



Case Studies: Regenerative Agriculture in action

Case studies

What will 'regenerative' look like for you?

In this chapter, you'll meet some of the Italian and Spanish farmers who have already implemented regenerative practices in their own contexts, helping to kickstart the regenerative agriculture movement. As you'll see, these practices have contributed to healthier soils, healthier diets, and healthier production systems for all the producers we'll meet.

'Going regenerative' is not easy, but according to these farmers, it is more than worth it. Each has developed a different way of approaching regenerative agriculture, according to their farm's specific context, priorities – and the farmers themselves. To farm in a 'nature inclusive' way means different things to different people, but ultimately, they are all achieving the same goal. And though they may all take their own approach, we hope their unique transitions will guide and inspire you in the transition of your own farm.





L'UVA DI EMILIA

Uva prodotta con metodi naturali e rispettosi dell'ambiente, secondo i principi dell'agricoltura organica e rigenerativa, in fase di conversione al biologico. Zona di produzione Grottaglie.

ITALY

AGRI-TOURISM AND ALTERNATIVE PEST CONTROL

Emilia Blasi, Azienda Agricola Blasi

Emilia Blasi began her journey as an independent, full-time farmer four years ago. Since then, she has transitioned her 6-hectare family grape farm from conventional to regenerative management and is part of a local cooperative. Located between Taranto and Brindisi in the Apulia region of southern Italy, her farm welcomes tourists and customers and is part of a local cooperative. In addition to the vineyard, she has an olive orchard of 4.5-hectare and makes her own olive oil.

Emilia uses a variety of regenerative practices, including a fully-grown ground cover to protect the soil, homemade compost and the use of cover crops to nourish her cash crop and manage pests and diseases the natural way.

“For me, regenerative means rebirth. The rebirth of the soil, of agriculture itself, and of the farming community. This social aspect goes hand in hand with building a network of productive businesses that also respect the surrounding ecosystem.”



Photo Credit @Emelia Blasi

Pest management

Chemical agents are banned on Emilia’s farm. In the past, they only caused pest resistance while failing to fight the root cause of the problems. They also killed ‘good’ insects which play a fundamental role in balancing the ecosystem. Instead of chemical pesticides, Emilia relies on maintaining a strong crop and healthy soils in order to keep pests at bay. To that end, she applies her own compost, vermicompost, biopreparations and rock dust preparations to the soil.

She uses rock dust rich in kaolin, sulphur and copper to naturally help the plant defend itself from pathogens and simultaneously boost its immune system in a natural way. She also uses bio-preparations, from a base of whey, ash and green waste which fortifies the plants and increases the beneficial microorganisms present in the soil. We'll look at these preparations in more detail in a moment.

"We grow our grapes according to organic and regenerative practices: what we call the 'natural' way. We explain to customers what they are eating and the way we care for the land. We try to engage with them directly."



Bought compost (left); homemade compost (right)
Photo by: @Emelia Blasi

Soil care

In order to increase the soil organic matter and protect against erosion, Emilia started growing a **spontaneous ground cover** and cover crop under the perennials, which she “feeds” with organic fertiliser made from **earthworm humus**.

She plants a cover crop between the grape rows, comprised of a mix of barley, clover, mustard, oats and vetch. She tells us this brings a variety of benefits. Firstly, there are the nitrogen fixers, which improve soil fertility. Then the many diverse roots, which improve the soil structure and reduce erosion. The cover crops also sequester carbon, provide habitats and food for insects (such as flowers for bees) and insulate the soil from extreme temperature changes. The mustard also repels soil diseases such as fungi. In the summer, she mows this spontaneous ground cover with a forage harvester and leaves it as **mulch** on the fields.

The **compost** she makes is composed of farm residue such as grape rasp, dry leaves, rock dust and manure from a neighbouring farm. Although it is time consuming to make, it pays off in the long run, because the fertility and structure of the soil are drastically improved compared with conventional fertilisers.



Accumulator ready to be oxygenated by a pump
@DEAFAL NGO



After oxygenation by pump @DEAFAL NGO

Tourism & Marketing

Emilia is one of the co-founders of **Rete Salento delle Murge**, a cooperative of 23 family businesses that has achieved designation as a *marchio d'area turistico* (a recognised tourist area). She also gives tours of her farm and introduces tourists to the principles of regenerative farming. It's all part of her strategy to diversify her offering and position herself in the market.

Thanks to Emilia's belief in the principle of "healthy food for everyone", her prices are as competitive as those of conventionally grown produce. "I sell my grapes for around 2.30 euros per Kg and my extra virgin olive oil for 10-12 euros per litre" she shares. But, she says, "deciding the price is very difficult. A lot of things need to be taken into account, including the management, the practices, and the product quality."

Emilia acknowledges that in the first years of the transition, production declined somewhat. But for her, the quality of the final product more than makes up for it. "Investing in quality will pay back in terms of land profitability, re-localization of the market, and the trust gained within my regional network."

Emilia selling her product @EMILIA BLASI



SOIL RECOVERY AND MANAGEMENT

Miguel Acebes Tosti, Azienda Agricola Tularù

Miguel's farm is located in Città Ducale, Rieti, in the Lazio Region of Italy. His land is typical of the central Appenines, shaped by its calcareous and stony soil. Around here, cattle breeding and wheat were always the basis of subsistence farming until the 1960s – a practice that Miguel has returned to. Today, he manages cattle and grows native grain species, which he sells through a local cooperative. It all began when, with the help of his partner Alessandra, Miguel decided in 2015 to adopt “an approach that sought to respect the soil and microbiological life”. His multidisciplinary and circular approach led him to produce his own raw material (such as local grain species) in partnership with a local production chain. In this short supply chain, grains like *Grano Rieti* are used to feed cattle, but are also sold to local businesses within the Filiera cooperative, as well as a local partner bakery.

Miguel explains that he uses native seeds because of their organoleptic properties, but also because it connects the local people to the local area. Filiera includes 25 farms that, as a network, decide the price of grain. This project has created a sense of community while also reframing the value of food according to the growers' reality.

“Tularù is the word my grandmother used to shout when I was little to call the children back home when the food was served.”



Photo credits to @tularù

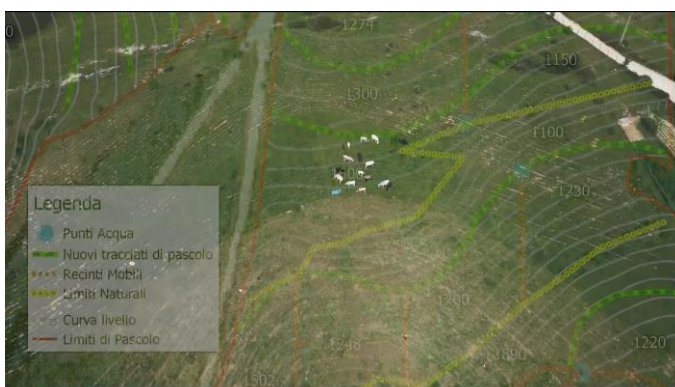
To deepen this connection between the community and the harvest, Miguel has created a harvest festival: **La festa della mietitura**. Customers are invited to help with the harvest in return for a 20% yearly discount on bread. As a result, local people truly understand the value of their food, and feel they have a stake in its production.

Rotational Grazing

Unlike conventional practices that see animals as a source of CH₄, Miguel's system recognises them as a crucial factor in regenerating the the soil. The technique is called rotational or mob grazing, a practice in which animals are encouraged to graze intensively in small divisions, boosting production, improving grain quality, maintaining soil health and enhancing carbon sequestration. It's a practice in which animals are encouraged to graze intensively in small divisions, boosting production, improving grain quality, maintaining soil health and enhancing carbon sequestration.

“Regenerative agriculture is an approach that gives more than it takes, connecting people to the ecosystem in a non-extractive way. This is not just about the carbon cycle. It respects the social side of agriculture as much as the environmental side.”

Each parcel of grazing pasture is 1,500m² and cows change parcels every day, allowing them to benefit from the highest nutritional value the pasture has to offer. The Tularù farm owns 20 cows that rotate on 19ha of natural pasture. In summer they are led to graze on 30ha of rented forest. Miguel also feeds them with hay, some of which is produced on the farm and some of which is sold by other members of the cooperative.



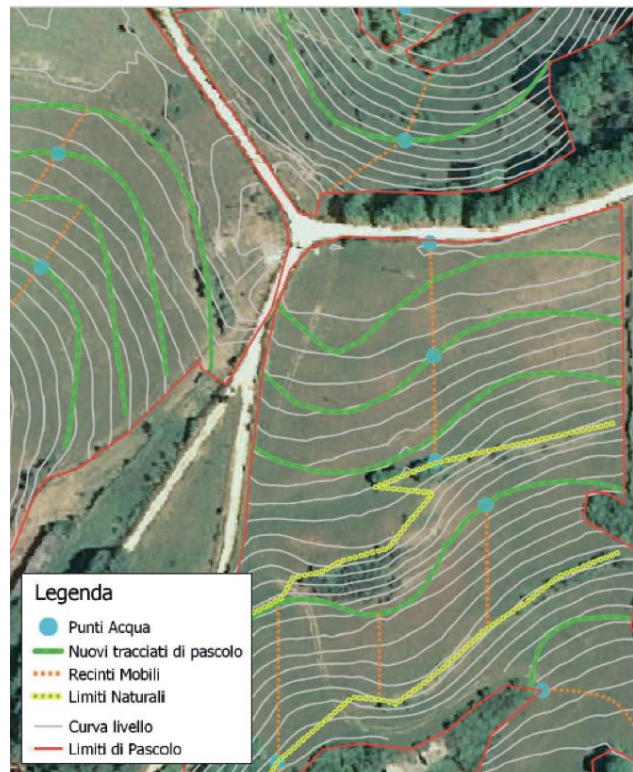
Parcel distribution in Tularù's farm setup- @DEAFAL NGO

Keyline design

These grazing parcels are designed according to the **Keyline principle**, an approach that is particularly beneficial on dry, hilly pastureland in order to better manage the distribution of rainwater, avoid runoff and improve soil organic matter content (SOM). The lines are identified via satellite data, then transcribed onto a map and ultimately applied on Miguel's land. A Yeomans plough creates a groove every 30 cm, enabling rainwater to be stored and reducing erosion.



Keyline approach and rotational grazing in Tularù's (foto Andrés Tosti for @DEAFAL NGO)



@DEAFAL NGO

Cover Crops

Another regenerative approach designed to boost soil fertility after the grains are harvested is the implementation of a **cover crop**. **Lupine** is a legume that adapts well to the stony, calcareous soil of the area and does not compete with the taller wheat stalks. In autumn, when the grains are harvested, the lupine effectively covers the entire soil surface.

Bovine-Poultry rotation

Another regenerative practice Miguel has tried to implement is a **bovine-poultry rotation**, a technique employed by Joel Salatin's Polyface farm that mimics the process of a natural prairie. In this system, poultry help with the decomposition of the cow manure, eat fly larvae and add nitrogen to the soil. We'll learn more about this later in the chapter.

AGRITOURISM & DIVERSIFICATION

Fabio, Zisolhouse, Sicily

Fabio inherited his small organic farm from his grandfather. Since he and his girlfriend took on its management fifteen years ago, Fabio has always listened to the older people of this area when it comes to the different farming systems available. That's because, for Fabio, regenerative agriculture is about resurrecting knowledge from the past, and employing traditional techniques. On their farm they have wild oranges, lemons, bees, almonds and olives, and also host cooking experiences and other activities for tourists. Traditionally, almonds and olives are planted together in one plot, ensuring the farmer always has something to sell, while improving the aesthetics of the landscape.

"Our almond trees are 40 years old, planted in the least fertile soil and grafted in the traditional way," Fabio says. "We use a practice that is called green manure, whereby we create a mix of cut grasses and legumes twice a year and incorporate it into the soil. The harvest is challenging because it's the hottest time of year."

They also use compost, adding ash from the almond husk every other year (because it's too expensive to do more frequently). Fortunately, the neighbour's sheep graze on the farm once a year and fertilize it further.

Water management

As in many places in the South, Fabio's team struggles with reduced groundwater levels: twice their wells have dried up. As their lemons depend on irrigation, they faced a tough decision: dig deeper or try something different. But digging deeper to find water requires considerable investment – more than Fabio could afford. So they decided to start doing things differently. Gradually, they started to reduce their irrigation of the citrus trees - especially the ones located in wetter areas with better soil. And guess what? It turned out that these trees could survive and thrive without artificial irrigation after all.





Terraces

Terraces are another traditional practice that can help stop erosion and absorb the maximum quantity of rainwater possible. They take some time to maintain, but farmers like Fabio have been supported in their application by a variety of EU funds.

Diversification

As a result of the water shortage, Fabio's farm can no longer support a vegetable garden in the summer, and he has moved the garden uphill to another little farm. Luckily, all Fabio's lemons are grafted on wild orange, so when the lemon is suffering from the lack of water, he cuts it down and leaves the wild orange to grow. The wild orange flowers are great for essences, while the bitter fruit is used in marinades and seasonings. Consequently, Fabio's business has diversified its output and become more resilient to changes in the landscape.

Tourism is another way in which Fabio's team have diversified to make the business more resilient. Fabio enjoys having the opportunity to showcase the beauty of the farm and local area, but the venture had its detractors. "The older people said we were crazy," he says. "They didn't think tourists would be interested in our local landscape. Traditions here are strong and deep, but they also keep us closed off from the outside world. Tourism broadens our view; many guests became clients and even friends. It has been a big boost for our business and has given us the chance to reinvest instant profits in our farm."

Ultimately, Fabio says, it's people that have brought this place to life again. The farm isn't just a place where we produce food, but also the place where we live our lives. Human connections are important, and connecting physically with the place makes it easier to form these bonds.

MULTIFUNCTIONAL AGRICULTURE

Matteo Mazzola, ISIDE

Matteo Mazzola is a farmer, consultant and co-founder of ISIDE, an experimental farm studying the impact of ‘multifunctional’ regenerative agriculture. The farm covers some 6 hectares, and is located between Verona and Milan, near Lago d’Iseo.

Encompassing vegetable farming, agroforestry and silvopasture systems on keyline, the farm’s focus is on regenerating the soil, creating a richly biodiverse system and, of course, producing nutritious food. Matteo and his partner Paola Archetty produce nut trees, fruit trees, olives, berries, sheep, chickens, ducks, honey and vegetables, while studying the financial and environmental benefits of the regenerative practices that they use to boost soil fertility – such as cover crops, compost, soil biopreparations and rock dust.

They use these methods to mimic the complex symbiotic relationships that appear in nature, taking pastures, forests and savanna systems as their inspiration. Matteo’s vision? To create a living example of what regenerative agriculture can achieve in temperate climates. Nonetheless, he emphasises that regenerative farming is always specific to the context, and success will look very different from farm to farm. For some people, it will mean taking a no-till approach; for others, it will mean planting cover crops or spreading compost. For a few, like the team at ISIDE, it means a holistic approach where every plant, animal and human plays a crucial role. Every farmer can choose an approach that suits their land.

At ISIDE, Matteo and his team began by growing organic vegetables (including edible mushrooms), introducing laying hens and tending beehives. But the goal is to move towards a system where perennial trees and bushes are the stars of the show, alongside meat-producing animals, a silvopastoral system. In the long run, they would like to include more sheep, rabbits, chickens and ducks - animals that can make optimal use of his pasture. "Vegetables are very good if you want a fast return on your investment. You are rewarded with a harvest and a financial return from the very first year. But vegetable crops are very demanding of nutrients, and they don't leave behind enough residues to rebuild the soil. By contrast, perennials bring long-term economic benefits and improve soil resilience by replenishing the soil's organic matter."

For Matteo, functional biodiversity is fundamental. As far as he is concerned, biodiversity lies in the relationships between species, and the more relationships the better. His regenerative practices are designed to diversify crop and animal production, but also to boost soil resilience.

"Sometimes people forget that when you work in agriculture, you work with ecosystems; you work with nature."

Lets' look at some of Matteo's practises in more detail:

No-Till & Cover Crops

When growing vegetables, Matteo's team use a **no-till system** whenever possible. They create beds with a layer of **compost** with mulch on top, then sow directly into it, ensuring minimum soil and root disturbance. When a crop is ready for harvest, they sow the cover crop underneath. When the cover crop is growing and it's time for the next vegetables to be planted, they use the flail mower to cut it. This creates a new layer of mulch, starting the process all over again. If the vegetable bed is compacted - or if they need need the residues to decompose more quickly, they use a broad fork to oxygenate and de-compact the soil.

Keyline

"There's a small valley on the farm where the bottom pasture was growing 1.8 metres high, while on the ridges it was around just 70 cm. Now, after evenly redistributing the water across the land with keyline design, there is no appreciable difference between the two."

Crop diversification

The fruit orchard is planted according to keyline design and contains more than 100 varieties across 5 main fruit species: apples, pears, plums, peaches and grapes. Between the lines of trees is pasture or vegetable crops, with many other species between the tree lines. For example, the Paulownia tree creates an extra canopy layer up high, protecting against hailstorms; meanwhile, edible berries grow amongst a herbaceous layer of horseradish, comfrey and rhubarb beneath the fruit trees. This dense concentration of diverse plants and root systems reduces soil erosion, circulates nutrients from lower soil layers and provides a habitat to a variety of species. One metre away, there is also a line of willow, mulberries and elderberry bushes that produce biomass, as well as extra fodder for the sheep. When pruned, this biomass is used to create wood chips for the mulch.

Non-selective Grazing

Grazing animals are the farm's most powerful asset when it comes to boosting the amount of carbon sequestered in the soil. Not only is this crucial in the fight against climate change, but it also improves the quality of the soil. Matteo's animals graze on the pasture that grows beneath the olive, hazelnut and walnut groves. They enter the pasture in a precise order: first come the sheep, who eat the most nutritional top layer of the pasture. Then come the donkeys, who eat the lower part of the pasture. Finally, it's the turn of the chickens and ducks, who eat the insects and parasites while also spreading manure equally over the field and oxygenating the soil. The animals are moved 4 or 5 times a day to different areas - a technique Matteo describes as intensive **non-selective grazing**. It is a labour-intensive system, but it can do wonders for your soil.



SPAIN

TESTING & LEARNING

La Junquera

La Junquera is a 1,100ha organic and regenerative family farm in Southern Spain. Situated in an area known for its extreme climate, hot summers, cold winters, at 1,000-meter-high altitude, it's the low rainfall (less than 350L a year) that makes the growing conditions especially challenging. At La Junquera, they are fully organic but always working to improve the soil, water and biodiversity on the farm - alongside their production yield. They achieve this through regenerative techniques like swales, ponds, compost, keyline, vegetation strips, beehives, diversification of crops and more.

"We have watched the desert coming closer over the past decades. Improving and diversifying our land is our way of becoming more resilient, more prepared for the future."

Building resilience

La Junquera's main cash crops are grains such as wheat, oats, barley and rye. They choose older grain varieties because their deeper roots make them more resilient during challenging years with little rainfall. This way, the harvest is stabilised: although the yield is lower in good years, it is higher in bad ones.

Diversification

The team at La Junquera believe that diversifying their farm is key to a healthier, more resilient ecosystem. Ten years ago, they only had grains. Now they have grains, pistachios, almonds, apples, vegetables and aromatics. Because of this greater diversity, animals have come back to the farm. They have also created jobs and a place and community enjoyed by many.”

One element of their diversified system involves planting native perennial shrubs between tree lines and in hedges, as well as on crop scale. Lavender, lavandin, rosemary and sage can survive the long dry season in the south of Spain and can be found growing wild in the hills around La Junquera.

Water management

One of their priorities is capturing water to fill up the aquifers, increase water uptake by the soil and maximise the availability of water for the crops. To achieve this, they have created 12 swales, 11 ponds and many sediment traps on the farm. This has reduced erosion, provided habitats for insects and other animals, and increased the moisture of the soil. As it is a very big farm, there is still a lot of work to do, and they always need people to help out.



Continuous study

Learning and experimentation are an important part of life at La Junquera. That's why they work with the **Regeneration Academy** and their students to test specific practices, find new solutions and help with their implementation. Another partner organization is **Ecosystem Restoration Camps**: they host volunteer experiences for restoring natural areas on the farm and beyond. "At the moment, we have 12 people living on the farm and we hope we will increase that number in the future so we can repopulate this area and bring it back to life," they say.

ROTATIONAL GRAZING & ANIMAL WELFARE

Jose Luis Garcia De Castro, Poultree

Jose Luis started off with a regenerative horse farm six years ago and soon saw the difference it made to the land. Now, he has founded Poultree – a farm on 50ha of land in Villanueva de la Vera that boasts 25 cows and 3,000 chickens in a rotational grazing system. The cows are 100% grass fed, while the chickens also need grains in their diet. In his view, regenerative agriculture changes the intensive agriculture paradigm because of its concern for animal wellbeing. "It is also good for the ecosystem, good for soil biology and yields a more profitable product, because everything I sell goes directly to the end consumer. I have fewer animals than conventional farmers, but that is my choice," he says.

"I earn as much as conventional farmers, but my animals are doing much better and I am improving my land."

Why start with regenerative farming? Jose's view:

- The demand for regenerative products is growing and the profit margins are higher
- Every year, our pastureland improves in terms of soil health and biodiversity
- The people who work here enjoy their jobs because they see that the animals are taken care of
- You will work in a place that becomes more beautiful every year!

"I have 3 full time workers on the farm. We do not receive any subsidies and we are economically profitable - so yes, it is definitely possible. "

Jose Luis' recommendations for farmers

- The most important thing is to study the complex holistic system that you are going to implement. As it is an innovative system, there are not many examples to copy, so you will need to test and learn
- You must have an open mind and make sure the business case you want to implement is realistic
- Find what works in your area: which breeds of livestock, types of pasture, etc
- Do not invest without doing your research
- Begin where you feel at home and where you understand your market
- Be prepared to learn from your mistakes

INSPIRATION:

Where to find more information about the regenerative food market



DEAFAL

DEAFAL is dedicated to generating a fairer society through the production of healthy, accessible food. They promote study, training, experimentation and application of innovative methodologies in agronomic, economic and social fields.

Since 2000, DEAFAL has focused on regenerative and organic principles, at both local and international level. They wanted to provide opportunities for farmers who did not want to become large-scale, conventional and intensive, so they started running theoretical and practical seminars called "The ABCs of Organic Agriculture". Delivered by leading educational trainer Jairo Restrepo, these early sessions triggered a series of training events with global experts that continue to this day.

Matteo Mancini, one of the trainers at DEAFAL, argues that the success of a regenerative farm all depends on how well the farmer can re-establish a local market for their product. If they can achieve this, they connect local people to the food they eat, ultimately rebuilding a social fabric around the production and consumption of food. After all, socio-economic issues are the major drivers behind the adoption of intensive practices – a system which traps its adherents into a vicious cycle of depletion, poverty and misuse of natural resources. By contrast, a local supply chain is a value chain that empowers farmers by offering quality products to customers while simultaneously bringing them closer to the producer. Every farm is different, and when Matteo is advising on a transition pathway, he has to consider every factor and influence on the land. "When I go around the field, I feel like a psychologist," he says.

AIVELAL

The AIVELAL association brings together the plateau regions of Granada, Los Veléz, Alto Almanzora, Guadix and the northeast of Murcia, all well known for their production of high-quality, rain-fed almonds. Like Matteo, one of their central aims is to mobilize the local community. Their vision is of a self-sufficient region, full of life and growth – something they believe is achievable when ecologically-friendly agriculture and livestock techniques are applied, improving the soil's fertility and absorption of water.



AlVeAl is a '4 Returns' initiative supported by the Commonland Foundation. This is a scheme promoting the return of inspiration, social capital, natural capital and financial capital in three zones - the natural, the mixed and the economic zone - over a period of 20 years.

Together with their associated groups and institutions, AlVeAl organizes events that promote training and expertise of participating farming and ecotourism professionals. They support the recovery and expansion of protected areas in river basins and encourage the restoration of biological corridors, all with the aim of in fostering the conservation of biodiversity. Members are able to apply for funding, take courses in regenerative agriculture and use the association's technical farm consultants to help with the transition.



Almendrehesa Sociedad Limitada (Ltd.)

This young, farmer-driven company was born of a landscape restoration project in the southeast part of Andalusia, in the Spanish Altiplano, an area at risk of becoming a desert.

By acting as a marketplace for high-quality products grown across the region, la Almendrehesa hopes to reward local efforts to implement socially, ecologically and economically sustainable regeneration practices. Their dream is the Almendrehesa: an agro-ecosystem that champions rain-fed almonds as the primary crop, but also nurtures olive trees, vines, cereals and aromatic herbs and includes hedges, vegetable cover, beekeeping and sustainable grazing.

In their organic-regenerative line, they sell products of the highest quality, ensuring customers of their commitment to the regeneration and biodiversity of their farmers' lands. They pay a higher price to farmers for their regenerative and organic almonds, making it easier for them to invest in further sustainable practices on their land.



They regard themselves as respectful stewards of the land, especially when it comes to the regeneration of soils on degraded landscapes. They practice classic organic-regenerative techniques to increase biodiversity and conserve water – including cover crops, hedges, composting, reduced tilling and natural pollination by bees/wild pollinators). On the one hand, this enables them to regenerate degraded soil fertility and ecosystem functions in their region. On the other, they can make a contribution to climate change mitigation by sequestering CO₂ from the atmosphere into the soil.

In less than two years, la Almendrehesa has become *the* desired outlet for the Altiplano Estepario's foremost regenerative farmers. Furthermore, the number of farmers supplying them with almonds is on the up. They have developed the branding of their key retail product, Pepita de Oro®, and are in conversation with major market players to distribute the product nationally and internationally. Their forays into the international market are already underway: in only the third year of operation, they have increased their sales volume from 10 to 90 tonnes and expect to break even.

For now, their range includes organic-regenerative, high-quality almonds - natural, roasted natural, with salt or aromatic herbs - almond oil, de-oiled almond flour, walnuts, pistachios, olive oil, aromatic herbs and wine, with plans to expand their offering in the future.





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