Revolutionizing Arable Farming: Lithos' Innovative Approach to Sustainable Pest Control

Name of the Organisations Involved

- Lithos Crop Protect GmbH, Austria

Challenges Identified

In modern agriculture, the application of volatile substances, such as pheromones, presents a set of interconnected challenges that demand careful consideration. Firstly, ensuring the effective coverage of these substances requires meticulous control, as factors like wind drift and atmospheric conditions can lead to dispersion beyond the intended target area, thereby diminishing their efficacy.

Secondly, the environmental impact of spraying volatile substances cannot be overlooked. The potential harm to non-target organisms, including beneficial insects and other wildlife, raises concerns. Moreover, there is a risk of environmental contamination if these substances drift into water bodies or sensitive ecosystems.

Thirdly, the stability and persistence of volatile substances pose significant challenges. These substances may degrade rapidly, diminishing their effectiveness over time. Stability issues can arise due to temperature variations, humidity, or exposure to sunlight, impacting the longevity of these substances and their ability to serve as reliable tools in agricultural practices.

In addressing these challenges, a holistic approach is necessary, encompassing advancements in application technology, stringent regulatory frameworks, and ongoing research into the environmental impact and persistence of volatile substances. Achieving a balance between precision application, environmental stewardship, and substance stability is crucial for maximizing the benefits of using volatile substances in agriculture while minimizing potential drawbacks.

Goals and Solution

To address this challenge, Lithos aims is to revolutionize pest control in arable farming by leveraging their patented *lithos micro dispenser® technology*, which utilizes volcanic mineral *lithos natural zeolite* as a substrate. This technology enables the cost-effective and scalable spray application of pheromones, specifically from the *pherolit* series, to create a sustained cloud of scent. The aim is to implement efficient and economical mating disruption in large arable fields, providing a natural solution to pest control challenges in agriculture.

Short description of the technology and the beneficiaries

Lithos' patented *lithos micro dispenser® technology* enables volatile substances such as pheromones to be sprayed. This technology makes mating disruption possible in arable farming while also making the process scalable and affordable. Biological pest control using pheromones has already become indispensable in

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many orchards and vineyards. In arable farming, the practical implementation of mating disruption has so far failed due to the high cost of deploying and collecting the various dispensers. However, following several years of research, the team of Lithos has found a method of implementing effective mating disruption efficiently and economically on large arable fields in the future – and in a natural way.

Thanks to spray application, the future-driven idea of pheromone-based pest control is now viable in arable farming. The core technology is provided by the volcanic mineral *lithos natural zeolite,* which is special suited as a substrate to bind specific liquid substances and release them continuously over a longer period of time. As a result, any pheromone in the pherolit series can now be sprayed onto fields of crops easily and quickly to form a long-lasting cloud of scent that effectively confuses the specific insect and prevent them from spreading.

Source: www.lithosprotect.at

Actions Taken

Lithos' patented *lithos micro dispenser® technology* offers a groundbreaking solution for pest control in arable farming, particularly through the efficient and economical implementation of mating disruption. Benefiting farmers, the arable farming industry, and orchard/vineyard owners, the technology leverages volcanic mineral lithos natural zeolite to spray pheromones onto crops. This method provides a cost-effective, scalable, and environmentally friendly approach, promoting sustainable agriculture. Consumers benefit indirectly through potentially safer food products, and the breakthrough contributes to advancements in agricultural technology, inspiring the research and development community. Overall, the technology represents a transformative step toward more efficient and eco-conscious pest control in large arable fields.

Benefits and Impact

- **Farmers and Agricultural Practitioners:**
  - Lithos' technology offers farmers and agricultural practitioners an effective and economically viable method for pest control in arable farming.
  - The scalability and affordability of the lithos micro dispenser technology make it accessible to a broader range of farmers, enabling the implementation of mating disruption in large arable fields.

- **Arable Farming Industry:**
  - The arable farming industry as a whole benefits from the technology by addressing the challenges of implementing mating disruption in a practical and cost-effective manner.

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- The technology contributes to more sustainable and natural pest control methods, aligning with the growing demand for environmentally friendly agricultural practices.

- **Orchard and Vineyard Owners:**
  - While biological pest control using pheromones is already common in orchards and vineyards, Lithos' technology may offer improvements in efficiency and cost-effectiveness.
  - Orchard and vineyard owners may find the lithos micro dispenser® technology beneficial for enhancing their pest control strategies.

Contact Information

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Application Area

☒ Soil ☒ Plant ☒ Terrain

Digital Technology in the Value Chain

☒ Agromonic Services ☒ Agricultural Input and Services

Digital Technologies

☒ Drones ☒ Others

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