Project title

TransBioFruit

TransBioFruit – Increasing Cross-border Expertise in Organic Fruit Production

Background

Although the development of the concept of sustainable, more environmentally friendly agriculture could lead to greater interest in alternative methods of crop pest and disease control, agriculture remains a major consumer of pesticides. Even under integrated production management (IPM), the International Organization for Biological Control (IOBC) principles, which encourage collaboration in promoting feasible and environmentally safe methods of pest and pathogen control, are not always respected. Although it is accepted that organic fruit production methods make a significant contribution to sustainable development, converting this perennial crop to organic farming methods is difficult under our pedo-climatic conditions. Organic production is supported by a steadily growing market, reflecting strong consumer interest, but the two regions involved in this project have seen a stabilisation in production since 1990. Although the technical expertise and scientific knowledge exist at European and international level, their application in the two regions concerned is problematic. This situation justifies cross-border cooperation to address several challenges: (i) the dispersion of producers operating in similar systems, who need to work together and pool the expertise available in the two areas; (ii) the pedo-climatic similarities of the two cross-border areas, which suggests common responses to joint problems; and (iii) the complementarities between production systems, on the one hand, and between the areas of expertise developed by the project partners, on the other, which provide a good basis for collaboration. Both regions have particular practices and results that could be of interest to the other. The demand for certified organically farmed apples (following the European Regulation on Organic Production EC No. 884/2007 and 889/2008) is rapidly increasing, but to satisfy current consumer requirements the organic products marketed must be first-rate in terms of taste, health status and appearance, as well as being reasonably priced. The organic fruit sector needs to be optimized by the use of modern and safe production techniques and to be profitable for the growers. The TransBioFruit project aims to develop the synergy between partners and growers in the two participating cross-border areas through experimentation, cooperation and coordination.

Objectives

Overall objective:
Networking of producers and support organizations in the two regions to stimulate and develop expertise, experience and innovation in addressing organic fruit production issues in the cross-border area.

Specific objectives:
- Networking to benefit from partners' established expertise and knowledge.
- Jointly developing innovative alternative proposals through exchanges between producers and technical advisors.
- Adapting and optimizing new references through scientific experiments focused on four issues:
    - development of the biodiversity in organic orchards, including the preservation and evaluation of beneficial fauna and the development of disease- and pest-resistant cultivars,
    - better understanding of new emergent pests and diseases with the development of practical modifications and parasitic adaptation to new situations (e.g., life cycle modification),
    - development of direct and indirect prophylactic protection methods against orchard pests and diseases (e.g., scab, mildew, canker, swooty bloch, aphids and mods), including research on alternative control methods using reduced amounts of copper,
    - adaptation of the general cultivation methods and tree management.

- Forming partnerships and supporting producers who are trying out these solutions at farm level; following up field trials and defining the factors affecting their implementation by producers in the two participating areas.
- Networking, exchanges and the dissemination of available data and results of experiments throughout the project; networking will be organized at three levels: first, the project partners; second, the producers involved; and third, all producers and relevant organic sectors in the two participating areas.
- Technical transfer from the organic fruit farming sector to the conventional farming sector.

Expected results

The expected cross-border impact of the TransBioFruit project can be summarized thus:

- increase the number of organic fruit growers and the area of land under organic fruit production in the cross-border region,
- improve the links and synergy between operators (growers, technical advisors, research institutions) in the two participating areas in order to develop expertise, experience and innovation in organic fruit production,
- improve the performance of organic fruit farming systems by improving technical management practices that have no adverse effects on the environment and human health (e.g., selecting adapted resistant cultivars, developing direct and indirect prophylactic protection methods against orchard pests and diseases, adapting general cultivation methods and tree management)
- contribute to the sustainability of conventional fruit production in the cross-border region by transferring results and practices from organic fruit farming.

Main partners

French partners:
- GABNOR (Groupement des Agriculteurs Biologiques du Nord-Pas de Calais), lead partner
- FREDON Nord Pas-de-calais (Fédération Régionale de Défense contre les Organismes Nuisibles)

Walloon partners:
- CRA-W (Centre Wallon de Recherches Agronomiques)
- CPBio (Centre pilote bio pour le développement de l'agriculture et de l'horticulture biologiques)

Publications

1. Jamar L., Oste S., Tournant L. & Lateur M. (2009). Protection contre la tavelure du pommier ciblée sur les infections primaires en production biologique. Actes des Journées Techniques Nationales Fruits et Légumes Biologiques, ITAB-GRAB, Paris, 8 & 9 décembre 2009, 49-54.
2. Jamar L., Grebert D., Amiraux C, Oste S. & Lateur M. (2010). L'extrait d'écorce d'orange comme produit de protection des plantes. Actes des Journées Européennes Produits de Protection des Plantes en Bio. Lille, 10 & 11 mars 2010.
3. Wateau K., Tournant L. & Jamar L. (2009). Décoction de *Quassia amara* et lutte contre l'hoplocampe du pommier (*Hoplocampa testudinea klug*). Actes des Journées Techniques Nationales Fruits et Légumes Biologiques, ITAB-GRAB, Paris, 8 & 9 décembre 2009, 25-30.
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5. Jamar L., Cavelier M. & Lateur M. (2010). Primary scab control using a 'during-infection' spray timing and the effect on fruit quality and yield in organic apple production. *Biotechnol. Agron. Soc. Environ.*14, 423-439.

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