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Significant changes in French cereal and dairy farming systems to initiate a transition towards agroecology?

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The [TYFA](#) scenario, published by IDDRI in late 2018, points out the concrete evolutions of farming systems needed to reach a generalization of agroecology at the European level and highlights the need for a major overhaul of current food systems. The shift of cereal and dairy farming systems occupies a central role in the hypothesis underlying this scenario. A thorough analysis of both sectors in the specific cases of the

department of Finistère in Brittany (for dairy) and of the Île de France region (for cereals), carried out as part of European H2020 project entitled [Sustainable Finance for Sustainable Agriculture \(SUFISA\)](#), point out the main obstacles that should be overcome as well as the opportunities that could be seized in order to lead these production systems toward an agroecological horizon.

What agroecological horizon for cereal and dairy production systems under the TYFA scenario?

At the heart of the [TYFA](#) scenario is the objective of tackling together most social and environmental issues the European food system is facing, including the erosion of biodiversity, GHG emissions and climate change, and human health problems associated to too rich and unbalanced diets. These objectives translate into specific hypothesis regarding farming practices and farms organisation, among which the phase-out of pesticides and mineral fertilisers, as well as the redeployment of natural grasslands and the extension of agroecological infrastructures. For cereal production, this implies most notably the need to lengthen and complexify *crop rotations*. Of particular importance is the need to include more legumes, in order to maintain soil fertility and to answer the necessary shift in human diets towards a larger proportion of vegetable proteins (vs a decrease in the consumption of animal products—meat, dairy products and eggs). For dairy production systems, the TYFA scenario focuses on the necessity to expand extensive livestock farming in order to limit the consumption of cereals induced by intensive livestock production, ensure fertility transfers from grasslands to crops through ruminants and ensure the conservation of permanent grasslands sheltering key habitats for biodiversity.

How to achieve such transformations remains a crucial question. While change in diets plays a key role in the overall plausibility of the TYFA scenario, there is also a need to look at how farmers' strategies could evolve in the above-mentioned direction. The SUFISA project precisely focuses on current farmers strategies faced with increasing environmental and market instability. It gives insight on the main trends/obstacles and opportunities that can enhance or hamper that process of change.

Cereal production in Île de France mainly originates from relatively large and highly specialized farms that have recently been hit by negative climatic and market events. In parallel, milling wheat is experiencing strong competition from Russian production while rapeseed is experiencing strong competition from palm oil. In such a context, producers have difficulties to integrate legumes in their rotations and to complexify and lengthen them, despite potential benefits environment and economy-wise. Legume crops indeed face strong global competition and low-tariff barriers and can therefore hardly be valorised on the current market on which the demand is relatively low, either for feed (there is no animal production in the area anymore) or human food. While market segmentation based on “ethic labels” is sometimes considered as part of the solution, as it would offer a better remuneration to farmers, they have had so far only a limited impact on the valorisation of wheat prices and do not fully manage to take wheat out of its commodity status.

Given this context, the strategies of cereal producers still mainly focus on reducing inputs and mechanisation costs while increasing the use of risk management tools (like crop insurances). But these strategies do not address environmental issues and environmental measures are mainly perceived as an administrative burden as long as strong incentives towards agroecology have not been implemented and until the role of cereals itself in the overall food system has not been questioned in an agroecological perspective. Measures should therefore be taken at different levels of the food chains (from farm to fork) by a variety of actors (local authorities, private actors and cooperatives, national level, etc.) if farmers are to convert to agroecological practices through, notably, the reintroduction of legumes in their rotation.

[More information on cereal farming](#)

[Summary of the cereal farming case study:](#)

Concerning dairy farming in Finistère, two dairy production systems co-exist and, to some extent, compete with one another: one being fairly intensive, representing more than 70% of farms and in which feed strategies rely mainly on maize and soybean cake; the other one being called “thrifty/autonomous” system, which represents around 15 to 20% of all farms, and in which feed strategies rely predominantly on grassland. For the moment, the sustainability of the latter (including its economic profitability) exceeds in many cases, and equates in all, that of the former.

Discussing about a more sustainable future for dairy production in Finistère hence means analysing the extent to which the thrifty production system could gain in importance at the district level. In parallel, growing instability on milk markets after the end of milk quotas have been only partially counterbalanced by the arrangements favoured as part of the “milk package”, fostering producer organisations and collective negotiation of clauses of contracts between producers and collectors since 2012 at the EU level.

Milk segmentation (through initiatives like pasture-based milk) and the formalisation of negotiations through the grouping of producer organisations have not yet succeeded in stabilising the situation of dairy producers and fully addressing environmental sustainability issues. Answering these two dimensions would imply working on stronger territorial strategies aiming at increasing access to grassland for farmers and developing upstream market segmentation in order to reduce pressure put by downstream actors on farmers, with more ambition on the production systems promoted. Indeed, this segmentation does not always manage to distinguish the production from Finistère from competing production and does not always succeed in changing the agricultural models towards fully extensive forms. Organic farmers do not know the capacity of their production to supersede conventional milk while pasture-based milk is currently relying on low standards of differentiation (in order to include the highest number of farmers) and will have difficulties to differentiate from conventional milk or to compete on the European market (facing the more competitive dairy production systems of northern Europe).

[More information on dairy production](#)

[Summary of the dairy farming case study](#)

[Full version of the two case studies](#)

More information on TYFA: <https://www.iddri.org/en/project/ten-years-agroecology-europe>

More information on SUFISA: <https://www.sufisa.eu> (& blog: <https://sufisa.wordpress.com>)

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