

## BBF VALUE CHAINS

REGIONAL BIO-BASED FERTILIZER VALUE CHAINS AND BUSINESS MODELS

SHORT SUMMARY FOR PRACTITIONERS

EN version

The second round of RUSTICA workshops was organised in June 2022. In the Friuli Venezia Giulia region, 21 people attended the workshop, 13 of them stakeholders from different categories (associations, policy makers, farmers, technology providers...). All participants were brought together to discuss potential value chains for the development of innovative bio-based fertilisers (BBFs).

The value chain mapping revealed that waste collection companies and organisations are recognised as key players in the Friuli Venezia Giulia BBFs value chain for both waste collection and waste treatment. The most frequently used sales and distribution channels are identified mainly in fertiliser distributors, cooperatives, garden centres, buying groups and farm shop associations. With regard to the end-user of FBBs, in addition to farmers, other actors were mentioned, such as hobby farmers, horticulturists, private citizens and public sports and recreational parks. It also emerged from the meeting that citizens' associations or communities ~~an actor that~~ can play multiple roles in the value chain, as regional legislation supports citizens' associations in order to foster the sustainable use of resources, environmental protection and the promotion of community recycling of organic waste. At the supply chain level, important support services are considered to be those related to waste production and collection, the promotion of better waste recycling and sorting, and environmental education, including through information campaigns. These activities are carried out by environmental associations, regional environmental agencies, universities and research centres, and policy makers.

SHORT SUMMARY FOR PRACTITIONERS

NATIVE version

Il secondo ciclo dei workshop RUSTICA è stato organizzato nel giugno 2022. In Friuli Venezia Giulia hanno partecipato al workshop 21 persone, di cui 13 stakeholder di diverse categorie (associazioni, responsabili politici, aziende agricole, fornitori di tecnologie...). Tutti i partecipanti sono stati riuniti per discutere le potenziali catene di valore per lo sviluppo di fertilizzanti innovativi a base biologica (FBB). La mappatura della catena del valore ha rivelato che le aziende e le organizzazioni che si occupano della raccolta dei rifiuti sono riconosciute come attori chiave nella catena del valore regionale dei FBB sia per la raccolta che per il trattamento dei rifiuti. I canali di vendita e distribuzione più utilizzati sono identificati principalmente nei distributori di fertilizzanti, nelle cooperative, nei centri di giardinaggio, nei gruppi di acquisto e nelle associazioni di negozi agricoli. Per quanto riguarda l'utilizzatore finale dei FBB, oltre agli agricoltori, sono stati citati altri attori, come hobbisti, orticoltori, privati cittadini e parchi pubblici sportivi e ricreativi. Dall'incontro è emerso anche che un attore che può svolgere molteplici ruoli nella catena del valore è rappresentato dalle associazioni dei cittadini o dalle comunità, in quanto la legislazione regionale sostiene le associazioni di cittadini che promuovono l'uso sostenibile delle risorse, la tutela dell'ambiente e il riciclo comunitario dei rifiuti organici. A livello di filiera, sono considerati servizi di supporto importanti quelli relativi alla produzione e alla raccolta dei rifiuti, alla promozione di un migliore riciclaggio e selezione dei rifiuti e all'educazione ambientale, anche attraverso campagne informative. Queste attività sono svolte da associazioni ambientali, agenzie regionali per l'ambiente, università e centri di ricerca e decisori politici.

Demonstration of circular  
bio-based fertilisers and  
implementation of optimized  
fertiliser strategies and value  
chains in rural communities

RUSTICA



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## CONTEXT

Residues and waste streams from the fruit and vegetable agri-food system can be used as fertilizer resources by employing innovative soil improvement production technologies. This can stimulate the development of sustainable alternatives to mineral fertilizers, since the result of the development of these technologies can be a valuable bio-based fertilizer (BBF) tailored to regional needs.

## PROBLEM

Questions remain on the establishment of regional value chains and business models centred around these technologies. It is necessary to map the current value chain in order to understand each regional context before processing on potential new BBFs value chains and business models.

## SOLUTION

In June 2022, the second regional RUSTICA-workshop was organized in Friuli-Venezia Giulia: in a first exercise, the regional bio-based fertilizer value chains were mapped. In a second exercise, barriers and drivers towards BBF-technology investment were identified. Finally, potential circular value chain configurations were designed.

## OUTCOME

1. Farmers: the difficulty is represented by the cost of the technology, the lack of knowledge about technology and the quality of the end products, together with the lack of sufficient wastes as the small size of the farms involved in the horticultural sector does not guarantee a sufficient amount of waste.
2. Farmers cooperatives: the value chain would benefit from limited legislative burdens and the fact that the farmers of the cooperative are both the providers of wastes, and the users of fertilizers would avoid problems related to logistic and the establishment of a supply chain. Moreover, farmer cooperatives have a greater potential for investment in the technologies and could implement the more sophisticated technologies.
3. Waste management companies: this configuration is more complex and it is focused on the intermunicipal waste management company as the main actor responsible for the waste treatment and fertilizer formulation. An important driver for the implementation of this configuration is the production of high-quality fertilizers characterized by a marketable value.
4. Waste management companies and fertilizer producers: it is very similar to the previous one, the only difference is related to the stage of fertilizer preparation and blending which is carried out by a fertilizer company. This configuration takes advantage of the structure and technologies of the company to fulfill this task. At present the main obstacles for this value chain are the willingness of waste company to invest in the new technologies and the lack of fertilizer industry in the region that would imply the need to transport the BBF building blocks out of the region for the fertilizer final formulation.

## PRACTICAL RECOMMENDATIONS

- ✓ Stakeholders believe that negative public perception of the waste treatment plants can have significant consequences on the development of the BBF technologies.
- ✓ Stakeholders generally agreed that the best approach to implement new bio-based fertilizer value chains is to build on existing networks and business models.

