

# **Regional Concept-Knowledge (C-K) workshops on “Redesigning cropping systems without chemical pesticides” (TOP-Agri-Network, Working Group 4)**

## **WG4 task**

Explore vision and options for cropping systems redesign with focus on grain- and/or viticulture cropping systems: Redesign of cropping systems and landscapes without chemical pesticides (henceforth referred to as “pesticides” as a common term for chemical insecticides, fungicides, herbicides, nematocides etc).

## **WG4 time plan**

1. Perform regional stakeholder workshops in spring, summer or early autumn in 2024
2. Report regional workshop outputs by **15 December 2024**
3. Researchers who have led and organised a regional C-K workshop are invited to meet in the international synthesising WG4 workshop in the period January-March 2025
4. Written synthesis from workshops delivered in mid to late 2025

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# **Guidelines for Regional Concept-Knowledge workshops on “Redesign options for grain and viticulture cropping systems without access to pesticides”**

## **Objectives**

1. Identify redesign options for cropping systems in the case of no access to chemical pesticides using a common methodology. We focus on grain and/or viticulture cropping systems.
2. Collect this information from a representative sample of regions and agricultural contexts such as to have good material for future common scientific publications

## **Methodology**

Organise Regional C-K workshop addressing one cropping system of either grain crops or viticulture. Bring together academic and non-academic stakeholders with broad knowledge on the chosen cropping system, e.g. advisors, farmer representatives, agricultural scientists and farming specialists. More than one workshop can be performed in a country. Preferably, they should then cover different regions and/or cropping systems.

## **STEP 1: Organisation of regional COST team and logistics**

- The regional workshop should be conducted in the language that the participants feel most comfortable with.
- Moderator: The moderator and facilitator will be selected from the national COST team WG4 members. A list of all WG4 members and their respective countries is available here: <https://www.cost.eu/actions/CA21134/#tabs+Name:Working%20Groups%20and%20Membership> The moderator should have knowledge and experience or skills in leading workshops. The moderator is able to manage dominant group members, to ask open questions and to follow up with relevant additional questions to stimulate conversation and reflection.
- Observers-recorders: Have a minimum of one, preferably two persons, to observe and record during the workshop. Beyond writing, they take

pictures during the workshop after having asked the participants for permission to publish the pictures.

- Time keeper: One of the observer-recorders keeps track of time and is given authority to move the program forward.
- Location: Preferably physical meeting. Otherwise on-line, but avoid hybrid to best give all participants equal possibility to contribute
- Duration: max 1:30 h
- Time: April 2024 - December 2024
- Number: Set up the workshop for about 8 participants + moderator and observers, i.e. 10-11 in total.
- Output: Report in the language of the Workshop for dissemination to participants and in English for the Cost action, using a template provided in google drive

## **STEP 2: Announce the intention for conducting a regional C-K workshop and establish the participants list**

- The regional COST Team gathered in Step 1 will communicate to the WG4 coordinators (Riccardo and Kathrin) by email that they intend to organise a regional C-K workshop.
- A template for data collection will be sent to the regional workshop organiser
- Communicate in the email which the cropping system that will be addressed (small grains or viticulture), the date and the venue for the national C-K workshop.
- The regional COST team independently selects and invites the regional researchers and practitioners (e.g. advisors, farmers with broad networks) with broad experience of the cropping systems in question, i.e. grain or viticulture.
- Regional workshop organisers are welcome to consult Riccardo, Kathrin et al in preparation of the regional workshop

## **STEP 3: Conduct the workshop**

### **A. Introduction (10 to 15 minutes)**

1. Introduce the COST Action project and present the theme of the workshop. It is important to explain the rationale behind the meeting (See Appendix 1.1.)
2. Introduce scenario(s) to be discussed (Appendix 1.2)
3. Introduce group members, working time and structure of the workshop.
4. Explain clearly what you will do with the information (Appendix 1.3)

#### B. Progress (50 to 60 minutes)

Be tough on the time. Avoid spending all the time on only one topic.

1. Start the discussion by describing the scenario(s) that you will address of no pesticides (~15min)
2. Discuss which cropping system changes would be needed, e.g. rotation, more crops (including crops that are not available or economically viable today), fallow, field size, landscape elements. (30 min)
3. What would be the main challenges with farming the new system (i.e. not barriers for transformation, we assume that the transformation is supported by society, food distributors and agrifood industry). Will the farmer need new knowledge, more people on the farm, smaller/ larger enterprise, more/less intensive cropping, more/less variability in outcome? (30 min)

#### C. The end of the workshop (15 minutes)

- Summarise discussion
- Thank the participants for their participation and contributions.
- Explain when and how they can expect to see feedback on this

### **STEP 4. Reporting**

- Transcribe the information in the language used during the meeting and in English
- Report in English using a common template- provided in google drive
- Deadline to send report: **15 December 2024**

# Appendix with supportive texts for regional C-K workshops

## 1.1. Cost action and workshop introduction

The TOP-AGRI-Network, operating under the EU COST Action CA21134 from 2023 to 2026, is dedicated to fostering a European network for sustainable agriculture, with a specific emphasis on the ambitious goal of achieving pesticide-free agriculture. The network seeks to create a transdisciplinary research community, with a particular focus on engaging young scientists.

Historically, agricultural practices have been optimised and intensified around high-yielding varieties, abundant inputs, and mechanisation. However, the reliance on chemical-synthetic pesticides for pest control has led to the simplification of cropping systems, resulting in a loss of crop and species diversity. The TOP-AGRI-Network recognizes the need to reassess the current paradigm and explore alternatives that can ensure stable yields while minimising reliance on pesticides.

The upcoming C-K workshop aims to delve into the concept of a zero-pesticide future in agriculture, considering not only the elimination of pesticides but also envisioning a holistic transformation of cropping systems and landscapes. Participants will be encouraged to think beyond current economic and political constraints, fostering discussions on changes such as altered crop rotations, the integration of currently underutilised crops, fallow periods, and adjustments to field sizes. The workshop seeks to explore innovative ideas that could redefine the boundaries of traditional farming systems and to contribute valuable insights that can guide the redesign of cropping systems, fostering sustainable and resilient agriculture on a European scale.

## 1.2 Scenario(s) with no chemical pesticides

There is a continuous decrease in the availability to chemical pesticides for agriculture due to several reasons: 1) Development of resistance in pests and weeds, 2) Increasingly strict and costly registration rules and risk assessment requirements that deter investment in new modes of action and biocontrol agents, 3) few or no new modes of action discovered, 4) Retracted registrations due to detected health and environmental hazards, 5) Political pressure in society to decrease pesticide use.

CA21134 - Towards zero Pesticide Agriculture : European Network for sustainability (TOP-AGRI-Network)  
<https://www.cost.eu/actions/CA21134/>

We need to prepare for a future with fewer or even no pesticides and set up long term innovation and research goals to achieve durable solutions with sustained production and minimised losses to weeds pests. This is why we ask you (the regional stakeholders) about which redesign options that according to your knowledge and minds would be available or needed to be tested, in the 'extreme' scenario(s) that no chemical pesticides are available.

### **1.3 Use of data**

During the C-K workshops, participants will gather ideas for cropping system redesign with the goal of scoping how cropping without pesticide use could look like. The outcome of regional discussions will be summarised in local language and shared with all workshop participants. A more detailed summary of discussion points will be forwarded to the WG 4 co-leaders (Riccardo and Kathrin) until **15 December 2024** using the provided **reporting template** that will be sent to you upon registration (Appendix 1.4). The results will then be synthesised across countries (synthesis completed until mid/end 2025) and will be aimed to be published in a scientific journal. Both the regional and international summaries and redesign recommendations will serve as guidelines for stakeholders and policy makers to facilitate the transformation towards agriculture with reduced pesticide input.

### **1.4 Reporting template**

A template will be sent to you when you register to organise a regional C-K workshop