

Lithos crop protect: Food safety needs natural plant protection

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Here, we learn that Lithos Crop Protect works on greener agriculture thanks to EU innovation funding

The Austrian company Lithos Crop Protect has prevailed as one of the few selected companies and has been awarded an EU Accelerator grant. This European Innovation Council funding program supports small and medium-sized enterprises with innovative solutions that contribute to a better and more sustainable future.

Lithos Crop Protect is working at full speed on just such a solution. There is only a limited amount of land available for agriculture. However, a growing population still needs a secure and high-quality food supply. While this balancing act requires effective pest control, conventional chemical products used to protect crops often come under heavy flak, and their use is increasingly restricted or outlawed. That's why Lithos Crop Protect is working on natural solutions to this problem – such as its patented pheromone application, the first sprayable product of its kind worldwide.

The Lithos Crop Protect technology is the first solution that is financially viable for large-scale applications and for agriculture, in particular. As it can be spread using simple field sprayers and possibly even drones in future, it is a simple and cost-effective method.

Pests can be disturbed in their mating behaviour by using sex pheromones sprayed onto a mineral carrier. With the active ingredient pherolit®-d, which is currently undergoing registration, Lithos Crop Protect has reproduced the sexual pheromone of the female corn rootworm. In this way, the reproduction of the western corn rootworm can be reduced naturally, and the pest can be controlled sustainably.

Further applications of the innovative lithos micro dispenser® technology are now being researched with the help of EU support. This method prevents yield losses and rethinks crop protection naturally – the specific mode of action is sustainable and ensures biodiversity in the fields of the future.

First sprayable pheromone application against *Diabrotica v.v.* in maize

More than 40% of European maize acreage is infested with the “Western Corn Rootworm”, which causes significant damage to maize farmers. Lithos Crop Protect, therefore, developed the first sprayable pheromone application against *Diabrotica v.v.* in maize – the pheromone pherolit®-d.

The patented lithos micro dispenser® technology enables a sprayable pheromone application for the first time and, thus, a large-scale use in arable farming. Once approved, this milestone for agriculture enables large-scale applications to disrupt the reproduction of the Corn Rootworm naturally, thus counteracting its further spread.

Mating disruption: How it works

Love is in the air – and still, no female to be found. The search for a partner in the world of insects is based on communication by pheromones, which are scents secreted by females ready to mate that show male beetles the quickest way to their destination. Mating disruption effectively disables this biological navigation system. The method is based on an active substance copied from nature that imitates the pheromone specific to the target species.

If the active substance is applied to the affected crop, the scent of females ready to mate is suddenly in the air everywhere. The maize field now appears to be covered with an extremely high number of “points of interest” for conspecifics looking for a mate, none of which lead to the desired destination. The result of the confusion caused is that the number of matings is massively reduced, and the pest population is reduced accordingly.

The confusion method is already being used successfully in orchards and vineyards. However, manually deployed dispensers are used for this purpose, which would not be economically viable in arable farming. The lithos micro dispenser® technology now also enables its use for crops on large-scale farms, opening up new perspectives for the future of sustainable agriculture.

The advantages of mating disruption

Highly effective & species-specific: Crop protection products that cause mating disruption are proving to be as effective or even more effective than conventional insecticides. They are species-specific and target only the insect that is doing damage. Other creatures and beneficial insects, such as bees, remain unaffected, so biodiversity is conserved.

Furthermore, there is no resistance formation. Insects do not build up a resistance to pheromones used for mating disruption. For farmers, this means that pheromone solutions are available for effective and safe control over the long term.

Innovation speed-up needs further improvements on the regulatory side

In the Green Deal, the EU has targeted reducing existing pesticides by half by 2030. At the same time, natural alternatives are not being approved quickly enough. There can be no functioning agriculture without plant protection. Farmers are, therefore, having one door closed and another not opened quickly enough. Therefore, the security of our food supply is at stake. It is urgently necessary for the EU to speed up approval processes for natural plant protection products.

About Lithos Crop Protect

Lithos Crop Protect are involved in developing, approving and marketing biological crop protection agents and biostimulants. Responsible crop protection makes a vital contribution to ensuring that agriculture is sustainable and consequently to maintaining the basis for our existence. Lithos Crop Protect has, therefore, set itself the goal of developing innovative, high-quality solutions and bringing them to the market.

The company focuses on the research and development of solutions that support nature and provide natural building blocks for integrated crop protection. Lithos Crop Protect GmbH is working hard to obtain EU approval for pherolit®-d, the first sprayable pheromone for agriculture to protect corn against the western corn rootworm (*diabrotica virgifera*).

For more information, visit
www.lithosprotect.at

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