

Innovation in sustainable agriculture: European Union needs CRISPR and cultured meat

The Congress of the Alliance of Liberals and Democrats for Europe (ALDE) Party convening virtually on 11-12 June 2021:

Considering that:

- human people do not eat “natural” plants but eat domesticated plants. Plants have been domesticated by humans to be more productive and adapted to agricultural practices some 10.000 years ago: this event brought to human civilisation. The ecological impact was dramatic resulting in deforestation, reproduction of very few plants (thus loss of biodiversity) and changes in landscapes to irrigate fields. Before the advent of agriculture humans people were some 5 million on the planet, with agriculture persons are now close to 8 billion. Domesticated plants cannot survive in the wild. Domesticated plants need our protection, they are extremely weak compared to wild plants but they are much more productive and give us delicious fruits. Domesticated plants need a human constant care in terms of water, nutrients, protection against parasites and weeds. If crop plants are not taken care by humans, they do not produce food;
- an often mistakenly considered sustainable option for agriculture is organic farming. Organic methods, differently from advanced conventional technologies, rely on a limited and often outdated number of tools. For example, most of organic fungicides are based on copper, a heavy metal that intoxicates fields; most of organic fertilizers are based on animal powder deriving from slaughter residues (thus from intensive animal husbandry). Currently, organic farming is still significantly less productive compared to technological farming.
- a recent document published in *Nature* by experts of FAO and the European Commission Joint Research Center, explain that a third of greenhouse gas emissions derives from the food system Deforestation and further greenhouse gas emissions come from the developing countries producing food for Europe. By reducing its internal food production the European Union is not being more sustainable, but it is becoming more dependent on foreign countries and it is delocalising the negative environmental impacts, often in developing countries and at the expenses of native forests.

Is aware that:

- to reduce external inputs, protect plants and animals, lead to sufficient yields, make Europe more self-sufficient and make better profits for European farmers, a sustainable way is to genetically improve our

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plants and animals to be more resistant and require less inputs. Genetic improvement through conventional methods is a process lasting decades or even centuries, that has led to the current wide crop and livestock biodiversity. But climate changes are now putting under pressure plant and animal breeding that needs new rapid solutions;

- genome editing technologies and the CRISPR strategy are among the best solutions to promote a timely genetic improvement of plants, produce new biodiversity, reduce pesticide use, decrease fertilisers field release leading to more sustainable agriculture and production of abundant and nutritious food. Indeed, the Nobel Prize 2020 for CRISPR to two women is the sign of a new era to face the treats of the third millennium;
- the Intergovernmental Panel for Climatic Changes (IPCC), to face up to global warming, suggests the use of CRISPR to improve/adapt crops to a changing climate. The Farm to Fork strategy by the European Commission has recognised that “innovative techniques, including biotechnology (...), may play a role in increasing sustainability, provided they are safe for consumers and the environment while bringing benefits for society as a whole”.

Calls for:

- the European Union to allow the application for both scientific and commercial cultivation purposes of plants genetically edited by technologies as CRISPR, removing the constraints deriving from regulating genome editing by Directive 2001/18;
- the ALDE Party to politically mobilise to achieve this legislation change.

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