



**FEASR - Fondo Europeo Agricolo
per lo sviluppo rurale**
L'EUROPA INVESTE NELLE ZONE RURALI

Programma di sviluppo rurale 2014-2020
MISURA 16 - OPERAZIONE 16.1.1

The NOVIAGRI project (New application Of Vegetation Indexes in AGRiculture), yearned for and promoted by the Consorzio Barbera d'Asti e Vini del Monferrato, enabled the release of funds for the construction of a mechanical atomizer prototype to be used in the vineyard.

This machine works to limit the dispersal of plant protection product during vineyard treatment, using a sophisticated technological system that optimizes work and ensures low environmental impact.

This project, entirely funded by the Regione Piemonte, was aimed at creating a spraying machine that automatically manages distribution. A device that, through sensors regulated by a vision and telecommunications system, limits, manages, directs or interrupts the flow and supply of plant protection product on the rows and leaves, reducing dispersion in the ground or in the air to a minimum. This allows to save up to 40% of product and around 20% of water resources. On a technical level, the machine's structure presents separate tanks. This enables the division of water and plant protection products, which are usually mixed together, and allows to save any excess product and efficiently manage a segregated and low-impact waste disposal.

The prototype is also equipped with a smartphone App that provides setup information, as well as a system for optical recognition that uses multispectral images taken during flights or using drones. This feature allows growers and technicians to identify the position and number of infected plants present in the vineyard, enabling them to promptly detect symptoms of flavescence dorée, sore bait or diseases caused by viruses. The output (DDS, Decision Support System) hands back a map of the vineyard including information regarding two aspects: where the unhealthy plants are and the disease they are affected by. This allows to draw up a targeted counter-protocol and prevent the disease from spreading any further.

This is a concrete innovation which meets the need to adopt strategies with low environmental impact and opens up new areas for economy and tourism. The former can benefit from the possible variations that this

prototype may have in other crops. But also, through wine and viticulture, the project transforms the territory into a region that is increasingly attentive to eco-sustainable production and to nature, with business and agriculture coming together to protect the well-being of the territory without forgoing an important production such as wine. Which, by tradition and vocation, represents the utmost expression of “Made in Italy” in the world.