



European Research Alliance
towards a Chemical
Pesticide-Free Agriculture

CULTIVER
PROTÉGER
autrement

WEBINAR

Crop Protection and Scenarios for the Future of Agriculture



➤ Session 1, August 31th, 10:00-12:00 – The Context of the Webinar

Chair Florence Jacquet, Inrae

- Introduction and the French national priority research program “Cultiver et Protéger Autrement” , **Florence Jacquet**, Inrae, scientific director of the program , – 15 mn
- The foresight study “Pathways to chemical pesticide-free agriculture in Europe in 2050”. **Olivier Mora**, Inrae-DEPE, coordinator – 15 mn
- The webinar series “Crop protection and studies on the future of agriculture”. **Chantal Le Mouël**, Senior researcher, Inrae -DEPE- 10 mn

Discussion with the floor – 20 mn, moderator **Guy Richard**, Head of Inrae’s Directorate for Expertise, Foresight and Advanced Studies (DEPE)

- Crop protection and the EU food system: Where are they going? **Allan Buckwell**, Institute for European Environmental Policy, co-author of the Rise Foundation report 2020 – 30 mn

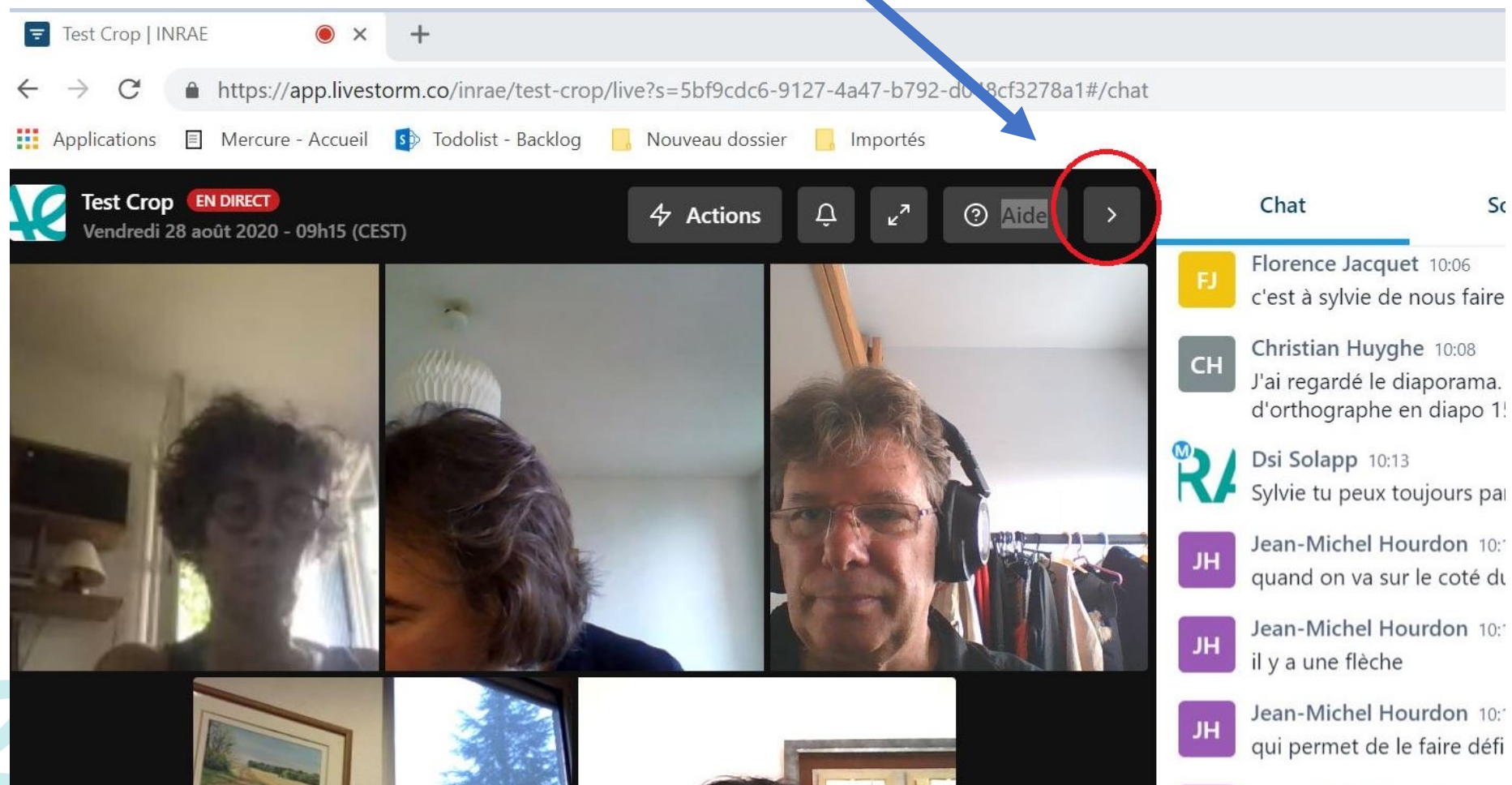
Discussion with the floor – 30 mn, moderator **Guy Richard**



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➤ Questions on the Chat



The screenshot shows a web browser window with the URL <https://app.livestorm.co/inrae/test-crop/live?s=5bf9cdc6-9127-4a47-b792-d048cf3278a1#/chat>. The page title is "Test Crop | INRAE". The main header displays "Test Crop" with a red "EN DIRECT" badge and the date "Vendredi 28 août 2020 - 09h15 (CEST)". Navigation icons include "Actions", a bell, a share icon, an "Aide" icon, and a right-pointing chevron icon (circled in red). The chat area on the right shows a list of messages:

- FJ** Florence Jacquet 10:06: c'est à sylvie de nous faire
- CH** Christian Huyghe 10:08: J'ai regardé le diaporama. d'orthographe en diapo 1!
- M R** Dsi Solapp 10:13: Sylvie tu peux toujours pa
- JH** Jean-Michel Hourdon 10:14: quand on va sur le coté du
- JH** Jean-Michel Hourdon 10:15: il y a une flèche
- JH** Jean-Michel Hourdon 10:16: qui permet de le faire défi

The video feed on the left shows three participants: a woman with glasses, a person with dark hair, and a man with glasses and a headset.

➤ Why focusing research on ‘towards pesticide-free agriculture ‘?’

- A growing body of scientific evidence shows the negative impact of pesticides on health and the environment
- There is a new impetus in national and European public policies .
- The dependence of agriculture on pesticides is very strong. The difficulties to reach the goals of previous policies showed how the path-dependency hinder the change in production systems
- Incremental approaches showed their limits, as they don't allow to implement new paradigms
- Research must prepare the future, be ambitious, explore unknown avenues and come up with solutions that we do not expect.
- It should produce disruptive innovations allowing redesign of production systems

➔ European Research Alliance towards a Chemical Pesticide-Free Agriculture

French National Programme **Cultiver et programmer autrement** (Alternative crop production and protection)



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➤ Cultiver et Protéger Autrement

Supported by the French Gouvernement

- 30 millions euros
- 10 ambitious multi-disciplinary integrated research projects funded during 6 years addressing different issues
- Fundamental researches (TRL <4) and their applications
- Social sciences involved
- Scientific animation all along the programme



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➤ New paradigms, opening new possibilities in crop protection

- **Agroecology**
 - Biological regulations within an agroecosystem may provide ecosystemic services, including the regulation of pest and diseases
 - Functional diversity inside agroecosystems → More biological regulation
- **Microbiomes**
 - Plants are hosting complex microbial communities on their leaves and roots. A disease outbreak may be regarded as a disequilibrium of these communities
 - Exploring these communities and their functions to use them in crop protection
- **Epidemiology/epidemi surveillance**
 - Digitalisation/Sensors for detection /IA networks / → rethink the paradigm and tools for epidemi surveillance
- **Plant immunity**
 - Sustainable management of Genetic resistance to pest and disease in a broader context, “ecological immunology” → Plant immunity
- **Chemical ecology**
 - Insect behaviour is strongly determined by the volatile chemical environments (mating disrupting .. And beyond)

➤ Programme scientific animation

- Why?

- Build bridges among research projects. Consider the overall expected impacts of the programme
- Connect research communities to stakeholders . Carry out concerted actions with non-academic partners
- Disseminate the results obtained during the projects
- Strengthen the link with Europe and international

- How ?

- In itinere projects and programme Impact assessment
- international scientific conferences and stakeholders meetings
- Publications of diverse dissemination documents
- Foresight “Pathways to chemical pesticide-free agriculture in Europe in 2050”



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➤ **Do not forget to register for the 3 next webinars**

- **10 september:** futur of agriculture at national scales
- **24 september:** futur of agriculture at european scale
- **12 october:** futur of agriculture at global scale

https://www6.inrae.fr/cultiver-proteger-autrement_eng/



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