

**POSITION OF EUROPEAN FARMERS AND
COOPERATIVES ON THE USE OF REMOTELY
PILOTED AIRCRAFT SYSTEMS (RPAS) IN
AGRICULTURE**

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This position sets out Copa and Cogeca's views on the use of remotely piloted aircraft systems, commonly known as drones, in agriculture.

INTRODUCTION

The agricultural sector has always adopted, developed and applied new farm business models and agronomic practices, including new techniques and production methods that have increased outputs and made farming practices more adaptable to new and changing circumstances.

We encourage the uptake of precision agriculture, which can provide new whole-farm management approaches, such as Remotely Piloted Aircraft Systems (RPAS). Copa and Cogeca believe that the use of RPAS in agriculture shows great potential. In combination with other "smart" techniques, RPAS can contribute to enhanced resource efficiency, productivity and profitability as well as greater sustainability, and provide reassurance for farmers. As the farming community is ageing rapidly, drones can help ease hard work, reduce working time, increase efficiency and they have tremendous potential to involve young entrepreneurs in agriculture.

THE USE OF RPAS IN AGRICULTURE IN THE EU

A RPAS is an aircraft without a human pilot on board. Its flight is controlled either autonomously by on-board computers or by the remote control of a pilot on the ground or in another vehicle. The use of RPAS in agriculture includes many different types of aircraft to deliver different services. The maximum take-off weight ranges from a few grams to (potentially) more than ten tonnes; the flight endurance ranges from a few minutes to months and the lift technology used encompasses rotors, fixed wings, and lighter than air materials. Consequently, Copa and Cogeca wish to underline the fact that the current and potential uses of RPAS in agriculture are very diverse and include:

- ✓ Monitoring of production growth and or health status;
- ✓ Risk Management; early detection and mitigation (e.g. fire fighting);
- ✓ Aerial precision spraying (water, plant protection products, fertiliser, etc.) and pest management;
- ✓ Yield forecast;
- ✓ Condition monitoring (e.g. soil erosion & moisture);
- ✓ Environmental impact assessment, flood risk surveys, precise weather forecasts;
- ✓ Remote aerial monitoring & herd monitoring, distribution of goods to remote areas;
- ✓ Farm machinery and automated devices monitoring/tracking and assets management, repair of infrastructure;
- ✓ Field mapping, topographic and volumetric surveys ;
- ✓ Assistance in search & rescue, and conservation (e.g. wildlife);

Copa and Cogeca therefore welcome the proposal concerning the revision of the European Aviation Safety Agency (EASA)'s basic regulation, so that all RPAS would fall under EU competence. We call on the Commission to ensure that there are clear and unambiguous EU-wide standards and rules for the civil use of RPASs and that forthcoming legislation takes into account the specific conditions under which RPAS operate in agriculture.

It is of the utmost importance to support innovation in technology and governance by providing regulatory coherence, clarity and room for entrepreneurship. Copa and Cogeca therefore call on EU decision-makers to come together to formulate a coherent EU strategy to promote a technological transformation of EU agriculture, in which RPAS plays an important role.

REGULATORY FRAMEWORK

The legal framework in the EU is fragmented and a number of key safeguards are not addressed in a coherent way, creating some uncertainties in terms of liability, privacy protection and safety. We believe that it is crucial to strengthen the single market in order to help the farm business world to operate and seize economic opportunities in the largest economy in the world. Copa and Cogeca therefore support Commission efforts to set up a coherent regulation and encourage the development of harmonised EU rules and the development of EU Recommendations/Guidelines when the matter falls within the remit of the Member States.

The regulation on the use of RPAS in agriculture should be part of long-term thinking on sustainable growth for the industry and based on sound scientific evidence related to their safety and utility. To a large extent, this is in line with Copa and Cogeca's view that it should be as easy as possible for all farmers to benefit from the use of RPAS whilst maintaining public safety. It is important that the regulation not be too strict and that it acknowledge that the safety and privacy issues related to the use of RPAS in agriculture are not the same as when RPAS is used for other purposes. Smaller farming businesses also need to be able to benefit from this technology, through contractors, service providers and cooperatives (e.g. CUMAs, machinery rings), for example.

- Provided that the requirements regarding **safety and privacy** are respected, Copa and Cogeca calls for non-bureaucratic management, which keeps the prescriptive rules to a minimum, in the following areas:
 - a) The authorisation to fly (aviation law requirement) – RPAS should not be treated in the same way as large helicopters under the Plant Protection Act. If the full potential of this technology is to be unleashed, reporting on every flight must be not mandatory, as this would be extremely limiting. We believe that is important to avoid a case-by-case risk assessment procedure.
 - b) The application approval for plant protection products – RPAS are very precise in the spraying process when compared to ordinary aviation. Therefore, the distance requirements related to the application of plant protection products from aircrafts and at-risk objects (buildings) should be adapted to the capabilities of the unmanned systems (very precise).
- The **potential safety and/or data privacy concerns** of RPAS are considerably lower in rural areas than in cities and the potential benefits are greater. RPAS in rural areas will mostly be used in open fields in sparsely populated areas, often on the farmer/RPAS-user's privately held land (in this case there is no need for a set of complex rules at all). We believe that simple measures could be taken in order to minimise these concerns and allow the use of more powerful cameras and sensors. We call for the introduction of minimal and simple mitigation measures (the use of parachutes or the creation of buffer zones around houses, emergency warnings, etc.) that are proportional to the complexity of the operation. On the other hand, the use of RPAS near or above crops or herds of animals by non-authorised persons raises safety and privacy concerns (e.g. unfair price control) and this should be discouraged through regulation. Only the owner or his (authorised) assistants may use this possibility.
- Even though the technology for **autonomous flying of RPAS** is available today, in order to operate an RPAS a pilot currently has to be able to see the aircraft at all times, which is considered a serious limitation and is extremely costly. In order to unleash the full potential of RPAS technology, it is important to allow the operation of RPAS beyond-visual-line-of-sight (BVLOS) in rural areas, provided that requirements regarding safety and privacy are complied with.

Copa and Cogeca recognises that in order to be allowed to fly autonomously, the RPAS has to be equipped with safety, and alert systems (e.g. ID system in combination with geo fencing tools), which can prevent the RPAS from colliding with electrical masts, combine harvesters or crashing in the event of mechanical failure etc., as well as being equipped with a kind of transponder so that the vehicle can be identified by the authorities and other aircrafts, ensuring full traceability.

- Copa and Cogeca call for **performance-based rules**. In order to deliver their full potential, RPAS should be able to fly like 'normal' air traffic and be integrated among 'normally piloted' aircrafts in non-segregated airspace, i.e., airspace open to all civil air transport. Legislation should not prevent effective use by completely limiting RPAS use beyond certain distances, but simple and safe measures, such as buffer zones between the normal aircraft and RPAS, could ensure that operations are safe. We wish to reiterate that currently certain kinds of infrastructure (e.g. windmills) are already present in rural areas and do not affect normal civil aviation operations.
- Therefore, and taking in account that RPAS would operate in rural areas (few houses, few cables) and predominantly focus on targeted applications and reduction of drift (precision farming), Copa and Cogeca believe that there is leeway to apply less prescriptive and less complex rules as long as they do not interfere with (light) aircrafts.
- It is also worth considering the fact that fixed-wing aircrafts are able to carry greater payloads for longer distances on less power, making it possible to carry some of the bigger (more expensive) sensors as well as twin sensor configurations. Copa and Cogeca call for no weight limitations to be set, as a potential market is the precision spraying of water, plant protection products and fertilizers. This is particularly important in cases when RPAS are only used on the owner's land (i.e. never flying over third party land). In this case, all measures concerning weight restrictions and data privacy should be made less stringent.
- Copa and Cogeca call on the Commission to provide a future-proof regulatory environment that reflects the changing nature of technological advancements and creates a level playing field while avoiding excessive burden but protecting the right to operate RPAS. At the same time, the control & ownership of data and the privacy of farmers must be guaranteed by updating data protection legislation in step with digital developments. This can be done by developing legislation (e.g. protecting farmers' rights on ownership and sharing of data) and/or by providing guidance on fair and transparent contracts and liability insurances in the event of injury or damage to property, equipment and third parties.

CONNECTIVITY AND INTEROPERABILITY

- Interconnectivity will help enhance productivity and increase efficiency; however, it is not clear how well connected the different systems used by farmers really are ("interoperability"). Copa and Cogeca wish to stress how important it is for agriculture to tackle problems of interoperability and highlight the need to promote faster and more reliable rural internet access and wireless capabilities.
- We call for as much harmonisation of European standards as possible, in order to promote interconnection and interoperability. In addition, establishing a statistical overview on areas where RPAS is increasingly useful (in the EU, in which countries/for which crops, phytosanitary uses, water stress/nutrition analysis, etc.) would be extremely beneficial.
- RPAS are used for a number of operations today where the use of cameras and sensors is essential. Numerous applications are being developed to support the farming, forestry and fishing industries. The farming community believes that developing field-level data analysis is a priority (to make sense of and use the vast quantities of data it is possible to collect (e.g. Big Data)). This should be accompanied by the appropriate infrastructure and services for data to be analysed and stored.

- In addition, all RPAS need **software** in order to function and to obtain the required data. Yet it does not matter how good the technology behind the RPA is and how sharp the camera is if you do not get the data you require. What is important from the user's perspective is the ability to upgrade the RPAS, i.e., upgrading the software. By doing so, later on, the user can get more out of the same drone as the software develops.
- Certain RPAS need a **launcher to take off/land** and it is important that simple and clear guidance be provided in order to allow farmers to have launchers/runways. For example, take-off and landing in the direct vicinity of the land which is to be treated should be made possible without any bureaucratic hurdles.
- The farming community calls on the Commission and Member States to work with private IT companies to come up with robust solutions in terms of **cyber-security, encryption and network security**, when the data is stored (e.g. in cloud services) or in transit and to avoid the use or damage of RPAS by third parties.

FACILITATE USE BY THE FARMING COMMUNITY

- Copa and Cogeca wish to highlight the fact that European agriculture produces high quality and high-added value products using profitable, knowledge-based solutions in order to feed a growing and more demanding world population. In our opinion, there is enormous potential to develop new products/services and create jobs along the whole agri-food value chain through technology and innovation.
- On-farm **research and innovation** is essential to make sufficient financial research support available, and to ensure cooperation and coordination between different sources of funding from different DGs (e.g. Horizon 2020 Research Programmes and EIP-AGRI, Connect, Rural Development Programmes – operational programs) and enable concrete on-farm research which combines RPAS use with complementary technologies. **Applied research** within the agricultural sector is highly important and will better achieve its objectives if it involves all actors, including farmers, cooperatives, forest holders and aquaculture, in research and innovation. We wish to underline the importance of promoting bottom-up, cost-effective technological solutions that can be successfully adopted by small and medium-sized farms, particularly solutions which facilitate the **transfer of knowledge** by farmers.
- Furthermore, it is essential to ensure that proper **training** (e.g. on flight security standards) is provided to farmers on how to operate RPAS in a clear and understandable way and on how to extract the relevant information out of the available data. Pilot training for RPAS should be proportional to the complexity of the operation and adapted to practice, based on manufacturers' recommendations, since one major obstacle for the adoption of this technology by farmers has been the requirement to obtain complex pilot licences to operate even small RPAS. The need to obtain a pilot's licence from the aviation authorities or similar should be avoided.
- Copa and Cogeca wish to stress the importance of making this technology accessible to the whole farming community and call on the Commission and Member States to remove barriers which prevent the adoption of precision farming techniques, in particular those linked to complex and fragmented **investment** systems and the **costs** of their implementation. Furthermore, we encourage the Commission to establish EU guidelines to ensure a common level playing field across the EU. For example, Member States could reflect on the opportunities under the new rural development rules set forth in Regulation (EU) No 1305/2013 in order to include provision for grants to purchase RPAS or provide the possibility to make these purchases tax deductible.