

PRESS RELEASE

novIGRain Advances Sustainable Grain Storage with New Technology, Research Insights, and Upcoming Industry Events

March 2026

The novIGRain project consortium, coordinated by Frederic Verwilghen (Maxiline), continues to make significant strides towards more sustainable and effective grain storage across Europe. With new decision-support tools, impactful research outcomes, and innovative pest control technologies, the project is delivering practical solutions for the grain storage sector.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101000663.

Quotes

- *"With novIGRain, we are bringing together science, industry and practical application to deliver real impact for the grain storage sector. Our innovations aim not only to improve pest control, but also to contribute to more sustainable and resilient supply chains across Europe,"* said Frederic Verwilghen, Project Coordinator at Maxiline.
- Industry partners are also actively involved in validating and implementing the project's solutions. Partners such as Bábolna Bio, SOJAM and UBM play a key role in ensuring that innovations meet real-world operational needs and can be effectively deployed in the field.

novIGRain Showcases Innovative Grain Protection Solutions During International Demonstration Events



The European novIGRain project successfully organised two regional conferences and demonstration events on 31 March and 16 April, bringing together researchers, industry representatives, advisors and other stakeholders to showcase the latest developments in sustainable grain protection and storage.

The first event, hosted by project partner ILVO in Belgium, featured presentations on key project achievements, including advances in resistance research, the development of innovative treatment products and application equipment, and the assessment of the project's environmental and economic impacts. Participants also attended a live demonstration of the novIGRain spraying technology

and visited ILVO's research facilities, where cutting-edge work is being conducted on spraying equipment certification, robotics, and drone-based automation technologies.

The second event took place in Hungary and was hosted by project partner Bábolna Bio. Following a series of presentations on project progress and results, participants visited the company's facilities in Bábolna, where novIGRain test silos have been installed. The demonstration programme included a live showcase of the spraying equipment operating on a test conveyor system, allowing attendees to observe the technology under conditions approaching reality.

Although a third regional conference planned in Cergy, near Paris (France), could not take place due to an insufficient number of registrations, the project was pleased to welcome several international participants, including stakeholders from France, to the Belgian event. Their presence contributed to valuable cross-border exchanges and reinforced the European dimension of the novIGRain initiative.

The events provided an important platform for knowledge sharing and stakeholder engagement, enabling participants to experience novIGRain innovations first-hand and discuss their potential contribution to safer, more sustainable grain storage and protection practices across Europe.



By fostering collaboration between research organisations, industry partners, and end users, novIGrain continues to support the development and uptake of innovative solutions that reduce reliance on conventional grain protection methods while improving the sustainability and resilience of the agri-food sector.



Presentation by Vaclav Stejskal at ILVO, Belgium



Presentation by project coordinator Frederic Verwilghen at ILVO, Belgium



Presentation by project coordinator Frederic Verwilghen at ILVO, Belgium



Presentation by Anna Tass at ILVO, Belgium



Demonstration at the novIGrain test silo's Babolna Bio, Hungary



Presentations at Babolna Bio, Hungary

New Decision-Support Tool to Strengthen Pest Management

A decision-support tool is currently under development within novIGRain to help grain professionals optimise their integrated pest management (IPM) strategies.

The tool will allow users to input parameters such as region, storage conditions, and products used. Based on this data, it will provide tailored recommendations that consider pest pressure, resistance risks, and management techniques.

Developed using extensive research from the Czech Agrifood Research Centre (CARC), the tool translates complex scientific data on pest resistance into practical, user-friendly insights. It aims to support informed decision-making rather than relying on opaque or generic approaches.

Grain storage operators can also submit samples free of charge and anonymously for pest and resistance analysis. These results will further enhance the tool's accuracy over time.

Impact Assessment Highlights Importance of Supply Chain Approach

The novIGRain project is finalising its impact assessment research, including ecological, economic, and social analyses.

The New Business Models Study highlights that practical fit outweighs novelty. Models that align with existing procurement practices and professional channels show significantly higher feasibility and scalability, while more innovative approaches often introduce coordination complexity that limits their attractiveness. The study also confirms that infrastructure and operational context are critical: decentralised or equipment-based models depend heavily on storage configurations, available technology, and user capabilities, making large-scale deployment challenging without targeted investments. More system-intensive models—requiring multi-actor coordination or new governance structures—are recognised as forward-looking but remain niche due to current ecosystem limitations. Across all models, adoption is primarily constrained by implementation challenges, with training, clear protocols, and structured support identified as essential for success, alongside the need for trusted oversight to address compliance and misuse risks.

Findings of the Social Life Cycle Analysis show that the majority of social impact in grain storage—up to 77–87%—originates from grain production and transport, rather than storage technologies themselves. However, innovations such as novIGRain's solutions can significantly reduce grain losses, thereby lowering overall impacts across the supply chain. The research also reveals regional differences linked to agricultural practices, labour conditions, and transport systems. These results underline the importance of combining technological innovation with broader sustainable supply chain management.

More information: <https://novigrain.eu/media/>

Market-Ready Spraying Technology and Ongoing Insecticide Development

The project has successfully developed and tested a dual-nozzle ULV spraying system that enables the simultaneous application of adulticide and larvicide products. By targeting the full life cycle of pest insects, the system delivers more effective and longer-lasting control. Its dual-nozzle design eliminates the need to mix formulations, ensuring accurate dosing, optimal penetration of active substances, and reduced operational risks.

The system operates with separate application lines, improving safety and reliability. It is designed as a portable, versatile device that can be easily installed on various systems, such as silos or conveyor belts, and offers user-friendly operation and maintenance.

In parallel, the development of a novel larvicide is ongoing. Due to strict European regulatory requirements such as extensive testing, the path from development to market introduction remains complex and time-intensive.

Looking Ahead

novIGRain continues to support the transition towards more sustainable, efficient, and resilient grain storage systems in Europe. Further updates will be shared via the project website and social media channels.

About novIGRain

novIGRain is a European research and innovation project focused on improving grain storage sustainability and efficiency through advanced pest management solutions, innovative technologies, and data-driven decision support. The project brings together a multidisciplinary consortium of partners from across Europe, including research institutes, industry leaders, and technology providers.

More information: <https://novigrain.eu/team/>

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