LIFE Laser Fence - Laser systems for the prevention of food chain poisoning and minimization of chemical exposure to the environment

LIFE15 ENV/UK/000386

Project description Environmental issues Beneficiaries Administrative data

Contact details:

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Project description:

Background

In a world with increasing demand for food and energy, effective and long-lasting animal control is crucial. Animals are drawn to agricultural areas for food, but this leads to consequences for both animals and farmers. Chemical poisons are oft
can transmit disease. However, studies have shown that anticoagulant rodenticides contribute to the deaths of a variety of mammal and bird species. The poison accumulates in the food chain, so for animals that prey on or scavenge rodents this
year as a result of damage to crops caused by animals. A virtual fence is a promising solution for containing animals in an area or keeping them out of a defined range.

Objectives

The LIFE Laser Fence project aims to develop an innovative technology, Agrilaser, to keep animals away from agricultural fields. It will be demonstrated in Scotland and Spain. The technology involves using a laser fence as an alternative to chem
biodiversity due to poisoning, in compliance with the EU Biodiversity Strategy. It also forms part of a broader strategy for creating a non-toxic environment, in support of EU Regulation REACH (No 1907/2006) and EU Regulation No 528/2012. T

- Reduced exposure to toxic chemicals through the application of innovative laser systems, preventing poison entering food chains;
- The use and improvement of laser systems to reduce impacts on non-target species of birds and animals in ecologically sensitive areas, where nature conservation increasingly conflicts with agriculture; and
- Cost-efficient agricultural management practices for preventing animals intruding into fields, thanks to the incorporation of non-harmful technologies such as laser fences and drones. These are becoming an accurate and cheap (e.g. low ope

areas that are protected or difficult to reach over long distances. The demonstration to farmers and land owners of the positive economics of this sustainable practice will promote its scale-up and replication in other areas.

Expected results:

- Demonstrate that the technology allows for the use rodenticide to be eliminated in the two participating areas compared to the situation before the project: Scotland (0.006 kg/month) and Spain: (0.005kg/month);
- Savings of around 1 620 kg of rodenticide over three years (9 000 ha), with an anticipated 4 860 kg saved from entering the trophic chain three years after the project;
- Demonstrate that the Agrilaser technology allows for a significantly lower exposure of birds to herbicides and pesticides by 80% in the project areas;
- Enhanced ecosystem services, notably an increase in biodiversity, by preventing poison entering the trophic chain;
- CO2 emissions reduction as a consequence of rodenticide reductions;
- Decrease in crop losses caused by animal intrusion in the protected agricultural fields by 50%; and
- Increased awareness and dissemination of alternative methods for reducing the use of chemicals to control animals damaging agricultural production, and the impact of chemical in the environment (e.g. health, biodiversity).

Results

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Environmental issues addressed:

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator	Liverpool John Moores University
Type of organisation	University
Description	Liverpool John Moores University is one of the largest universities in the UK, offering degree courses across a of Science have been developing sensor systems for monitoring agricultural activities, particularly through Vi
Partners	Eoloaroz S.L., Spain Volterra Ecosystems S.L., Spain CUCANOCHE S.L., Spain Cuarterola SL, Spain Game & Wil Control Solutions BV, The Netherlands

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Administrative data:

Project reference	LIFE15 ENV/UK/000386
Duration	01-SEP-2016 to 31-DEC -2019
Total budget	3,135,928.00 €
EU contribution	1,777,985.00 €
Project location	Galicia(España),Asturias(España),Cantabria(España),País Vasco(España),Navarra(España),Rioja(España),Aragón(España),Madrid(España),Castilla-León(España),Castilla-La Mancha(España),Extremadura(España),Cataluña(España),Comu Melilla(España),Canarias(España),Groningen(Nederland),Friesland(Nederland),Drenthe(Nederland),Overijssel(Nederland),Gelderland(Nederland),Flevoland(Nederland),Noord-Brabant(Nederland),Limburg(Nederland),Utrecht(Nederla Kingdom),Yorkshire and Humberside(United Kingdom),East Midlands(United Kingdom),East Anglia(United Kingdom),South East (UK)(United Kingdom),South West (UK)(United Kingdom),West Midlands(United Kingdom),North West Ireland(United Kingdom),Gibraltar(United Kingdom)

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ten used to control rodent populations in areas where they destroy crops, eat livestock feed and
repeated exposure may be fatal. Meanwhile, farmers continue to lose billions of euros each

ıicals or harmful barriers. It addresses animal welfare concerns and will help stop the loss of
'he project's main objectives are to demonstrate:

rating costs) means of monitoring farmlands (and decreasing yield losses), especially in

ı wide range of discipline areas. The Faculty of Technology and Engineering and the Faculty
ırtual Fencing technology.

ldlife Scottish Demonstration Farm, United Kingdom IRIS UAV services S.L., Spain Bird

ınidad Valenciana(España),Baleares(España),Andalucía(España),Murcia(España),Ceuta y
nd),Noord-Holland(Nederland),Zuid-Holland(Nederland),Zeeland(Nederland),North(United
(UK)(United Kingdom),Wales(United Kingdom),Scotland(United Kingdom),Northern