VALIDATION AND SAFETY OF AERIAL APPLICATION WITH DRONES IN THE AGROFORESTY ENVIRONMENT

Main author: Jorge Martinez Guanter (Corteva)

Co-authors: Manuel Perez Ruiz

INTRODUCTION

In the last decade, many research centres, companies and other entities have been looking for ways to develop practical and novel solutions to spray-application problems and ways to integrate new technologies into spray processes for industrial, agricultural and consumer products and other spraying and fluid-handling applications. At the same time, the need to create a safer, more rational and environmentally friendly agri-food sector has emerged. New technologies such as UAVs (Unmanned Aerial Vehicles), robotisation, artificial intelligence, etc. provide us with an opportunity that we cannot afford to miss. The main objective of the GO PhytoDron project is to promote the use of UAVs as a precise and safe tool for the application of phytosanitary products, seeking to advance in the relevant regulatory framework and establishing scenarios of use with which to promote a possible comparison with conventional terrestrial applications.

METHODOLOGY

A detailed multidisciplinary study will seek to demonstrate the need to adapt a regulatory framework that allows the drone to acquire the status of terrestrial application, which will benefit the production sector by facilitating the placing on the market of a useful and safe technology that can be used by farmers and foresters. The rigorous parameterisation of drone applications on reference crops (2D and 3D structured) at national level, such as rice, vineyards and olive groves, using standardised methodologies and developing studies that demonstrate compliance with efficacy standards and safety and operational requirements, will allow progress to be made in optimal, safe and sustainable agricultural production. These crops, together with pine in forestry, should be interpreted as application scenarios that can represent applications in other crops.

RESULTS

The results of the project will have an impact on both the production sector and the regulatory area and will be very useful for the risk assessment of plant protection products for their authorisation and marketing. The presence of producer organisations in constant

contact with farmers, such as DCOOP, the Wine Technology Platform or Baskegur, guarantees rapid transfer in two crops of reference onto the national scene, to which the forestry area is added, and the inclusion of NEIKER (member of the board of directors of the European Forest Institute) guarantees the projection of the results obtained at European level.

DISCUSSION

The promotion of a resilient production process for safe food, the reduction of the associated carbon footprint and the use of advanced technologies all allow us to understand the use of phytosanitary drones as a tool capable of improving the competitiveness of farms and of being quickly adapted by a sector demanding technical and technological improvements. The rapid adoption of new technologies using advanced and safe tools is considered necessary in order to provide innovative solutions that help to improve resilience and effectiveness throughout the agricultural sector.