

DeciControl: a participative tool to gather & share data regarding biocontrol efficacy

Thomas Pressecq, Pauline Duval, Jean-Marc Armand, Jean-François Bourgeay, Jonathan Gaudin, Dominique Blancard, Philippe C. Nicot, Aurélie Rousselin, Marc Bardin, Claire Goillon, et al.

▶ To cite this version:

Thomas Pressecq, Pauline Duval, Jean-Marc Armand, Jean-François Bourgeay, Jonathan Gaudin, et al.. DeciControl: a participative tool to gather & share data regarding biocontrol efficacy. European Scientific Conference – Towards Pesticide Free Agriculture "What research to meet the pesticides reduction objectives embedded in the European Green Deal?", Jun 2022, Dijon, France. hal-03737437

HAL Id: hal-03737437 https://hal.inrae.fr/hal-03737437

Submitted on 25 Jul 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers. L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



DeciControl: a participative tool to gather & share data regarding biocontrol efficacy

Context

Biocontrol: a key to reducing the use of chemical pesticides but...

- Unpredictable efficacy of protection in the field
- Efficacy modulated by multiple biotic and abiotic factors (e.g. temperature, humidity, microbiote,...)
- Biocontrol is more complex to use than chemical pesticides

Research questions

- Could a Decision Support System help minimize the unpredictability of biocontrol efficacy and therefore improve biocontrol deployment?
- What data would be needed to build such a tool?
- Can scientific knowledge be a sufficient source of information?

Identification of obstacles to wide adoption of biocontrol for disease management

Survey of farmers & farm advisors

- More efficacy benchmarks of biocontrol products from trusted peers
- Better advice on the best biocontrol solution available in their situation
- A simple and clear guideline to use biocontrol solutions in the best way

Review of scientific & technical literature

- Abundant published research about mechanisms of action in the lab
- Limited data about efficacy in field conditions
- Scant studies focused on efficacy factors of biocontrol

Principle of the DeciControl app and content-improvement loop

Insert processed information into the database to improve the content of the app



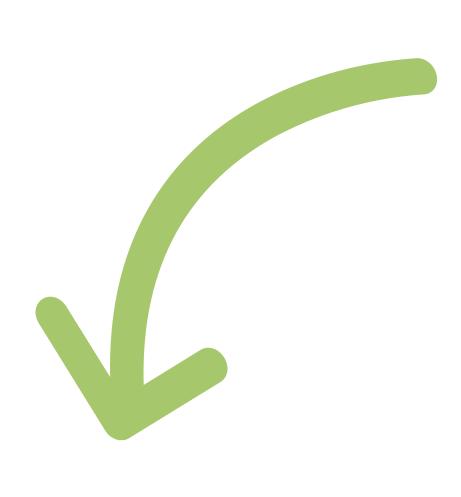


Application managemant team



Collect and analyze information (meta-analysis & framework synthesis)







DeciControl

Content shared with users

A "product page" for each biocontrol product

- General information on biocontrol products (active substances, known modes of action, officially approved uses)
- Factors influencing the protective efficacy
- Synthesis of feedback from biocontrol users under commercial conditions



- Publicly available and unpublished data on biocontrol efficacy
- Regulatory information about registered biocontrol products



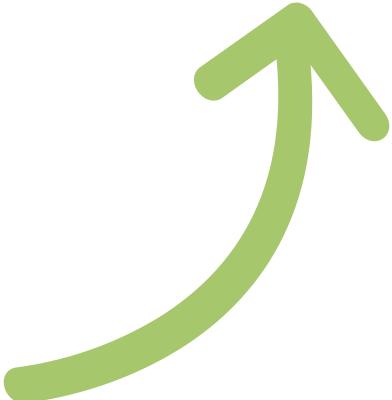
- Possibility to provide feedback on biocontrol efficacy in the field + context data (cropping practices & conditions of biocontrol application)
- Input of data through easy-to-use forms integrated in the app



Consult to realize an optimized choice of biocontrol solution based on user's context



Users (advisors, farmers)



Provide feedback on field experience (Text and photos)

Thomas Pressecq^{1,2 & 4,} Pauline Duval⁴, Jean-Marc Armand³ Jean-François Bourgeay¹ Jonathan Gaudin¹, Dominique Blancard³, Philippe Nicot¹, Aurélie Rousselin⁴, Marc Bardin¹, Claire Goillon⁴ et Marc Tchamitchian²

- 1: Pathologie Végétale INRAE
- 2: Ecodéveloppement INRAE
- 3: Santé et Agroécologie du Vignoble INRAE 4: Association Provençale de Recherche et d'Expérimentation Légumière



