
Almond trees
Smarttree.
To innovate
is to grow.
SMARTTREE®
AGROMILLORA

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Agromillora and SHD crops: A commitment to efficient agriculture.

Innovation is in our nature.
It's in our DNA since Agromillora's inception, when we implemented Super High Density olive groves. This system proved so successful among growers around the world that we soon applied the Super High Density concept to other crops, such as fruit trees.

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Thus, to address the problems of traditional systems, in 2010 we started developing high-density almond tree plantations.

Advantages:

— High yield.

— Total mechanisation of cultivation works.

— Early entry into production.

— Mechanised harvesting using over the row machines.

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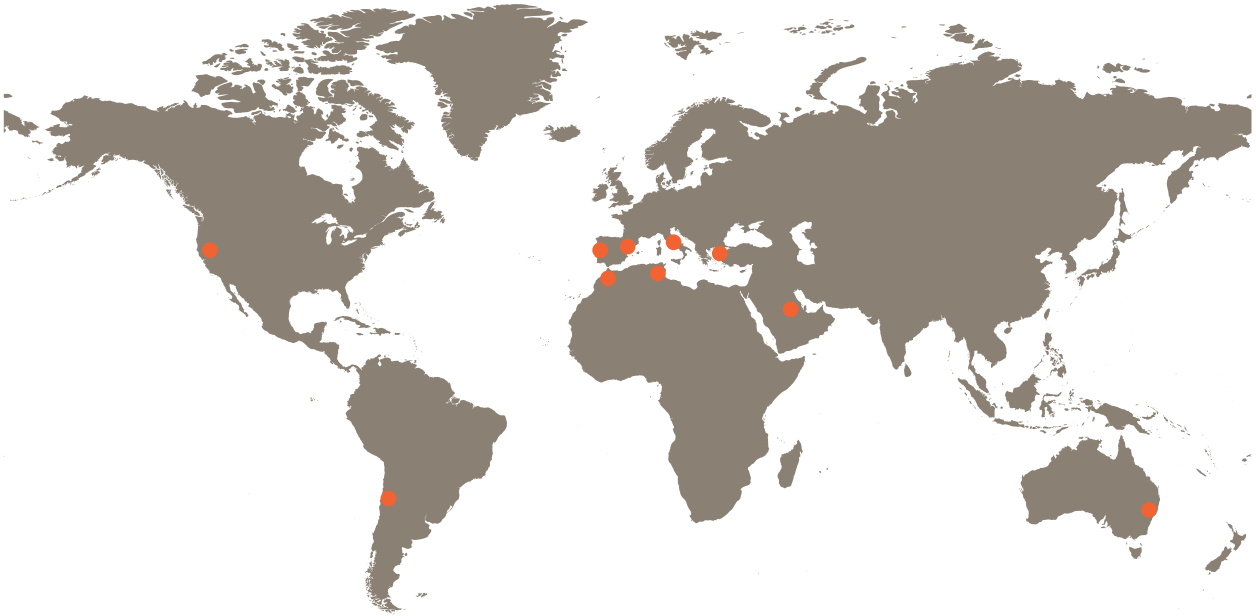
Smarttree® and **Rootpac®20** are two Agromillora flagships and the best examples of our commitment to innovation. Both solutions are the result of work carried out by the Agromillora R&D and innovation department and the company's own breeding programme. It is currently considered the ideal combination to tackle almond SHD orchards.

The first SHD almond orchard was planted in Spain in 2010. Since then we has already accumulated 6 succesfull harvest.

Currently, there are more than 2,500 ha of super high density almond trees scattered around the world: Spain, Portugal, Italy, California, Morocco, Tunisia, Chile, Australia, Saudi Arabia and Turkey among others.



SHD almond orchards features

— SHD orchard with Smarttree® plants.

— Rootpac®20 dwarf in-vitro rootstock.

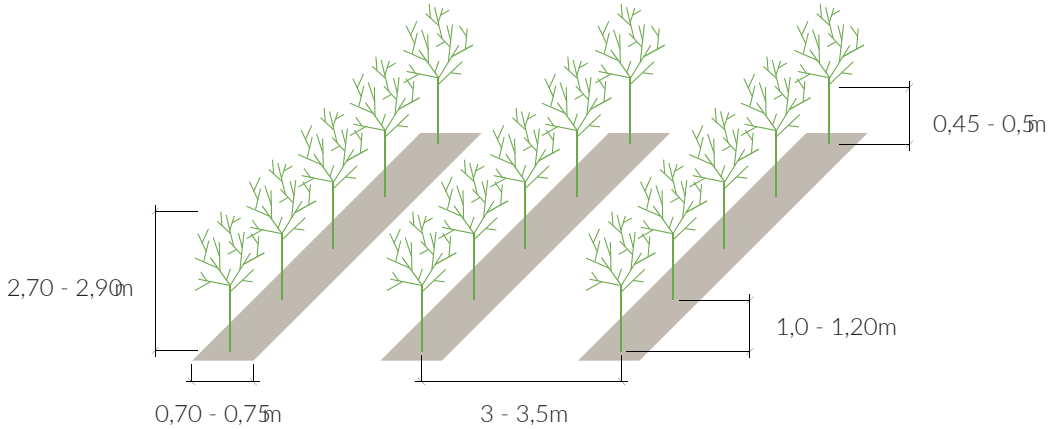
— High compatibility with wide range of varieties.

— Planting patterns 3–3.5 m x 1–1.2 m (approx. 2,600 plants/ha), without any main structure (no central leader) and with one stake per plant.

— N-S orientation allows reducing the distance between rows without shading.

— Mechanical harvest with over-the-row machine.

— Fully mechanised pruning.



Some almond varieties adapted to the SHD system

The super-intensive system is particularly efficient in the case of self-fertile and hard shell varieties, which provide advantages in terms of minimizing the risk of pests and diseases, and in case of adverse weather conditions during pollination period. The following varieties of almond trees are among the most common and best suited to the super-intensive system: **Penta®, Soleta®, Avijor, Belona®, Guara, Vialfas®.**
You can see which specific varieties are available in each country by contacting your nearest Agromillora subsidiary.

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Agromillora subsidiaries worldwide.

Super High Density advantages

— **Total mechanisation** from the moment of planting, with the aim of reducing costs and labour.

— Fully mechanised harvesting: increase in speed (1 hour per ha) and **efficiency** using over-the-row machines.

— **High yield for growers**, ensuring more sustainable crops for the future: a cost reduction is ensured; the needs of soil maintenance are reduced; harvesting does not generate dust; and greater efficiency is achieved in the use of water, fertilizers and phytosanitary products.

— Early entry into production (3rd year), with a **faster amortisation** of the investment.

— **Less labour** needed which is increasingly scarce and costly.

— For soft shell varieties we get **better fruit quality.** The fruit does not touch the ground and contamination risks are avoided (aflatoxins and salmonella). Greater uniformity of size and maturation.

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SMARTTREE®

A product specially designed to meet the demands of growers.

The Smarttree® is a plant format specifically designed for the super high density system. Smarttree® plants are the perfect solution for the new high-density almond orchards. They involve a remarkable reduction in plantation, orchard management and harvesting costs.

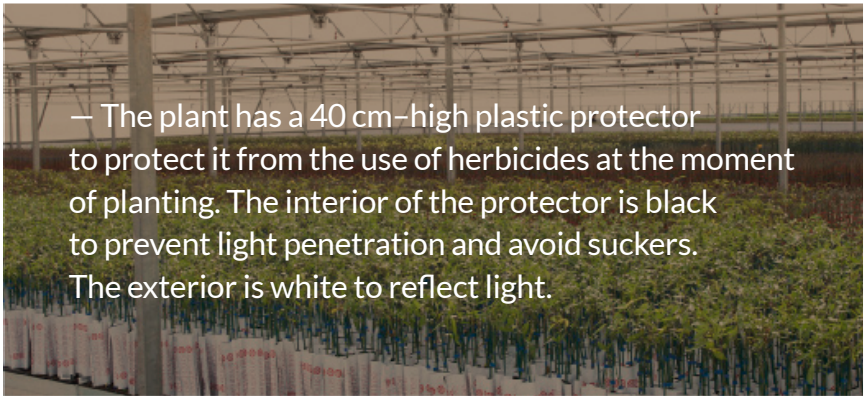
The Rootpac®20 dwarfing rootstock (between 40-50% less vigour than GF-677 and less vigour than Nemaguard) stands out for its high yield, the quality and size of its fruit, its high degree of adaptability to various conditions and its excellent compatibility with a great range of almond varieties. The combination comprising Smarttree and Rootpac®20 are the best resource to successfully tackle super-intensive almond orchard projects.

SMARTTREE® Features

— Format specifically designed for SHD plantations.

— Ideal for creating an efficient fruit-bearing wall.

— Strong root system in inert substrate.



— The plant has a 40 cm–high plastic protector to protect it from the use of herbicides at the moment of planting. The interior of the protector is black to prevent light penetration and avoid suckers. The exterior is white to reflect light.

— Total mechanisation from the moment of planting, which implies significant labour savings.

— Plants coming from clonal material to ensure the highest genetic and health quality.

— Plant, 50-60 cm high with numerous branches, with stake.

— Ease of transportation and planting.

— Produced in a controlled and aseptic environment, to reduce disease risk.

— Smarttree plants are delivered in a 340 ml plastic pot.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ROOTPAC®

Rootpac®20: The first dwarf almond root-stock suitable for different type of soils and conditions.

The Rootpac®20 comes from the Agromillora breeding programme for obtaining new Prunus rootstocks developed between 1996 and 2012. The search for these rootstocks focused on responding to the needs of a fruit sector in constant evolution and development towards the efficiency and intensification of plantations.

Advantages Rootpac®20

— Ideal for SHD crops.

— Extensive compatibility.

— Low vigour.

General information

— **Species:** Plum tree hybrid (P. besseyi x P. cerasifera).

— **Origin:** Agromillora rootstock breeding programme.

Resistances and tolerances

— **Cold:** Tolerant.

— **Root asphyxia:** Highly tolerant.

— **Chlorosis:** Moderately tolerant.

— **Salinity:** Moderately tolerant.

— **Root-knot nematodes:** Moderately resistant.

— **Root-lesion nematodes:** Unknown.

— **Agrobacterium tumefaciens:** Sensitive.

— **Rosellinia necatrix:** Moderately tolerant.

— **Armillaria mellea:** A certain degree of tolerance is sensed.

ROOTPAC®

Agronomic characteristics

— **Vigour:** Low, around 40-50% less than GF-677, and less vigour than Nemaguard.

— **Structure:** Erect and compact.

— **Compatibility:** Good with wide range of almond varieties.

— **Other features:** A minimum number of chill hours is required.

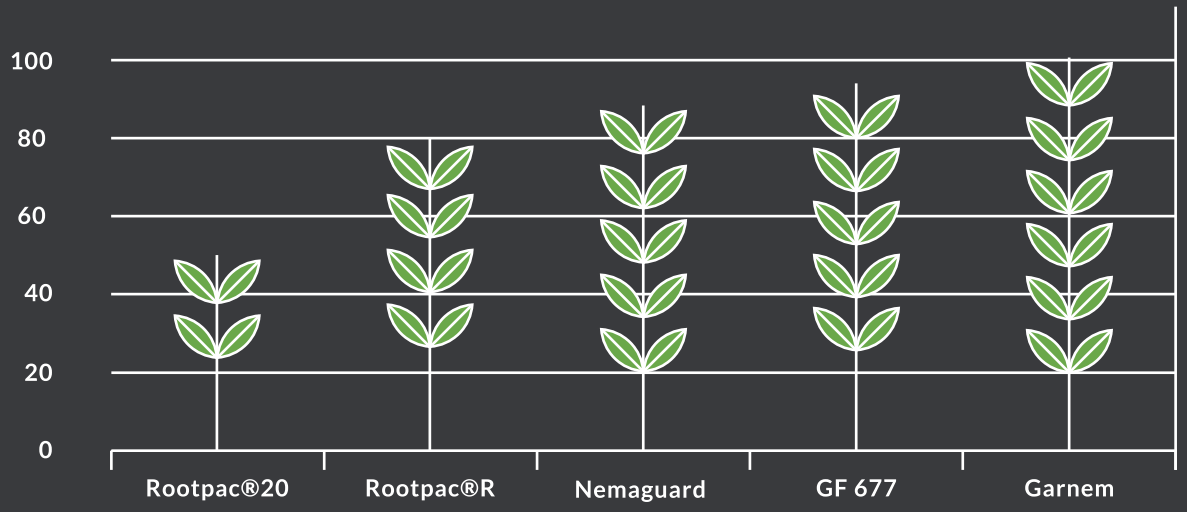
— **Yield:** High.

— **Adaptability:** Very adaptable to all production conditions.

— **Soil adaptation:** Good adaptation to all kind of soils specially heavy soils.

Comparisons:

Vigour with respect to other rootstocks



Low vigour rootstock with an excelent adaptability to the high density plantations. Rootpac®20 is between 40%-50% less vigorous than GF-677.

The specific climatic conditions in different areas can modify the results in the chart.

SHD Almond orchards worldwide


Fundação Eugénio de Almeida. Portugal


Project Al Watania. (Besaita Area) - Saudi Arabia


Project Mas d'en Felis, La Granja d'Escarp. (Lleida) - Spain


(Mildura) - Australia


(Minervino) - Italy


Project Alvi. (Badajoz) - Spain


Project Independence. (Modesto) – California


Project Belchite. (Belchite, Zaragoza) - Spain

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Agromillora.
It's in our nature.

At Agromillora we like to think that we can see inside things. Starting with ourselves. We know that our passion to help our customers grow has led us to embrace innovation, technology and research—applied to agriculture. In much the same way, we know how to see the potential inside nature. There is potential in each tree, in each plant. Our purpose is to improve that potential, make it a reality. It's something that we carry inside—in our nature.


Improve
is in our


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nature.

We are Agromillora, worldwide leading company in the nursery sector and a pioneer in the production and marketing of woody trees (stone fruit trees, olive trees, berries, citrus, nuts, among others), boasting the highest genetic and sanitary quality standards.

This leadership is the result of two factors: an innovative and high-tech productive system and a presence in five contintent, with 11 subsidiaries and 10 laboratories worldwide. Thanks to these factors, we have become the number one supplier of propagation services for woody species in the agricultural industry.

We are strongly committed to the development of global agriculture to which we contribute value through productivity enhancements. We promote the creation of more productive, healthy and resistant plants and work to implement new agronomic solutions, such as the techniques of Super High Density. All these solutions are much more efficient and profitable for the grower.

At Agromillora, we act as a meeting point between the world breeder and producer communities. Thanks to our international structure, we help breeders market their goods to the five continents, always under strict quality controls that guarantee the propagation of these plants under the greatest genetic and sanitary guarantees.

We never stop reinventing ourselves, whether designing new cultivation techniques with our collaborators and clients or experimenting in the development of new varieties with the main international breeders.

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