



SUBMISSION

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Participatory Research in organic apricot: growing the Central Italy experience

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Short abstract

Mixed Farmer-Researcher working groups are redefining research activities widening the research topic from the production sector towards a food system redesign. Since 2015, farmers and researchers are collaborating in defining research objectives and solutions in apricot organic production in Central Italy, grounding them on agroecological principles of ecological services promotion.

Keywords

- define a "quality applied research" with farmers
- address organic research toward Agroecology
- develop participatory approach guidelines at local scale

Extended abstract

Agroecology, as the ecology of the entire food system, aims to re-design agroecosystems and widen the perspective from plot to territory scale. In order to achieve this aim, there is the need to escape the lock-in of single field to reach a wider, collective point of view: moving to scales larger than individual farms, involving stakeholders in planning and coordination, with the goal of up-scaling from crop to food system (Frison, 2016). Passing to agroecology requires a new balance of roles in agronomic research, taking into account new drives to guide innovation in applied research. In this context, forging closer relationships, building networks of knowledge sharing, and trust between researcher and stakeholder are going to open up new spaces and new dynamics. The multi-stakeholder involvement is indeed acknowledged for promoting dynamic innovation processes (Delate et al. 2016) and participatory research can be considered as a break-out strategy to bridge the knowledge gap between researchers and farmers and *vice versa*, creating more possibilities for actors to interact and activate effective innovation process in agricultural sector. Participatory practices are expected, over time, to bring the cultural change needed to achieve a more sustainable balance and a fairer trade off among environmental, economic and societal issues.

With this in mind, starting in 2015, CREA (Council for Agricultural Research and Economics) together with AIAB (Italian Association for Organic Agriculture) used a participatory approach to sketch the perceived need of farmers in stone fruit (*Drupaceae*) production in Central Italy. Two different participatory research typologies were implemented for the stakeholder involvement, responding to two different steps in the participatory agenda definition. In the first step (2015-

2016), the identification of the target farms was performed by 'Participation in information giving' strategy (Pimbert, 2011: 14), by preparing a questionnaire for organic farmers and organizing meetings in order to define: *i*) farmers' perception of participatory research, *ii*) the main research demand for *Drupaceae* production, *iii*) farmers interest in joining participatory activities with CREA and *iv*) the best way to facilitate their involvement. At the end of this first step, on a total of 15 surveyed farms, 5 farms from Latium region were selected and involved in the follow up activities: among the stone fruits, apricot (*Prunus armeniaca* L.) was identified as target crop for the ongoing experimental trials; soil management and rootstock x cultivar choices were recognized as main issues to be investigated. In the second step (2017-ongoing), a modified 'Participation by consultation' approach has been followed (Pimbert, 2011: 14), by organizing open discussion meeting on activities to be carried out and by supporting and facilitating the interaction process between farmers and researchers. Different apricot varieties and two rootstocks were selected in order to plant new orchards for testing their aptitude to produce under organic management, on the basis of the information collected during the first step. In particular, GF677 rootstock [*Prunus persica* (L.) Batsch x *Prunus amygdalus* (Mill.)] was identified as target rootstock to be tested - due to the potential contribution on crop vigor and production, (the main interesting features highlighted by farmers) as far as a low suker sprouting ability - to be compared with Myrobalan 29C, the most used rootstock in Italy. Both new promising varieties for organic production and old varieties typical of Central Italy environment were selected. The BIOPAC project, financed by the Italian Ministry of Agricultural, Food and Forestry Policies, provided plants for new orchards in each selected farm and in the MAIOR experimental long term trial (MAIntenance of Organic oRchards) at Research Center for Olive, Citrus and Tree Fruit (CREA OFA) in Rome. Moreover, through the BIOPAC project, a network of organic farmers from other regions operating on apricot was built, in collaboration with CREA and UNIVPM (Università Politecnica delle Marche) in Sicily and Marche regions, respectively. The MAIOR orchard was planted on March 2017, one year earlier than farm's orchards. During the first experimental year, farmers were invited to join to the experimental activities to observe and participate at decisional level, sharing methodologies and practices to be adopted. In particular, three different soil managements were set up at MAIOR, corresponding to different levels of system diversification and fertility management, oriented to foster the agroecological services provided. A 'Business As Usual' system, corresponding to a conventionalized organic system relying on "input substitution" (Darnhofer et al. 2010), is actually compared with two diversified systems, based on compost use, minimum tillage and introduction of different cover crops (i.e. Agroecological service crops - ASC). Key aspect in the fertility management was the need to foster system ability in recycling nutrients (influencing the cover crop choice and management) and connecting the trial with the surroundings (Periurban agriculture). Compost obtained from the organic fraction of urban waste was selected, in order to test its potential use in organic farming and to close the organic matter flow from the field to the society and closing the loop back to the field. The information deriving from the field activity (soil fertility, functional biodiversity, management costs and feasibility at farm level) are then going to be discussed with farmers and used as a base to plan farm orchards set up and management.

The overall objective of these activities is threefold, where the participatory approach is a key aspect:

- find the best combination of varieties/rootstock/practices for organic apricot production in central Italy, and, by doing so, support farmers in their need for a "quality applied research" - a research that takes into account that innovations must be co-designed by final users and easy to fit in their everyday practices;
- address organic research toward Agroecology, countering the standardized and business-oriented global drive in organic farming, leaving the conventional input-substitution approach in favour of an holistic and multidisciplinary one, in order to face the global challenges of the food system (Niggli 2015).

- develop participatory approach guidelines to apply agronomical research at local scale, declining Agroecology into research.

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