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Mitglieder News

HOW LUXEMBOURG REDUCES PESTICIDES IN AGRICULTURE

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Involved in a project dedicated to reducing the risk of groundwater contamination in Luxembourg's water resources thanks to an adapted crop rotation for rapeseed, LIST and its partners present encouraging results for its second experimental year.

Since 2015, in the framework of the project "Efficient Crop Rotation Systems for Oilseed Rape" (EFFO) – co-funded by the Ministry of Sustainable Development and Infrastructure,
the Ministry of Agriculture, Viticulture and Consumer Protection and the Ministry of Higher Education and Research – LIST and its partners, the Fördergemeinschaft Integrierte Landbewirtschaftung, the Chambre d'Agriculture and the Lycée Technique Agricole aspire to reduce the risk of potential groundwater contamination by pesticides in winter oilseed rape. An important crop in Luxembourg, winter oilseed rape is grown on 4000 ha on average per year and is characterized by the intense usage of both fertilizers and pesticides, especially herbicides. This bitter observation raises the question of a greener agriculture. Partners are then working on identifying suitable cropping techniques and
exploring potential substitutes based on multi-site agricultural field trials.

PROMISING RESULTS AFTER TWO YEARS OF EXPERIMENTS

Last year, partners already revealed the potential of new cropping techniques, especially those of "Colza Associé" which consists of a mixed crop of rapeseed, lentils and clover. Allowing the reduction of both the number of herbicide applications and the risk of groundwater contamination, they can be successfully integrated into agriculture even if it will change the operational procedures for the farmers. As for the previous year, the results of this second experimental year turn out to be very encouraging:

- The cultivation of biologically grown oilseed rape surprised with very good yields. This is an indicator that growing conditions were suitable for oilseed rape in 2017 even under a high pressure of insect pests. While

these findings still need to be confirmed in the coming years, this culture already stands out as a real opportunity for biologically producing farmers.
- A new technical approach based on drones has been developed in cooperation with the German start-up GEOCOPTIX in order to identify weed plants, plants that grow completely spontaneously in the field. This remote sensing approach is the first step to establish precision agriculture techniques in Luxembourg and develop new techniques for environmental protection.

FIELD TRIALS AND STRENGTHENING OF COOPERATION FOR PRECISION FARMING

Like in the first year, field trials will continue over the next years and will focus on herbicide residues in the soil of the different experimental varieties. As a possible alternative for oilseed rape, oil-producing hemp will be grown and tested as a next step. Additionally, data-sets on the composition of weed plants in interaction with cropping techniques will be recorded.

In order to guarantee the development of smart tools in precision farming closely related to agricultural practices in Luxembourg, research project partners and GEOCOPTIX will enhance their cooperation in the coming years.

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