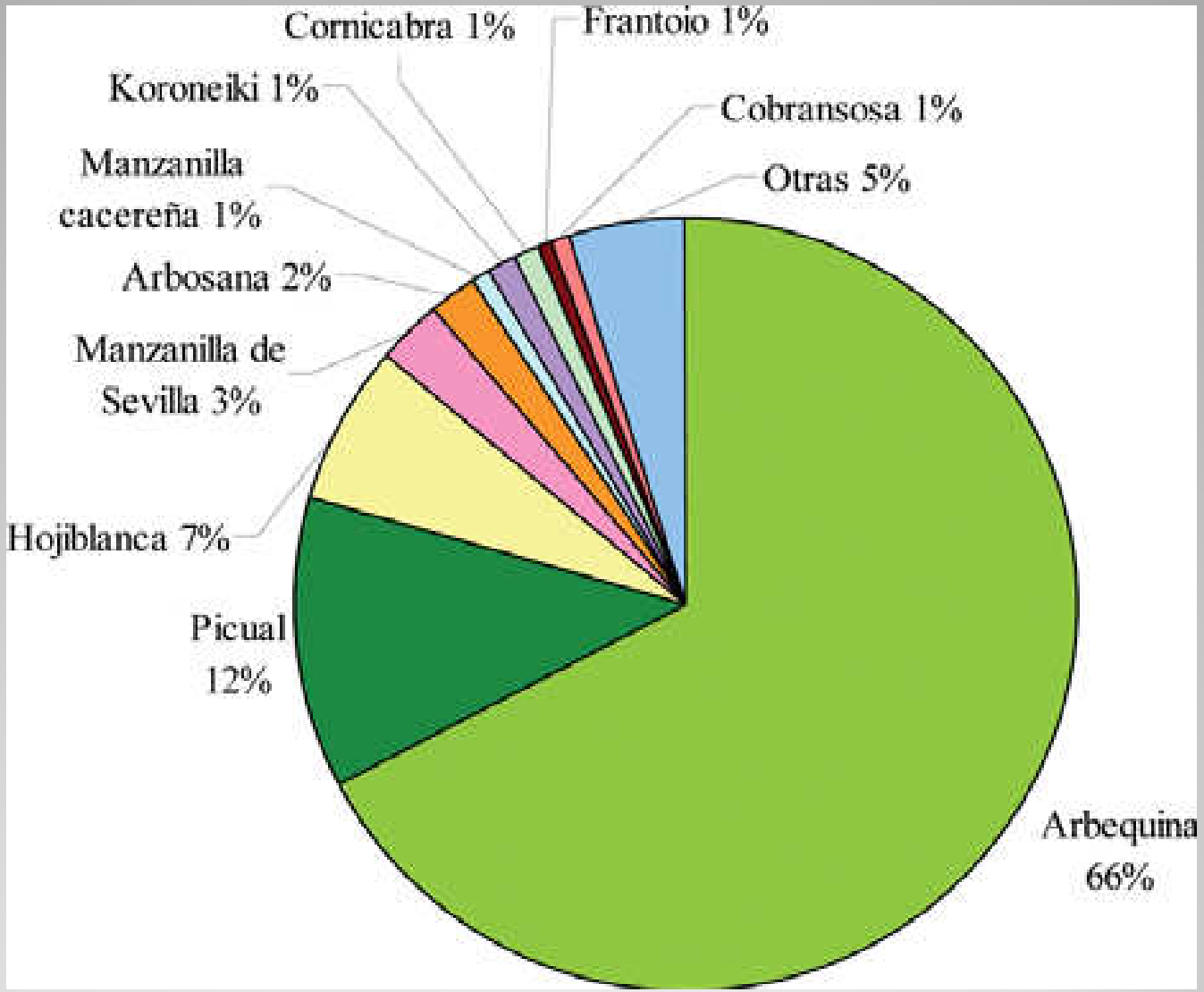
SIKITITA – UCO-IFAPA

- Picual x Arbequina.
- Less vigour than Arbequina (- 40%).
- Productivity higher than Arbequina.
- Oil % higher than Picual.
- Early ripening, one week before Arbequina.

NEW VARIETIES IN 2009

TOSCA – SONNOLI (Italy)

- Very low vigour. Compact tree.
- Enters early into production (2nd-3rd year).
- Resistant to cold and peacook.
- Oil with high organoleptic and chemical characteristics: % oleic > 80; 'medium frutty'.



Total de planta 89.857.995; Certificada = 4.251.681. **Fuente**: GÓMEZ DEL CAMPO, M.; BARRANCO, D., 2009.

STRUCTURE

- Stake: 2,40 m high.
- Structure: posts 1,8 m buried 30 cm; separation between posts 20-30 m.
- Wire at 1,5 m.
- Protector for rabbits, herbicides, etc.

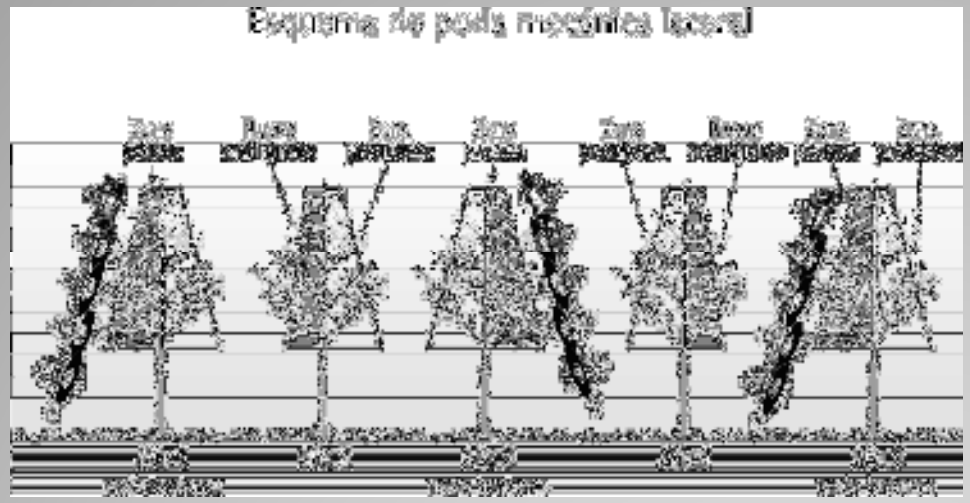
PRUNNING FORMATION

- ❑ Tying at the stake every 15-20 cm.
- ❑ Treatment for lightbrown apple moth.
- ❑ Prunning the lower 1/3 until 60 cm.
- ❑ 1 person / 20 Ha.

PRUNNING

- **Mechanized topping** for height control at 2,5 m in summer.
- **Hand prunning** with pneumatic shears (15-20 hours / Ha).

LATERAL MECHANICAL PRUNNING




Not prunned
prunned

MECHANIZED PLANTING

Double-row planting machine with laser leveling
(8.000-10.000 plants / day)

MANUAL PLANTING

- 800 plants/person/day.
- If irrigation and structure are in place, less missing plants and longer plantation period.

IRRIGATION AND FERTILIZERS

- Carry out soil maps before planting and design irrigation according to soils.
- Irrigation according to areas from 500 to 4000 m^3 /Ha.
- Irrigation schedule according to soil moisture monitoring and vegetative state.

- Fertilizing according to production and foliar analyses.
- Orchard management according to time of the year. First: N; K to the end.

SOIL MANAGEMENT

- Cover crop or soil cultivation.

- Use of herbicides:
  - Preemergency:
  - Postemergency:

FROST

- North Orientation of the block.
- Orientation N-S of the rows.
- Winter, spring, autumn frost.
- Varieties.
- Reasonable use of water and fertilizer.
- Treatments with copper.

COST ESTABLISMENT PER HA

	AU $	Quantity	TOTAL
Soil preparation	450	1	450
Plants	3.5	1660	5810
Planting	0.17	1660	282
Trellis system	3000	1	3000
Tutor	0.6	1660	999
Protector	0.25	1660	415
Irrigation	4500	1	4500
Other	100	1	100

TOTAL ESTABLISMENT **15.555 $AU**

COST PER HA YEAR 1 & 2

	Nº hours	Cost Ud	Total
Prunning	15	15	225
Tying	30	15	450
Tractor	13	45	585
		Total	1.260

	Quantity	Cost Ud	Total
Chemicals	1	130	130
Fertilizer	1	250	250
Herbicide	1	80	80
Water	1	100	100
Other	1	100	100
		Total	660

TOTAL 1.920 AU$

COST PER HA from YEAR 3

	Nº hours	Cost Ud	Total
Prunning	15	15	225
Topping	1,5	60	90
Low branches	1,5	60	90
Tractor	13	45	585
Harvesting	2	380	760
		Total	1.750

	Quantity	Cost Ud	Total
Chemicals	1	250	250
Fertilizer	1	300	300
Herbicide	1	100	100
Water	1	200	200
Other	1	250	250
		Total	1.100

TOTAL 2.850 AU$

CONCLUSIONS

EVOO has a good future

Traditional areas will be reduced

SHD gives the opportunity to new companies, regions, countries, to become a big player in the EVOO industry in the future

Spain: First country in planting SHD.

Big number of plantations less than 10 Ha

nº Ha 40.000

250 ha in Badajoz

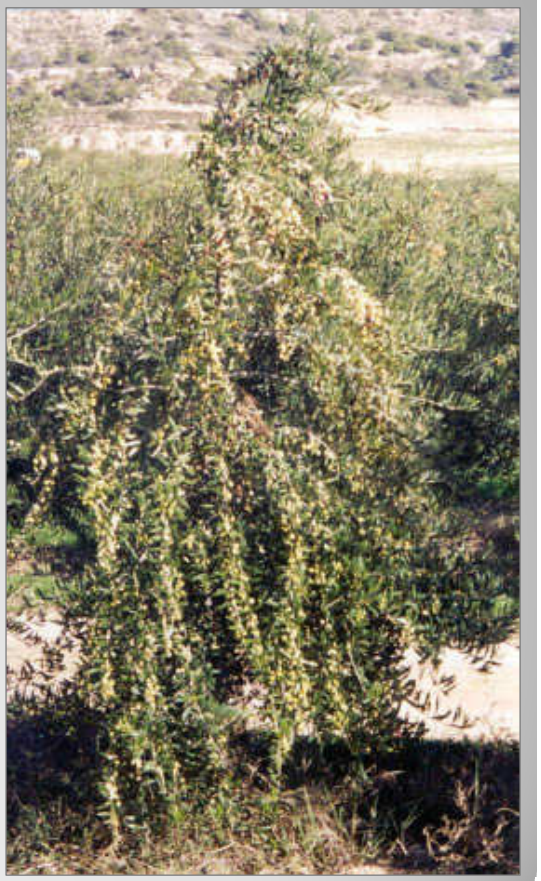
SPAIN

Nekeas, 200 Ha.
Navarra

Valonga, 50 Ha.
Binefar- HUESCA

SPAIN

Hacienda Iber, 300 Ha.



SPAIN

La Boella, 85 Ha.
Reus- TARRAGONA

Italy: A big need

- First importer of Arbequina and Koroneiki olive oli.
- Difficulty to obtain adequate areas for the machine.
- Varieties used treath for the style of the italian olive oil.
- Oportunity to acess an oliviculture of low cost and quality.
- CNR (Consiglio Nazionale delle Ricerche) de Peruggia; Fs–17, Don Carlo o la Giulia

Moreno Bernardini (Roma, Italia),

Farm Castello di Torrimpietra (Roma, Italia),

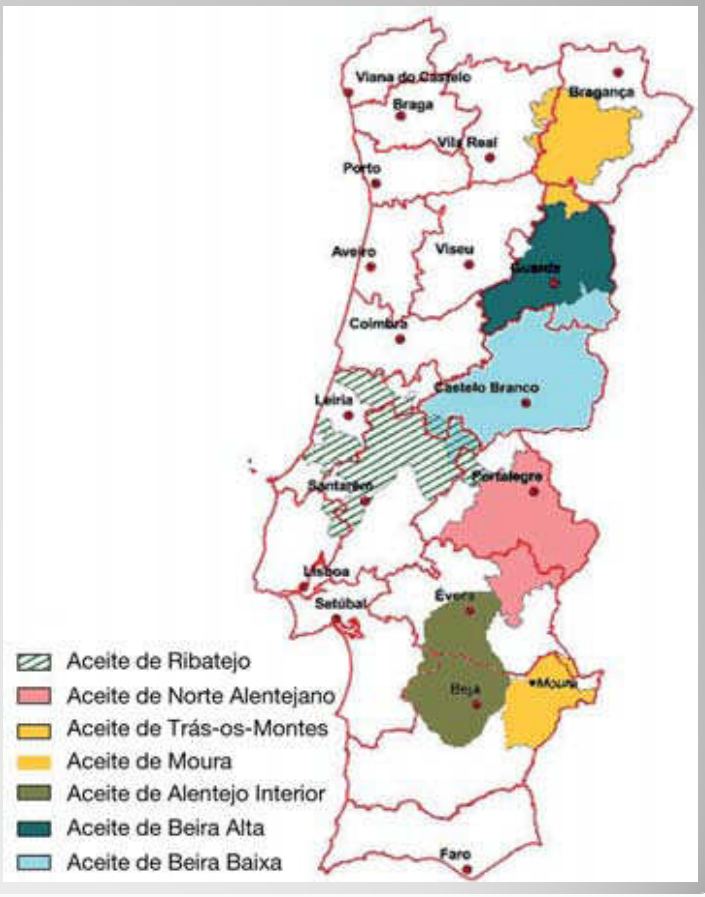
GREECE; Koroneiki a local variety

- Very small plantations 1-3 ha.
- 300 Ha, spread out in the areas of Patras, Lakonia y Agrinios
- Quick adaptation of the system

Portugal: líder with Spain

- Less cost of the land, water available, fertile soils
- Spanish and Portuges investors
- Need to have oil availability (internal market + export Brazil) increasing the plantings. Now 10.000 Ha

Beja (Portugal).



PORTUGAL

Ferreira do Alentejo

Tunisia: an example of modernization

- Difficulty to obtain a quality olive oil with hand harvesting.
- Delay into production with traditional plantings.
- Goverment wants to renovate the traditional plantings.
- Promotion of tunisian olve oil in international markets.
- Year 2000, North of Tunisia (Mornang y CapBon) 5.000 Ha

TUNISIA

SADIRA – First plantation 2000

Morocco: A reality that advance very rapidly

- Traditional growers with 1-2Ha.Big projects with local investors and overseas companies (Spanish, French).
- Morocco goverment consider olives as priority for its economy.
- Goverment farms given to private companies with condition to develop agricultural projects.
- First plantings in 2003. Now 4.000 Ha and projections of 3.000 Ha/year.

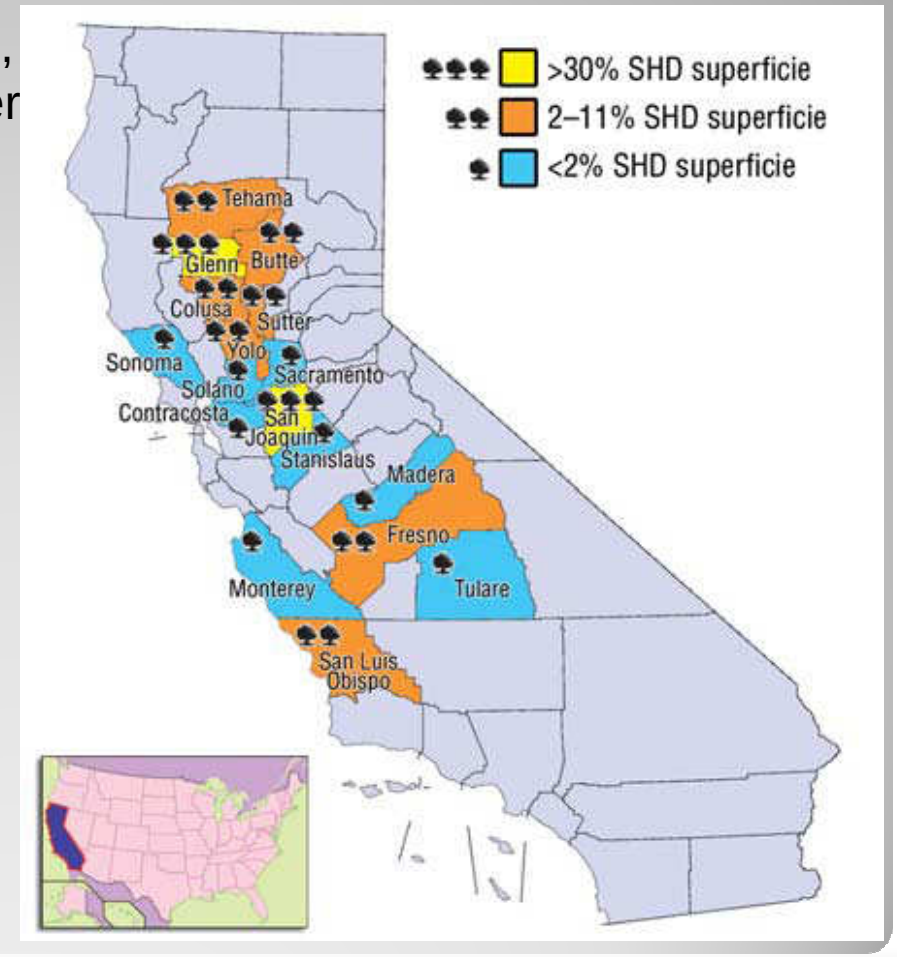
MOROCCO

Atlas Farming
MARRAKESH


مدينة مكناس
VILLE DE MEKNES

USA: the oportunity of the internal market

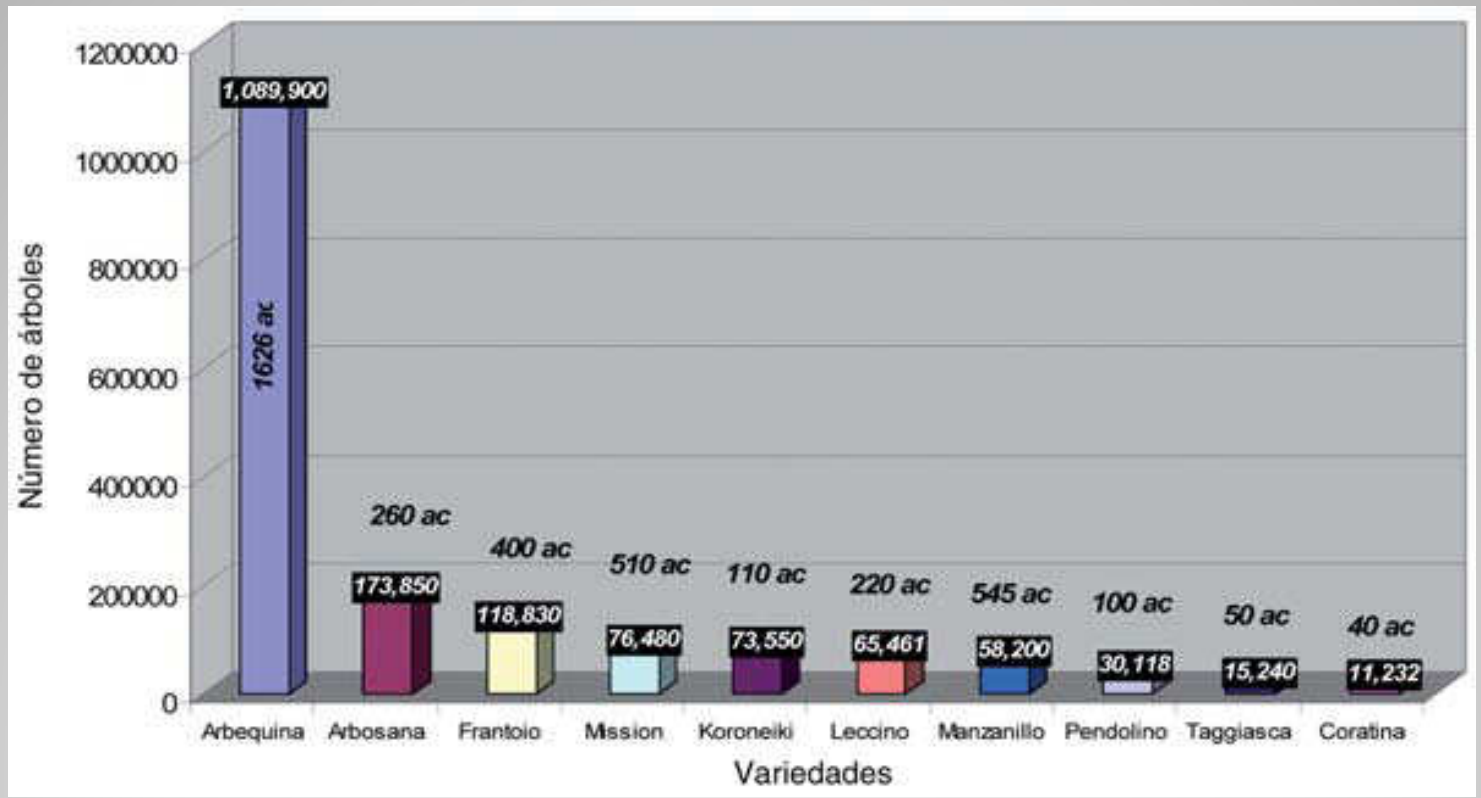
- A system and crop suitable for their mentality, mechanised crops and possibility to be competitives at global level.
- California; good climate conditions, Fertile land at good price and water
- Big size properties. Average per grower 84 Ha
- Glenn and San Joaquin valley 66% planted area.



California (Estados Unidos). *Cortesía Lodi Farm.*

- Texas, Oregón, Georgia, other areas

- Arbequina 78%, Arbosana 16% and Koroneiki 6%.



University of California Survey 2005, PAUL VOSSEN

USA

COR 1

Borges- CALIFORNIA

USA

California Olive Ranch

Xile: exporting to international markets

- Year 2001, several wineries started with olives.
- Xile a country with low preassure of pest and diseases.
- Many different climates from the desert in the North (La Serena) to wet and humid in the south (Curicó)
- Now 13.000 Ha, idea to arrive to 50.000 Ha in a short period.
- Private projects 500-1000 Ha integrated with olive productión,mill and botteling facilities.
- Comercial agreements with USA, Brazil, India, Corea.

CHILI

Agrícola Las Pircas, 250 Ha.
V REGION

CHILI

Costanera, 1000 Ha.
VII REGION

Australia; A big oportunity

In total around 300 ha, spread out in all estates

Western Australia has more plantings

Big possibilities for being big in international market like did with grapes

Water availability a problem for expansion in some regions

AUSTRALIA

Gorman Ranch
SOUTH AUSTRALIA

Waterville Estate
Western Australia

SHD in the rest of the world

France,Turkey, Saudi Arabia, Libya, Algeria, Irán, Uruguay, Perú, Mexico,Brazil, Argentina

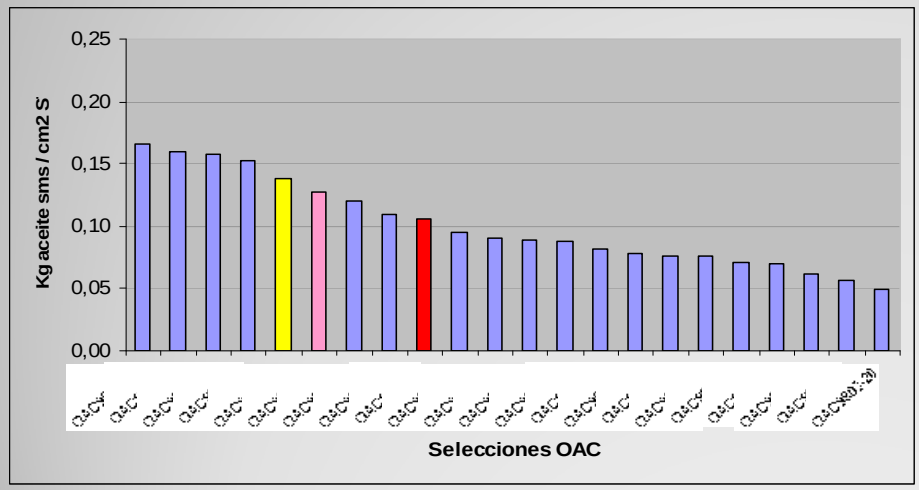
Algeria

Sao Paolo (Brazil).

SAUDI ARABIA

- The changes in training the trees and prunning systems even towards a more simple and mechanised methods.
- The research and development to obtain new varieties adapted to the SHD system.

Will originate a bigger push to the SHD and in less than 5 years will achieve 200.000 hectáreas around the world.



THANK YOU
for your attention

xrius@agromillora.com

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