

## Information needs and thematic priorities of the organic food and farming sector in France

GUILLAUME OLLIVIER<sup>1</sup>, SERVANE PENVERN<sup>1</sup>, ALINE LE PROVOST<sup>1</sup>

**Key words:** information, survey, AKIS, actors' needs, typology, research priority setting

### Abstract

*A large survey was performed among French actors committed to organic food and farming (OF&F) to identify their information needs. This survey highlights the need for increased information dissemination. This analysis identifies four publics with specific needs. Structuring variables include professional experience, degree of commitment to OF&F and professional category. Legal and economic information about food quality and processing is generally of interest to senior actors with low-level needs. On the contrary, junior actors actively involved in the developmental and educational aspects have the greatest needs over a wide range of themes. Thematic priorities also depend on professional categories and types of information. While technicians and farmers require scientific and technical information on plant production issues, only young farmers give priority to animal production issues. These results allow OF&F actors to reflect on the improvement of the overall device of information dissemination.*

### Introduction

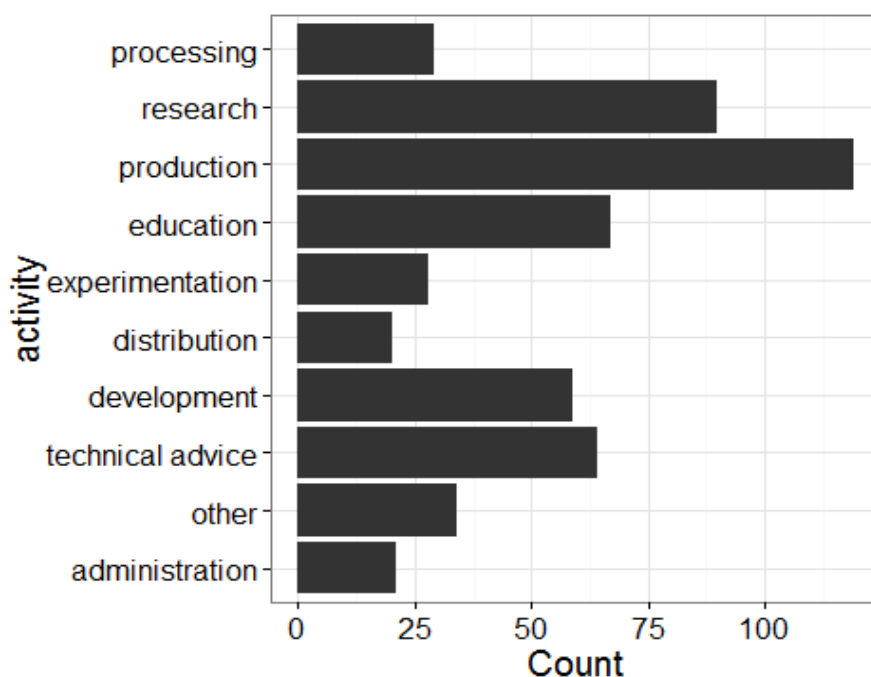
Unlike intensive or high external-input agricultural systems, organic agriculture is considered as knowledge-intensive (Kummer et al., 2010). Knowledge about OF&F is emerging and widely diffused. The availability of information about OF&F in the sciences has exponentially increased since the 1990s (Ollivier et al., 2011). OF&F is an ongoing and complex process involving specific adaptations of practices by local actors to a number of constraints at each stage, ranging from production to consumption. Far from the classic "one problem-one solution" scheme, actors must combine a number of alternatives to address one 'symptom'. Information must therefore be multiple, dynamic and integrated within a systemic approach. Many authors agree on the need for the increased dissemination of information. Gardiès et al. (2011) and Kummer et al. (2010) found that information practices among organic farmers are generally intuitive and experiential. They advocate the need for further mediation and structuring of the information. An increasing number of projects and tools are emerging that are dedicated to information dissemination (organic e-prints, VOA3R, organic.edunet, etc.), highlighting the focus on knowledge infrastructure through facilitation techniques. Alfoldi (2013) and Dehaut (2013) proposed a coordinated mix of dissemination tools and channels to maximise the impacts of research projects. The aim of our work is to better understand the diversity of users' information needs. This paper is in line with previous publications (Bellon et al., 2011; Ollivier et al., 2011) whose goal has been to enrich reflections on the way research priority setting and projects could better respond to users' needs and diversity. In 2012, an on-line survey was performed among the different OF&F actors in France: farmers, advisors, researchers, processors and distributors, educators and administrators. Data on their profiles and information needs, including themes, were collected and analysed to characterise this diversity.

### Material and methods

The survey consisted of 52 questions to establish users' profiles, information needs and practices. Respondents were enlisted from the mailing lists of the project partners. A total of 532 completed questionnaires were returned, with a final response rate of 10%. The respondents were diverse in terms of professional activity (Fig. 1), number of years in activity (yrAct) and work time devoted to OF&F (timeOF). Respondents were asked to prioritise information types according to their usefulness (typ\_info1) and to express the level of their information needs (need\_intens). We submitted a 22-theme grid covering the different dimensions of OF&F. The respondents answered the question: "Among these themes, which ones inspire you to look for information?".

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<sup>1</sup>INRA, UR 0767 Unité Ecodéveloppement, Domaine St. Paul – Site Agroparc, 84914 Avignon Cedex 09. E-mail: spenvern@avignon.inra.fr



**Figure 1: Distribution of respondents' professional activities**

These variables allow to identify different thematic areas of interest that can be described by the professional characteristics of the respondents. To do this, we used the Hierarchical Clustering on Principal Component (HCPC)<sup>2</sup> from the R FactoMineR library to partition the population of individuals on the basis of their coordinates in the N first dimensions of a multivariate analysis. By measuring statistical links between clusters and the modalities of the variables used, we interpreted the structures in the data and identified individuals with similar characteristics.

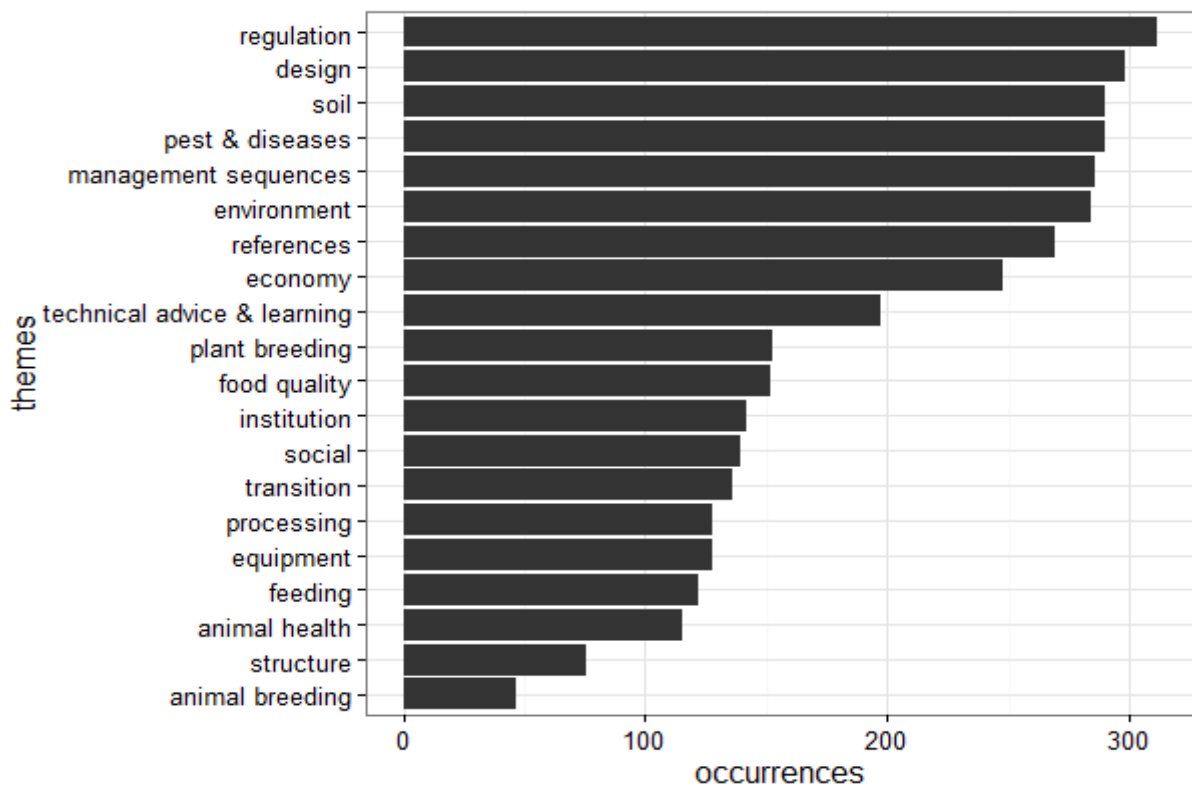
## Results

First, information needs follow a normal distribution with a majority of responses between “medium-high” (21%), “high” (45%) and “very high” (27%). Figure 2 makes it possible to identify thematic priorities according to their occurrence. Information about organic regulations, system and practice design, soil quality and management, pests and diseases, crop management sequences, environmental performances, technico-economic references and economy are judged insufficient by a majority of respondents. However, this representation hides a diversity of responses. While information needs concerning OF&F regulations are consensual, system design and soil management are more specific to some respondents.

An in-depth analysis was performed to cross information needs with profile variables, type and thematic information needs. The HCPC method identifies four clusters (Fig. 3). The first cluster includes respondents who give priority to food quality and processing rather than agronomic themes, and who require legal and economic information. They are generally involved in a processing activity, but may also be involved in research, production or technical counselling. They tend to be experienced and have low-level information needs. The second cluster comprises respondents who give priority to themes related to plant production: pests and diseases, technical management sequences, soil management, system design and plant breeding. They are generally involved in experimentation and, to a lesser extent, in production. They primarily require scientific and technical information but not economic one. The third cluster comprises respondents that give priority to themes related to animal production: feeding, health and breeding. They are mostly young farmers interested in technical but not scientific information. Finally, the fourth cluster includes respondents that give priority to socio-economic themes (institutions, transitions, references, etc.), along with most of the other themes. These respondents, generally involved in development and education, have little experience and are very committed to OF&F. They have technical rather than scientific information needs.

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<sup>2</sup> <http://factominer.free.fr/classical-methods/hierarchical-clustering-on-principal-components.html>

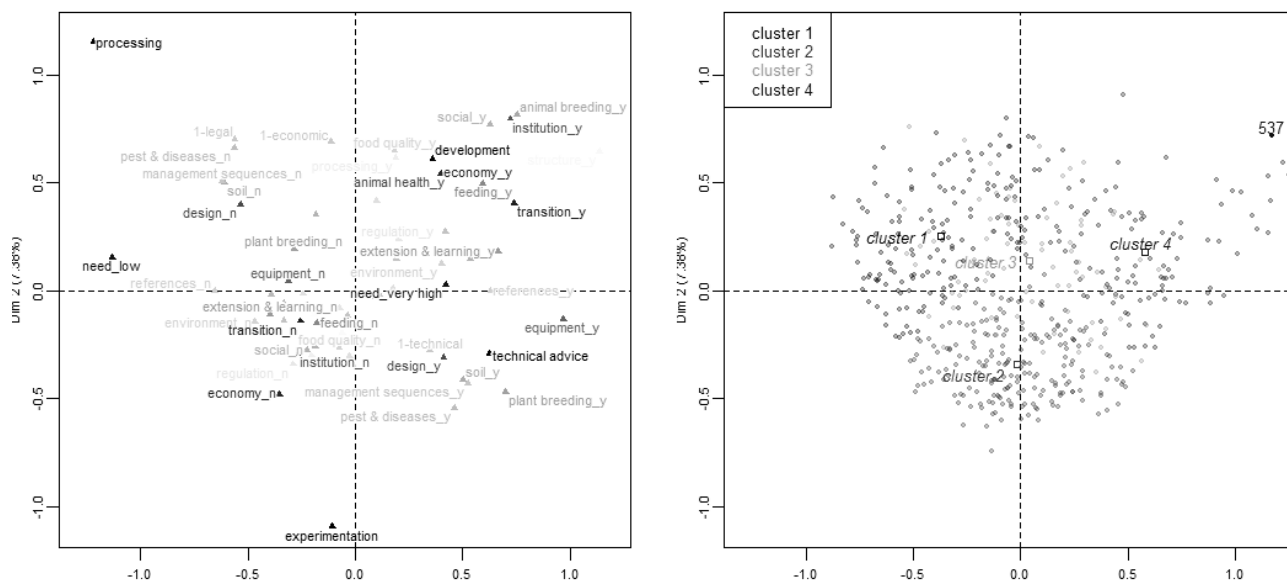


**Figure 2: Thematic priorities sorted by the number of occurrences in the actors' responses.**

In terms of information systems, the analysis confirms the relevance of segmented offers of information both as to form and content in order to better fit actors' profiles and needs. Structuring variables include activity, experience and commitment to OF&F. Other variables, particularly information practices, must be tested. If the offer is to be segmented, care must however be taken regarding the structuring of information. A total of 56% of the respondents agree that information resources are already too dispersed. The multiplication of tools and channels (Alfoldi, 2013; Dehaut, 2013) must thus be done in agreement with users' practices and needs. The results could be also used, under certain conditions, to enrich reflections about setting research priorities. This analysis highlights some gaps between research and different knowledge users-producers concerning their priorities. Whereas scientists have little interest in OF&F and focus on specific themes, farmers and upstream stakeholders are fully devoted to OF&F instead and focus on different types and themes of information. Therefore, how can research priorities be established given these different views on thematic priorities? What are the trade-offs between offer and demand for knowledge production? Further analyses must be performed to test selection criteria for setting priorities such as the most cited items or 'weak signals', the professional category or the degree of commitment to OF&F.

## Conclusion

This survey highlights the need for increased information dissemination. This analysis identifies four different publics with specific needs. Structuring variables include professional experience, degree of commitment to OF&F and professional category. Legal and economic information about food quality and processing is generally of interest to senior actors who have the lowest information needs. On the contrary, junior actors actively involved in the developmental and educational aspects of OF&F have the greatest information needs over a wide range of themes. Thematic priorities are also different depending on professional categories and types of information. While technicians and farmers call for scientific and technical information on plant production issues, only young farmers give priority to animal production issues. The dataset must be further analysed but it already provides insights for recommendations on information dissemination and the establishment of research priorities.



**Figure 3: Multiple Correspondence Analysis; 45 of the most frequently mentioned themes are visible here**

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