

European Experts Mobilize Against Wireworm Threat

2nd EWRN Workshop Highlights Scientific Advances and Formalizes Network via a Visio conference, hosted by inov3PT, France – October 9, 2025

The 2nd European Wireworm Research Network (EWRN) Workshop convened over 100 researchers, agronomists, and stakeholders from across Europe and Canada to address the escalating challenge of wireworm infestations in agriculture. The event featured cutting-edge research, collaborative strategies, and the formal establishment of EWRN as a European association.

Keynote Addresses: Strategic Vision for a successful wireworm IPM

Dr Lorenzo Furlan (Veneto Agricoltura, Italy)

Lorenzo Furlan presented a comprehensive overview of wireworm ecology and control, based on decades of research in Italy. He stressed the importance of understanding species-specific behaviour, crop rotation, and biofumigation. His insights into glucosinolate thresholds for effective biofumigation were particularly impactful.

Agronomist Martyn Cox (Blackthorn Arable, UK)

In his keynote, Mr Cox emphasized the urgent need for integrated pest management (IPM) strategies and varietal resistance to combat wireworm damage, particularly in potatoes. Drawing from extensive field experience, he highlighted the limitations of current control methods and called for pan-European collaboration and data sharing.

Scientific Presentations: Innovations in Wireworm Management

RNA Interference (RNAi) – Dr. Giovanni Bernacchia (University of Ferrara, Italy)

Giovanni Bernacchia presented promising results using RNAi to silence key genes in *Agriotes sordidus* and *A. litiginosus*. Nano-encapsulated dsRNA applied to larvae led to gene silencing and increased mortality, suggesting a novel, species-specific control method.

Nematode-Bacteria Complexes – Andrea Chacon-Hurtado (PhD student, University of Liège, Belgium)

Andrea Chacon-Hurtado explored attract-and-kill strategies using alginate beads infused with nematodes and symbiotic bacteria. While mortality was limited, behavioural changes and reduced egg viability indicated potential for future refinement.

Biofumigation Trials – Geoffrey Darbon (PhD Student, Agroscope, Switzerland)

Geoffrey Darbon presented field trials using sorghum and mustard. Sorghum showed reduced tuber damage, while mustard's effectiveness depended on glucosinolate concentration and biomass. The study emphasized the importance of soil incorporation depth and timing.

Fungal Biocontrol – Dr Giselher Grabenweger (Agroscope, Switzerland)

Giselher Grabenweger investigated *Metarhizium* strains and their interactions with wireworm microbiomes. Found that strain competition in soil affected efficacy, and biodiversity-rich soils may enhance natural fungal infections.

Biopesticide Evaluation – Dr Lotte Caarls (Wageningen University, Netherlands)

Lotte Caarls tested neem oil and *Beauveria bassiana* against wireworms. While wireworm growth was inhibited, no significant reduction in crop damage was observed, prompting calls for further research.

Symbiosis in species specific pathogenicity – Dr Adrian Wolfgang (Graz University of Technology, Austria)

Adrian Wolfgang examined the diversity and roles of epi- and endosymbiotic microorganisms associated with various *Agriotes* species, highlighting their potential influence on wireworm physiology, survival, and susceptibility to biocontrol agents. The study revealed species-specific symbiont communities that may affect digestion, detoxification, and resistance to pathogens. Understanding these microbial associations opens new avenues for biocontrol strategies, such as targeting symbionts to weaken wireworm defences or enhance the efficacy of entomopathogenic organisms. This research underscores the importance of integrating microbiome insights into sustainable pest management.

Chemical insights to potato varietal palatability to wireworm – Dr Fanny Ruhland (University of Liège, Belgium)

Fanny Ruhland explored how potato varietal resistance to wireworm is influenced by both behavioural and chemical factors. Her work highlighted that wireworm feeding preferences are linked to varietal differences in tuber chemistry, such as specific metabolites and volatile compounds, which can either attract or deter larvae. Behavioural assays combined with chemical profiling revealed that resistant varieties tend to exhibit lower attractiveness and reduced feeding damage, suggesting that plant chemistry may play a pivotal role in shaping pest behaviour. These insights provide a foundation for breeding strategies and integrated pest management approaches that leverage natural resistance mechanisms.

Enigma 1 sustainable wireworm IPM - Dr Larissa Collins (Fera Science Ltd, UK)

Larissa Collins presented the Enigma-1 project, a UK-based initiative focused on understanding wireworm behaviour, damage patterns, and control strategies in commercial potato production. The project emphasizes real-world agronomic conditions, using field trials and grower collaboration to assess wireworm prevalence, species distribution, and damage severity across different regions.

The French national action plan TaupiFAST2 Project - Dr Bruno Ngala (inov3PT, France)

Bruno Ngala introduced the TaupiFAST2 project as a collaborative French initiative aimed at developing innovative strategies for wireworm control in all affected cropping systems across France. The project emphasizes a multi-disciplinary and multi-actor approach, combining biological control, varietal resistance, agronomic practices, and ecological insights to reduce wireworm damage sustainably.

EWRN Becomes Official

The workshop concluded with the formal establishment of EWRN as a European association, with official address based at 43-45 Rue de Naples, 75008 Paris, France. Members approved bylaws and validated the [Organizing Committee](#), paving the way for structured collaboration, funding applications, and the formation of working groups focused on:

- *Wireworm biology and risk management*
- *Novel control options*
- *Technical and economic impact assessments*
- *Variety assessments and national action plans*

Looking Ahead: Finland 2026

The next EWRN workshop will be held on **5 July 2026** in **Oulu, Finland**, in conjunction with the **European Association for Potato Research (EAPR) [Pathology & Pest](#)** section meeting. Researchers are invited to submit abstracts and join the growing network.

About EWRN

The European Wireworm Research Network (EWRN) is a collaborative platform dedicated to advancing sustainable wireworm control across Europe. Through shared research, field trials, and policy engagement, EWRN is a blend of research and industry to support farmers and scientists in developing effective, environmentally responsible solutions. The mission statement is “*Developing a holistic approach for wireworm control in all crops and regions*”. For further information, visit [this page](#).