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**Part III.**  
**Policy Approaches To Organic Agriculture**

**Chapter 9.**  
**Research, Information and Communication**

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## THE ROLE OF RESEARCH, INFORMATION AND COMMUNICATION

*Johannes Michelsen*<sup>1</sup>

### **Abstract**

*Organic agriculture is distinguished itself from other production systems by values that oppose certain mainstream agricultural practices. These values are in tune with policy instruments that attempt to change citizens' behaviour via communication, i.e. involving citizens' attitudes and social norms. Communication in support of organic agriculture takes place in the domains of agriculture policy, the farming community and the food market as well as within institutional settings that co-ordinate activities across domains. Available evidence from initial comparative studies in Europe suggest that the distinction between organic and mainstream agriculture institutions is weak within the farming community, but strong within agricultural policy. Public policies based on certification and financial support seem to have had limited impact on organic agriculture development. Finally, it seems that differences in organic agriculture development among European countries are positively related to institutional changes and continuing interrelations across domains and between organic and mainstream agricultural institutions.*<sup>2</sup>

### **Introduction**

This paper seeks to outline the scope and need for including research, information and similar communicative measures in public policies that attempt to promote organic farming. It is a prerequisite of the analysis that the promotion of organic farming involves decisions by farmer-owners on the basis of individual viewpoints and the calculation of costs and benefits in terms of money or otherwise. Hence, the general theme is the potential for influencing farmers' decision making by means of policy. This may be analysed from a purely economic point of view where farmers are mainly seen as optimisers of individual preferences and production functions, and where different types of solutions are analysed for their potential impact on displacements of either of these. Wyn Grant, in his analysis of the EU Common Agricultural Policy (CAP), made it clear, however, that agriculture cannot be analysed as an exclusively economic sector (Grant, 1997). Economists fail to understand that agriculture is also a social order that requires sociological understanding and a set of institutional structures that can be approached through the insights of political science.

Grant's assessment is especially true when considering the intersections of organic agriculture as a production system with other agriculture systems, whether characterised as

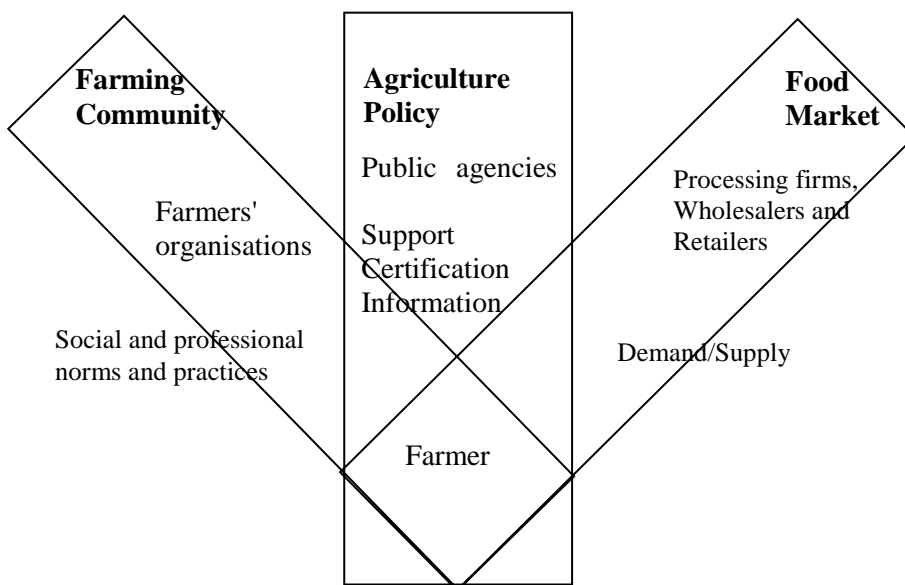
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  2. The paper includes results from projects financed by the EU Commission (FAIR3-CT96-1794) and the Danish DARCOF research programme. All statements are the sole responsibility of the author.

“conventional” (as the organic agriculture movement has obtained as one of its major successes), “integrated” or otherwise. For instance, it emerges from analyses of changes in farmers’ propensity to convert to organic agriculture in different national settings, that responses to changes in economic conditions (whether positive or negative) are at best indirect (Michelsen and Soegaard, 2001). It also appears paramount for the understanding and promotion of organic agriculture development to recognise that it has developed as a social movement based on explicit values that counter and criticise some of the main understandings of agriculture (Michelsen, 2001a).

The argument put forward here is that the promotion of organic agriculture requires policy instruments in addition to those based on legal regulation and economic incentives. Other social mechanisms have to be considered and they may involve several types of communication between public administration, farmers and organisations and firms within the field of agriculture and food production/consumption.

Figure 1 is a translation of the broad understanding of organic farming into a model for external influences on farmers. Within the model, farmers’ decisions are made within a social context constituted of three domains. The first is the food market composed of different types of firms with which the farmer interrelates on the basis of demand and supply. The second domain is agriculture policy composed of public agencies that regulate farmers’ activities either directly or through interplays with organisations. The third domain is the farming community, which includes local as well as professional communities and organisations with which the farmers interrelate in order to obtain knowledge and identity (Michelsen, 2001a; Michelsen *et al.*, 2001).

**Figure 1. The social context of organic agriculture development**



The three domains correspond basically to a model of society constituted of three sectors: the market, the state and civil society. Each sector is based on a distinct type of rationality and may provide the individual farmer with different types of inputs for his/her deliberations regarding the farm; for instance, the option of converting to organic agriculture or developing existing organic production.

The emphasis in this paper is on agriculture policy while taking into account how features of the other two domains could influence the impact of any policy on farmers’ decisions and activities

(Figure 1). We will begin with a general discussion of the importance of organic agriculture distinctiveness relative to communication policy instruments that promote organic farming. Secondly, a summary of empirical findings relating to the theoretical considerations on policy instruments is provided. Finally, we conclude with an analysis of how communication instruments may be used to promote organic agriculture development in practice.

### **Organic agriculture distinctiveness**

Organic agriculture is a well-defined agriculture production system. It is constituted of usually detailed production standards. The use of standards is similar to other systems such as integrated agriculture. However, whereas other types of agriculture production methods and systems originate within the agriculture sector itself, notably in research, organic agriculture has strong ties outside the agriculture sector. It has been largely developed “from below” as part of a social movement bringing together people from within and without the agriculture sector and with only marginal interrelations to agriculture research (Michelsen 2001a).

The social movement’ origin has major consequences for the use of policy instruments to promote organic farming. The main implication is that organic agriculture standards are developed on the basis of a system of overarching values and ideas about the proper principles for sustainable agriculture. They are included in statements of principles expressed by most organic agriculture movements — and certainly by the IFOAM. The best way to understand the value statements is to realise that they are a reaction to and a critique of certain practices of mainstream agriculture. The critique includes claims about the negative consequences for the environment, animal welfare, human health, etc., of “conventional” practices. Hence, the explicit value orientation makes a very clear distinction between organic and “conventional” agriculture. The values are in turn institutionalised into the detailed production standards and certification systems as well as into organisations that serve the purpose of specifying organic agriculture distinctiveness. The social movement origin thus implies that the institutions of organic agriculture attempt to realise the values of organic agriculture in a world that from the outset was dominated by those values and institutions and organisations, which organic agriculture is meant to oppose. Hence, organic farming may need to address all three domains of the social context to meet the challenges of mainstream agriculture.

One way of illustrating the importance of the value basis for organic agriculture development is to compare it with integrated agriculture. Integrated agriculture has no basis in a social movement but in a scientific concept of environmentally friendly production focusing on savings rather than bans of external substances used in mainstream agriculture. Hence, although integrated agriculture institutions may be needed to manage the three domains of the social context, it seems from the outset possible to meet the challenges on the basis of co-operation with existing agriculture institutions rather than competition.

There are no analyses available that can clarify whether the distinction between organisations of integrated and organic agriculture made here are found empirically. A Danish study suggests, however, that there are clear differences in the level of farmers’ compliance to the complex set of rules included in both systems. Both systems are inspected in similar ways by the same public agency. In the case of organic farming, between 0.0 and 0.2% of certified farms were deprived of certification every year between 1995 and 1999, while it was between 5.8 and 24.9% of certified farms in the case of integrated farming for the years 1996 to 1999 (Michelsen, 2001b). These data are combined with an analysis showing that the attitudes of Danish organic farmers are consistent with organic agriculture standards. Similar data are not available for integrated farmers, but a certificate of integrated farming is an obligatory prerequisite if a farmer is to supply distinct markets demanding

uniform quality and large quantities. Hence, there were clear instrumental reasons for entering integrated farming, and apparently low exit costs. Part of the case is that neither public authorities nor market actors accepted the claim that products of integrated agriculture were distinguished from ordinary products on the basis of environmental friendliness.

The initial comparison of the two agriculture production systems thus illustrates the relevance of including compatibility of values between farmers and regulation when analysing the working of organic agriculture regulation. As this affects the promotion of organic agriculture as a high value orientation this may imply high barriers to both entrance and exit of farmers to organic agriculture. Finally, the Danish case illustrates that the distinction of a production system from mainstream production needs to be substantial if it is to be accepted within the various domains of the social context.

### **Communicative policy instruments and organic agriculture promotion**

It is common to make an analytical distinction between three main types of policy instruments (Peters and Nispen, 1998). There are broad agreements as to the content of *legal instruments* (regulation) and *financial instruments*. Legal instruments operate through political power/authority and legitimate legal sanctions in the form of licences or prohibitions. Financial instruments operate through economic incentives whether positive in the form of support or negative in the form of taxes and duties. Both types of instruments are well known within the politics of organic agriculture promotion as public definitions or certification of organic agriculture or as financial support paid to farmers during and after conversion periods.

The third category of policy instruments is meant to include more flexible instruments, such as research, information and communication and has no clear labelling. Vedung (1997) suggests “information” indicating a one-way flow of messages from the public agencies to citizens while Dabbert (1997) suggests “moral suasion” and hence opens some space for citizens to consider the personal preferences related to the messages. In their critical assessment of instruments, de Bruijn and Hufen (1998) label the third category “communication instruments”, leaving space for a two-way interrelationship between regulator and regulated citizens. It is clear that, irrespective of the label, the effect of these instruments does not rest on clear positive or negative sanctions, but on the persuasiveness of arguments and their compatibility with views and attitudes held by the regulated citizens, and through the working of social norms among members of the community in question.

Historically, organic agriculture developed on the basis of self-regulation through privately agreed standards. This kind of regulation may be included among communication policy instruments. One reason for including this kind of private initiatives in a concept of public policy is that abstention from the enforcement of public policy may be a deliberate political decision. In addition, the working of self-regulation is based on the same rationality of civil society as the above-mentioned communication instruments: social norms, ethics and trust mediated through personal interrelationships. In some cases, social norms (such as a threat of exclusion from a social group like farmers) may have much stronger impacts on citizens’ behaviour than the punitive forces associated with either public regulation or failure in the market place.

To sum up, communication policy instruments include instruments that attempt to influence citizens’ behaviour on the basis of communication between regulator and regulated citizen. The content of the communication must in some way be oriented towards communicating on the basis of attitudes and social norms that guide action within civil society.

When designing communicative policy instruments it may be worth considering that various levels of value orientation may be susceptible to change to a different extent. For instance, Sabatier (1993) distinguishes between three levels of value orientations among policy élites: a normative core akin to religious conviction and thus very difficult to change; a near policy core, which includes fundamental positions that may be subject to change if positions appear untenable by very clear experience; and secondary aspects that concern implementation of policy core which may be subject to change on the basis of reasoning and discussion. From this may be derived communication policy instruments addressing organic agriculture promotion that should primarily address groups within the farming community with core values that are not too far from those of organic farming and focus on influencing secondary aspects of their views by means of premises, facts and reasoning.

It appeared from the discussion of organic agriculture distinctiveness that organic farming is based on distinct values and that it is fair to emphasise compatibility of values between organic farmers and organic agriculture regulation. Further, the value orientation against mainstream agriculture represents a rather high barrier to farmers' entrance to organic agriculture, *i.e.* it seems a rather big decision to convert to organic farming. Thus, if public policy is to promote organic agriculture by means of communication instruments, it may be an objective to lower the entry barrier. This may be done by taking further steps than those derived from the discussion of levels of values above. These steps may include the reaching out for groups of farmers whose values might not be fully compatible with organic agriculture and adapt part of the organic farming practices to their attitudes and norms. This involves the risk of watering down the distinctiveness and hence the identity of organic agriculture. Thus, irrespective of the intention to either keep or water down organic agriculture distinctiveness, it appears an important policy element to learn about the essential features of organic agriculture, not least on the basis of research in different ways to implement the basic values into production standards.

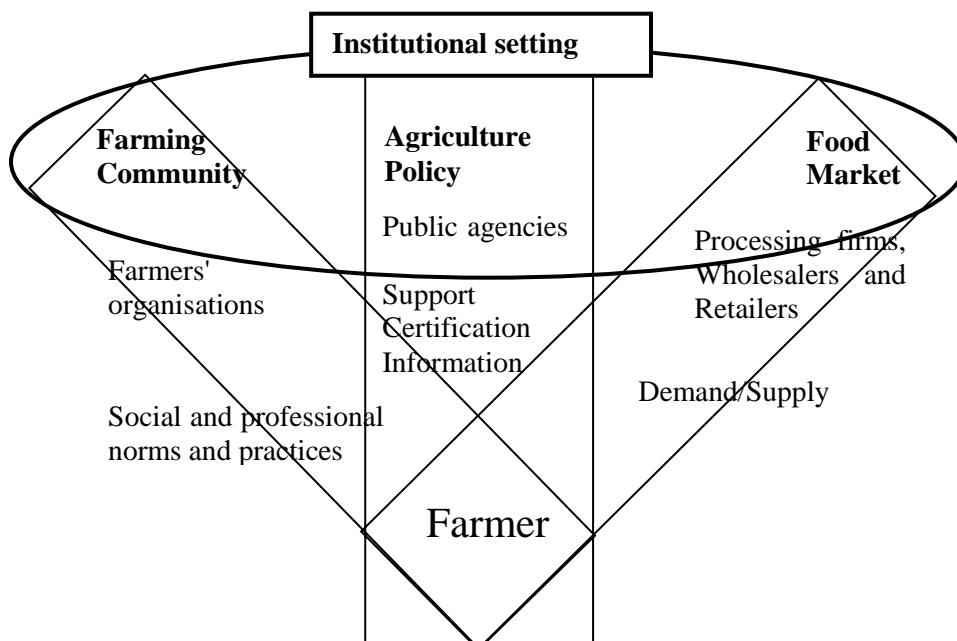
Additional policy recommendations may be derived from Figure 1 as it indicates that agriculture policy is not the only channel available to influence farmers' decisions. It may even pay to exert some influence on and co-ordinate agriculture policy actions with activities of the farming community and the food market. In this way a fourth domain may be constituted within the social context, that of the institutional setting across domains. This is illustrated in Figure 2.

Combining organic agriculture distinctiveness with the characteristics of communication policy instruments lead to a definition of needs for producing and distributing premises, facts and reasoning within four domains of the social context and in such a way that the values of organic agriculture and their specification in production standards are treated seriously but not uncritically. In relation to the farming community objectives on communicative policy instruments may include: *a)* production of knowledge of organic farming practices, their relation to values and their potential for further development as well as more practical knowledge about the types of farms and productions that may be best fit for organic agriculture; and *b)* the development of systems to distribute information about existing and potential farmers. In relation to agriculture policy, the need is for knowledge about effects of different policy instruments on farming practices in general as well as on organic farming practices to be produced, distributed and implemented when public agencies address existing and potential organic farmers. In relation to the food market, knowledge about the actual interplay between buyers and sellers in the food market in general as compared to the markets for organic agriculture products may form the basis for attempts to establish enduring interrelationships with major actors in the food market to the benefit of actual and potential organic farmers (Michelsen *et al.*, 1999). Finally, but not least importantly, the production and distribution of knowledge in relation to the institutional setting should cover the interplay between different types of action in all domains when taken for themselves and when combined across domains.



Hence, if communication policy instruments are to be instrumental to promoting organic agriculture, one focus should be on production and distribution of knowledge about pragmatic issues of implementation of main organic agriculture values characterised as secondary aspects above. This implies a focus on collecting and analysing experiences with organic farming practices, regulatory instruments and market interrelationships. Likewise, distribution of knowledge should emphasise pragmatism in order to address groups whose core beliefs are not in overt opposition to organic agriculture. Another type of interest — with interest to the whole of agriculture community — should be on the content of the normative core and its practical relevance.

**Figure 2. Institutional co-operation within the social context**



So much for theoretical speculation. The following section will compare experiences from a number of European countries in the use of policy instruments. There is major variation as to the size of organic farming sectors, although most countries have based activities in support of organic agriculture on the same EU regulations.

### **European experience with policies promoting organic agriculture**

There are only few and rudimentary analyses of policy impacts on the development of organic agriculture, and not one attempts to specify the contributions from communication policy instruments relative to those of other types. Hence, the objective of this section is to use a comparison of policy impacts on organic agriculture growth in European countries (primarily EU member States) as a basis for qualifying the theoretical considerations made above. The first issue is whether organic agriculture has appeared distinctive within the agriculture policy domain, the second issue is the general impact of policy on organic agriculture growth, and the third and final issue is the broad social and institutional context of organic agriculture development within six European countries.

Organic agriculture began as a Europe-wide policy issue in 1991-92, when the EU passed two regulations that defined organic agriculture (ECC Reg. 2092/91) and introduced support for organic agriculture as a type of environmentally-friendly production system (ECC Reg. 2078/92). In EU member States, these regulations were implemented in the following years while non-member States developed similar regulations. This forms the basis for the comparisons of the impact of policy on organic agriculture development presented below.

The first issue to be highlighted is the interplay between different actors involved in the introduction of policies in support of organic agriculture. The main question is whether different types of interplay has paved the way for different levels of acceptance of organic agriculture distinctiveness and of communication between organic and mainstream agriculture institutions to develop. Michelsen (2002) includes results from a survey on the situation in 1997-98 answered by national informants in 17 European countries. They should be taken only as a first and rough attempt to address the issue.

The findings show a broad variation with regard to the way in which actors representing interests of organic agriculture, general agriculture, and potential supporters of organic agriculture (such as environmental organisations) interact in different countries. In general, there is no clear division between organic and mainstream agriculture organisations, either on the level of individual farmers or on the organisational level. Furthermore, organic agriculture organisations' relationships with environmental organisations are not so strong and friendly as one might have expected. Alliances active within organic agriculture policy have a heavy load on organic agriculture organisations and public agencies while general agriculture organisations perform rather little activity. These findings suggest that organic agriculture policy may be developing as a policy sub-system separate from, rather than in dialogue with, mainstream agriculture policy. This is supported by the fact that political conflicts are perceived higher regarding administrative matters than substantive matters such as acceptance of support paid to organic farmers. The development of an organic farming policy sub-system also seems to be confirmed by the presence of rather specific fora for conflict resolution, with a low priority attached to fora for discussion between organic and general agriculture institutions. Finally, different types of interrelationships between organic and general agriculture institutions appeared to have no clear impacts on the size and growth of organic agriculture across countries. Hence, organic agriculture distinctiveness is not clear within the domain of the farming community — whether on the level of farmers or their organisations — whereas a rather strong separation appears within the agriculture policy domain.

The second issue is about the impact of policy instruments on the size and growth of national organic agriculture sectors. Available data made only crude qualitative assessments possible of the rather simplistic assumption that there is a direct link between the introduction of a distinct policy instrument and growth in the number of organic farms (Michelsen and Soegaard, 2001). Regarding legal instruments in support of organic certification, a qualitative analysis of 18 European countries suggested that the introduction of formal definitions of organic agriculture had some positive impacts on the rate of farmers' conversion to organic farming. In cases where a uniform national certification system was introduced, only positive correlations with organic farming growth in the following year(s) appeared. In cases of competition between national production standards, negative impacts on growth were found, with Germany as the main example. A supplementary quantitative analysis indicated an even stronger conclusion by suggesting a statistically significantly positive impact of introducing the common EU standards in the first half of the 1990s.

Regarding financial instruments, the analysis included only public support paid to organic farmers. Here, the qualitative analysis points towards a positive impact on the growth of organic farms in absolute terms when economic support was introduced for the first time. Subsequent changes seem, however, only to have accelerated the growth process leaving the final number of organic farms

unchanged. Examples are the introduction of EU support in Austria in 1995 followed by acceleration, and the introduction of permanent support in Denmark 1993 followed by stagnation. The general finding was not contradicted by a crude quantitative analysis. Hence, the rather provocative conclusion (which calls for further empirical assessment) is that public support paid to farmers may have a clearly positive initial impact, while subsequent changes seems only to accelerate organic farming growth while the long-term number of organic farmers remains unchanged. The analysis of the interplay between legal and financial instruments indicated that certification is a necessary precondition for both developing organic farming and introducing financial support, and that the introduction of EU certification had an absolute impact on growth, whereas the impact of EU support was mainly to accelerate the development.

In sum, the rather rough and tentative analysis of growth patterns in 18 European countries suggests that legal and financial policy instruments have influenced the development of organic farming, but mainly by initiating a development. Furthermore, the growth of organic farming seems to depend more on the introduction of common production standards than on support paid to farmers. This finding goes well in hand with the theoretical emphasis put above on the importance of organic farming identity. Finally, the total and long-term impact of the policy instruments mentioned seems rather limited.

In addition to the general comparative analysis of organic agriculture growth, Michelsen and Soegaard (2001) considered the importance of individual factors for growth patterns in each country. Among important factors, working in at least the United Kingdom and Switzerland, is the economic position of organic farmers relative to non-organic farmers. In periods of general agriculture recession, farmers seem more inclined to look for support for organic farming than under prosperity. Another factor that might help to explain why organic farming uptake is relatively high in German-speaking and Nordic countries is moral suasion among farmers who may see conversion to organic farming as an individual reaction to politicisation of agri-environmental issues in these countries. A third factor found in several countries is the development of contacts with supermarkets in the food market and other institutional networks.

The implication of the findings of Michelsen's and Soegaard's (2001) study for the discussion of communicative policy instruments is first that the impact of the other two main types of instruments on organic agriculture development does not seem decisive. Hence, it is relevant to consider the use of communicative instruments. Secondly, the analysis emphasises the relevance of analysing the four domains of the social context mentioned in Figure 2 simultaneously. In the discussion that follows, an attempt is made to sketch findings relevant to both of these objectives. The basis for the analysis is six in-depth country studies performed by Michelsen *et al.* (2001) using qualitative methodologies. The countries included were Austria, Belgium, Denmark, Greece, Italy (notably the provinces of Marche and Sicily) and the United Kingdom. They represent much variation in development patterns. Austria, Denmark and (partly) Italy have large organic agriculture sectors and all countries, except Italy and Greece, have experienced periods of stagnation in the period 1985-1997.

Each of the six countries has its specific history of organic agriculture development related to the specific climatic, technical and social conditions of agriculture production (ranging from intensive agriculture production in northern Europe to extensive production in the south). Each country had developed specific types of communicative instruments to implement the legal and financial instruments included in the EU regulations. The main content of the communication was distribution of information on support and of advisory services available either for farmers in general or exclusively to farmers with a specific interest in organic farming. Production of knowledge in terms of collection of relevant information and of research and development was scarce in all cases — although with distinct differences in emphasis between the six countries (for an overview of this kind

of initiatives see Lampkin *et al.*, 1999). The main difference between the six countries, which came out as an important explanation for differences in the size of the organic agriculture sector, however, not one single policy instrument, but the dynamics of the (communicative) interrelationships between organic and general agriculture institutions across domains.

In the first place, it appeared important for organic agriculture growth that dynamics in terms of changes to the organisations involved were taking place. They could include co-operation between hitherto competing organisations, major changes in the scope of existing organisations, the establishment of new organisations, etc. A high number of organisational changes indicate a higher level of adaptation to the social environment and to sectoral dynamics than a low number of changes. Furthermore, the scope of change in terms of the number of domains involved appeared important. If, for instance, changes within the agriculture policy domain were not accompanied by changes either within the domains of the food market, the farming community or the institutional setting then the impact on the size of the organic agriculture sector appeared less than if changes within all domains were combined.

In the second place, the character of interrelationships between organic and mainstream agriculture organisations appears to have a major impact on organic agriculture growth. Promotion of organic agriculture seems much less successful if the relationship is based on harsh competition or hostility between clearly demarcated sectors than if relations are based on some kind of co-operation. Strongly co-operative interrelationships may help promoting organic farming to reach a certain level rather quickly (as demonstrated in Austria and Greece). The major problem of co-operation is that less attention to the distinctiveness of organic agriculture may become visible when other options appear economically attractive to farmers. Then farmers may be less prepared to stick to organic agriculture than under conditions of less co-operation where the organic farming identity is more distinct. This reasoning may help to explain the stagnation since 1995 of Austrian organic agriculture.

Within the perspective of competition *versus* co-operation, more sustainable organic agriculture growth may be reached under conditions of what Michelsen *et al.* (2001) define as “creative conflict”. It implies an on-going conflict but at the same time the identity of organic agriculture is accepted by mainstream agriculture organisations within all domains. Hence, organic agriculture is neither threatened from being silenced out (as under strong co-operation) nor overtly suppressed (as under strong competition). Under conditions of creative conflict organic agriculture positions within all domains have to be established and consolidated by means of trial-and-error processes that involve continuous adaptation to the conditions of the social context. At the time of the investigation, creative conflict was primarily detected in Denmark, where it permeated all domains.

Finally, it appeared that the most important domains for successful organic farming growth were the institutional setting and the farming community. The institutional setting helps promote organic agriculture by combining efforts directed at different domains. Among the six countries studied, the clearest examples of successful institutional settings were found in Austria and Denmark, as they were the two countries with the largest organic agriculture sectors. Belgium also has an important institutional setting, but when compared to the other two countries, Belgium is characterised by involving only organic agriculture organisations, and this seems to have contributed to hardening rather than softening the boundaries between organic and mainstream farmers, thus hampering recruitment of farmers to organic agriculture.

## Conclusions

Policy matters in relation to the promotion of organic agriculture. When comparing the organic agriculture development in Europe, however, available data suggest that usual and well-known legal and financial instruments only matter to a certain extent, *i.e.* substantive growth appeared when support for organic agriculture was introduced, while later changes only accelerate growth to a given level. In addition, there is no empirical basis for evaluating the impact on organic agriculture development of communicative instruments in the narrow sense, *i.e.* research, development and information. Against this background, it is suggested here that communication policy instruments should be understood in a broader sense including all instruments that involve communication on the basis of attitudes and social norms within (segments of) the farming community. Some support for this understanding was derived from qualitative attempts to explain variation in national organic agriculture development that came out with promising results.

Within the broad context, communication involves the production and distribution of knowledge within and across the four domains that constitute the basis for institutional co-operation within the social context of organic agriculture development. It seems important that communication involve both organic and mainstream agriculture institutions on the basis of some kind of mutual respect and co-operation. The type of knowledge mentioned should include premises, facts and reasoning based on research of the distinct normative basis for organic agriculture as well as systematically collected experiences with practices in relation to organic agriculture development within the farming community, agriculture policy and the food market. Finally, it seems important to keep a certain level of dynamics in terms of activities within each domain and, not least, in terms of activities that combine efforts of various domains.

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## NEW ZEALAND'S ORGANIC AGRICULTURE: THE GOVERNMENT'S ROLE

*Peter Kettle*<sup>1</sup>

### **Abstract**

*The New Zealand government views organic agriculture as one of the paths towards sustainable production systems. It does not subsidise any form of agriculture but is assisting the organic sector through initiatives aimed at developing a national organic standard, a strategy for the sector and a scheme that will enable small-scale organic producers to have their produce certified as organic in a cost-effective manner. The New Zealand government is supportive of the organic agriculture sector, but is committed to encouraging all forms of sustainable farming.*

### **Introduction**

Consumers in New Zealand are currently enthusiastic about organic products and the market has increased about four-fold in the past five years, but from a very small base. The value of organic exports for 2000/01 was about NZD 70 million and represented less than 1% of the total value of exports of agricultural and horticultural products. However, the true value is the premium paid for the organic products above the price for the conventional products displaced minus any additional production costs associated with organics. The main New Zealand organic exports are apples and kiwifruit, and they have been attracting good premiums on some markets at some times. There are currently about 47 000 ha in certified organic production (12 000 ha in 1994). This equals less than 0.5% of our agricultural and horticultural land.

There is a close alignment between the organic movement and “green” politics in New Zealand, as is the case in many countries, and the past two general elections have seen genetic modification and organics as important issues for the electorate to consider. In this debate perhaps the strongest unifying force bonding the organic sector has been, and remains, antipathy towards genetic modification technology. It should be noted that there has been no approved release of a genetically modified crop to the New Zealand environment and most of the organic proponents are determined that New Zealand should retain its “GE (genetically engineered)-free” status.

For many years succeeding governments have recognised organic farming as offering one of the routes towards more sustainable agricultural production systems. Amongst the key policies of the recently elected government is to *help the development of the organic sector and publish a new standard for organic products*. This policy is designed to provide added impetus to the sector and follows on from a number of recent actions by the government.

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The government does not support subsidies for any form of farming, organic farming included, but recognises the social, environmental and economic contributions it can make. It is particularly interested in encouraging land development initiatives for Māori, the tangata whenua, or original people, of New Zealand and the Māori organic initiative is viewed in this light.

### **Primary Production Committee report on organic agriculture**

During 2000 and 2001 the Primary Production Committee, comprised of members of the New Zealand parliament, undertook an extensive inquiry into organic agriculture and published its report “Organics – New Opportunities for the Future” in April 2001. The recommendations made by the Committee were then considered by the government and to a large extent accepted.

### **The Organics Working Group**

The Organics Working Group was established by the government in July 2000 in response to an initiative taken by the Organic Federation of New Zealand. It is comprised of representatives of the organics sector, organic certifying agencies, conventional farming, Māori and government departments. The Organics Working Group works in parallel with the Primary Production Committee. The Organics Working Group established its goal as: *to facilitate the efficient and sustainable development and growth of the New Zealand organic sector.*

Māori, on their own initiative, responded to the Organic Working Group process by establishing a national group, Te Waka Kai Ora. This network will encourage the development of organics among Māori and is going from strength to strength.

### **Current government initiatives**

There are currently three initiatives in support of the organics sector that are receiving direct funding from government via the Ministry of Agriculture and Forestry (MAF) which relate back to the Primary Production Committee’s recommendations. They are the small-scale organic producers’ certification scheme, being developed by the Soil and Health Association; a National Standard for organic products, being developed by Standards New Zealand; and, a development strategy for the sector which is being facilitated by a group of consultants. In addition to these initiatives, research underpinning organics is mainly provided through the mainstream science system funded by the government through the Foundation for Research, Science and Technology.

The small-scale organic producers’ certification scheme is designed to assist small-scale producers of organic products to have their produce certified organic in a cost-effective manner through the use of local collective schemes. The aim is for the scheme to eventually cover the whole of New Zealand and be self-funding. At present there are twelve “pods” (distinct local groups of producers) involved. This scheme will be officially launched in November 2002.

Standards New Zealand is facilitating the development of the New Zealand Organic Standard and is involving a large reference group in the process. The standard will be at a level that will enable exporters to meet major foreign market requirements and it will ensure that domestic consumers are protected from producers making false claims about their products. It is anticipated that the standard will be published in December 2002 and that some organisation will take on the role of implementing it.

The final initiative, the development of a sector strategy, involves a project scheduled to be completed within calendar year 2002. It is anticipated that through a series of interviews and



workshops a strategy for the sector will be developed which achieves widespread buy-in. The strategy will project expectations for 2020 and provide a guide as to how to meet these. It will provide a framework, or context, which will provide potential investors in the sector with confidence in its future direction.

Associated with the development of the strategy are studies on the constraints to conversion to organics and the development of a portfolio of success stories representative of the various organic production systems. The portfolio of case studies will be made available at the launch of the strategy and help give substance to the projections.

When the strategy and standard are launched in December it is likely that considerable attention will be given to the projected lifting of the voluntary restraint on applications to release genetically modified organisms into the environment which is due to be lifted on 31 October 2003. This constraint period was negotiated with industry by the government following a Royal Commission of Inquiry into Genetic Modification.

### **Royal Commission on genetic modification**

The government established the Royal Commission in May 2000 and which reported back to government in July 2001. In a comprehensive review, it held numerous public meetings, received more than 10 000 written submissions and held a formal hearing lasting 13 weeks. The major conclusions of the Royal Commission were that New Zealand should keep its options open and proceed with caution when adopting genetic modification (GM) technology. A major theme of the report was to encourage the coexistence of all forms of agriculture.

The government, to a very large extent, agreed with the recommendations of the commissioners but decided to institute a voluntary constraint period for two years, during which time no one can apply to release a genetically modified crop into the environment. This restraint period is due to be lifted at the end of October 2003. During the restraint period a number of the recommendations are being acted upon such as changes to the laws regulating the use of GM technology.

The recommendations relating to organics that are currently being worked on are:

- A strategy to preserve the effectiveness of Bt (*Bacillus thuringiensis*) in the face of possible Bt-modified crops;
- Development of a code of practice to ensure effective separation distances between GM and non-GM crops; and
- MAF is charged with developing formalised networks to encourage constructive dialogue and communication between farmers using different production methods, and to provide mediation where necessary.

### **Conclusions**

It is anticipated that the organic sector will continue to grow and primarily be directed towards affluent domestic consumers and their counterparts in other developed countries. Considerable research will be undertaken in order to develop production systems that are truly sustainable. Key areas include soil fertility and pest weed and disease management. Claims made for organic products will be examined critically. Strenuous efforts will be made to ensure that all farmers will be able to choose what markets they wish to produce for and how they will do that. Coexistence of all forms of agriculture will be the goal.

## INRA AND ORGANIC FARMING: TOWARDS A RESEARCH PROGRAMME

*Bertil Sylvander and Stephane Bellon<sup>1</sup>*

### **Abstract**

*This paper sets out the way in which the French Institute of Agronomic Research (INRA) intends to develop its research into organic farming through a commitment to both pluridisciplinary and partnership-based studies wherein organic farming is considered an agricultural “prototype”. Although this starting point still leaves scope for analytical research, it is also likely to reinforce the systemic approach. It leads to an understanding of the processes employed in production under the constraints of regulatory standards. The basic principles of partnership-based research presuppose that programmes are to be developed through consultation with organic farmers’ representatives. Those principles therefore combine academic criteria and compliance with the requirements of organic farming. So far work has begun on compiling a database of scientific literature, scientific seminars on specific questions have been held in association with organic farming organisations (ITAB) and non-INRA researchers and practitioners, and a research programme is under development (by organising an in-house call-to-tender, in accordance with the applicable regulations). INRA allocates EUR 5.5 million annually to this programme. So far 55 projects have been assessed and 20 are on-going. About 32 full-time researchers work on those projects. The first subjects addressed relate to organic farming and: nutrition and health; crop protection; genetic resources; animal health; animal welfare; and the environment. The following questions are crucial to the research programme: what are the specific features of research into organic farming? Subsequently, does research need to change its objectives and approaches (increasing specialisation versus cross-disciplinary research)?*

### **Introduction**

Agricultural institutions and trade organisations have long viewed organic farming as a marginal activity. INRA has been no exception, maintaining reservations about the practice. However, recent political recognition of organic farming has prompted various organisations to draw up policies to promote it. In France, this shift can be dated to the December 1997 introduction of a medium-term plan for the development of organic farming. INRA, for its part, announced its commitment to a research programme in January 2000, while emphasising the need to comply with the rules governing all research activity. In this paper we indicate how INRA intends to move ahead in this area and we give examples of its activities.

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INRA serves as a platform for the objectives and resources of most scientific disciplines with a bearing on agriculture, the environment, and food. At present, INRA has approximately 8 500 employees, 1 780 of whom are research scientists working in teams that also include engineers, technicians, and administrative staff. These teams are grouped into 17 research departments with each department pursuing its own scientific objectives within the strategic framework laid down by the institute.

## Basic principles

INRA seeks to pursue an all-round approach combining cross-disciplinary and partnership-based research. It views organic farming as an agricultural prototype and draws the consequences of this in terms of its potential scientific repercussions. This starting point still allows for analytical research while also reinforcing the systemic approach. It leads to an understanding of the processes involved in farming to meet strict production standards and should, in the long term, yield innovative solutions. A further challenge is to understand the way in which the demands that society makes of organic farming are to be analysed and ranked by order of importance, whether in terms of production, processing, or control of the outputs of organic farming (product quality, ecological balance, environmental impact, macroeconomic optimisation, etc.).

The task of INRA's Internal Committee on Organic Farming is to make progress on three objectives: to better understand organic farming (through the compilation of a database of scientific reference works with links to other databases), to hold scientific seminars in order to transfer and discuss the research results (through the organisation of conferences on specific topics in association with organic farming organisations and with the participation of INRA and non-INRA scientists and practitioners<sup>2</sup>), and to develop a research programme (through the organisation of an in-house invitation-to-tender under the applicable regulations). Those objectives have to be achieved on three scientific fields (Table 1). The aim of the research programme is to identify motivated in-house teams and to construct a network that is both consistent and reliable in terms of sharing information, defining objectives and methods, providing research incentives, and evaluating and transferring results. INRA allocates EUR 5.5 million per year to this programme.

**Table 1. The research programme objectives**

Fields	Objectives		
	<i>To better understand organic farming</i>	<i>To transfer and discuss scientific results</i>	<i>To develop new projects</i>
<i>Bio-technical</i>	Production rules	Extension	Explanation
<i>Production systems</i>	How to combine objectives	Methodology and tools	Conversion of new systems to organic farming
<i>Economics</i>	Statistics	Supply chains Demand	Organic marketing initiatives

The basic principles of partnership-based research presuppose that programmes are to be developed in conjunction with practitioners. Thus, the Teaching and Research Department (DGER) of the Ministry of Agriculture and Fisheries has set up a co-ordination platform with INRA, ACTA

2. The subjects covered in 2000-2002 dealt with crop protection and organic farming, genetic resources and organic farming, animal health and organic farming and the assessment of techniques used in breeding.

(Union of Technical Institutes for Experimentation in Agriculture) and ITAB (Technical Institute for Organic Farming). This group is to support DGER in co-ordinating programmes on research, development, and education.

### **Current activities: internal projects**

In 2000, INRA supported a number of research teams and experimental units currently working on organic farming (see Annex for a full list of current activities). The main objective was to strengthen such units and to enhance their research achievements by providing additional financing. Here are three examples from different domains.

In organic crop farming, the discrepancy between the kinetics of crop requirements and the soil nitrogen mineralisation rate affects wheat yield and grain quality. To help reduce the shortage of organic cereals in France, support was given to research into improving the nitrogen management of winter wheat by optimising spring fertilisation.

In fruit growing, an experimental unit in south-eastern France has been working for several years to optimise organic peach and apple production techniques. Fertilisation is being investigated by monitoring both the nitrogen mineralisation rate in soils and fruit quality. This work has now been extended to apple growing. The effects of mixed hedgerows on fauna that are beneficial to orchards is also under study and ties in with the wider question of biodiversity.

In organic livestock farming, priority has been given to sheep farming in the central mountain area of France. The aim is to compare two grass-based feeding systems with a view to extending lamb production periods. The study specifically addresses connections between animal feeding practices and health through a cross-disciplinary approach combining technical and economic studies, and associating research, training, and development activities across a range of structures.

### **Current activities: collaborative projects**

During 2001, INRA and ACTA invited tenders for specific projects in three main areas identified by practitioners. These are described with examples below. As expected, responses came from research units and technical institutes alike. A common feature of the projects is their cross-disciplinary nature and the use of a battery of methods (field and laboratory studies, modelling, and testing).

One project seeks to reduce the use of copper by identifying disease tolerant crop varieties, optimising copper application methods, and testing crop management strategies. The project also tests alternative products (and bio-stimulators) and evaluates the effects of applying copper on various soil types with perennial crops.

A second project is designed to control grapevine yellows caused by the ampelophagous leafhopper *Scaphoideus titanus* (Ball). Special attention is given to local situations where biological control is effective and/or resistant vineyard plants are grown. The research seeks to understand the biological processes involved and to develop alternative control strategies.

Proposed projects on the production of seed and plants suitable for organic farming relate mostly to the actual planting material, particularly for field and tree crops. However, for seed production, a sanitary quality insurance process is also planned, focusing on key crop species and diseases.

For the future, INRA considers it essential for research programmes to investigate organic food quality (taste, nutritional quality, and safety) and wider social issues such as the environmental impact of organic farming as well as animal welfare, ethical trading, etc. This is the direction that future projects should take. Finally, we intend to evaluate our approach based upon systemic thinking and partnership-based research. Altogether, the following themes are covered by the current projects:

**Table 2. The themes covered in INRA projects**

Areas	Projects
Production	Seeds and plants (biotisation, seed protection) Breeding (cereals, cabbage, potatoes, cauliflower) Production techniques (rapeseed, fruits, sheep raising, durum wheat, rice) Fertilisation (cereals: crops requirements, soil nitrogen mineralisation, vegetables) Pest control (how to offset copper, grapevine yellow) Animal feeding (nutritive composition of feeds)
Environmental diagnosis	Farming sustainability Impacts of copper on soils
Social demand	How to improve specification according to social and consumer demand
Supply chain	Milk quality and supply chain management

**The main question: the scientific status of organic farming research**

The initial hypothesis that organic farming is a “prototype” leads to the questions of the specific scientific status of a research programme on organic farming compared with other research programmes. One approach would be to argue that science is the same everywhere for everyone and that such a programme should consider organic farming more as an area of research, separating the applied objectives that are specific to organic farming from the scientific objectives and resources that are generic (organic farming as an area of research). A second approach would be to treat organic farming as a specific object of scientific research and to maintain that specific objects involve specific mechanisms and methods, even if they must still bear the hallmark of scientific rigor (organic farming as a scientific object).

This question can be addressed concerning the scientific objectives of the research to be conducted as well as the research mechanisms and methodologies to be implemented. Therefore, we will handle both levels in the following discussion. However, before doing so, we will give some general remarks.

We feel it is too early to decide either way and that the programme should be assessed on the basis of concrete experience. The options should therefore be kept open as far as possible. However, we see the debate as an important one for two reasons. The first is obviously scientific and epistemological, while the second is political and institutional. The future of research programmes on organic farming will probably be determined in part by the way the debate is conducted and concluded. True, institutions’ programmes are influenced to some extent by political considerations, but funding for research is not so much a limiting factor as might be thought. Institutionally, the main thing is to convince research scientists themselves that a programme on organic farming is scientifically worthwhile and that they can also make a successful career out of projects of this sort. If the argument goes in favour of organic farming as a non-specific area of research, the scientific questions of interest will still need answering, although there may be fewer of them. Conversely, if the

argument goes in favour of organic farming as a specific scientific object, the programme may become even more worthwhile in the future.

This debate is an important one and should be conducted both within the scientific community, and between the scientists and the practitioners of organic farming within the context of the partnership arrangements briefly referred to earlier in this paper. An essential condition for doing this is to show mutual respect for each party and its explicit rules.

Scientists must be willing to accept the constraints of production standards as defining a model of farming under constraint and must construct their projects and protocols accordingly, and therefore must discuss their objectives and characteristics with practitioners. In some cases, this entails, in field experiments, constantly questioning the practitioners so as to learn about farming in accordance with the rules and practices of organic farming. Lastly, partnership-based research implies planning from the outset to include the relevant categories for action (Sebillotte, 1999). For example, a research project on fertilisation in organic farming must begin by asking about the adaptation of CORPEN indicators to forms of production.

Likewise practitioners will find it helpful to understand the logic behind the scientific approach: scientific questions are initially practical questions asked in different ways, often by (over)simplifying; they must be innovative and should not aim merely to apply or adapt tried-and-tested ideas; they are not therefore confined to experiments designed to test a given technique; protocols must be rigorous; results may be unexpected and even contrary to what was hoped for; they may sometimes be of little immediate benefit and they may take a long time to acquire; finally scientific knowledge is universal in character and must be certified by academic publication if it is to exist at all.

This mutual respect implies that neither partner can demand that the other break with the relevant ground rules. However, the partners may construct a common culture around the debate without either side imposing its culture on the other. In the day-to-day work of partnership-based research many things need to be developed jointly, both when deciding on the research objectives and when deciding how to achieve them.

### ***The scientific objectives of the research programme***

First, partnership-based research cannot be conducted successfully without clear objectives that are prioritised and agreed to by scientists and practitioners alike. Experience shows that this is difficult to achieve. Should one opt for fast and ambitious expansion of organic farming or slow but steady development based on a niche strategy? Among other things, this question dictates which localised and generic production techniques and systems are to be promoted as being consistent with the regulatory standards. Are we moving toward exclusively mixed crop-livestock farming systems or should specialised systems be developed? What are the consequences for major crops and for fertilisation? What connections are there with research into varieties suitable for organic farming? Should we seek to classify general objectives by rank order or to define relevant and viable categories of situation? This option would be compatible with localised production systems where the aim is not to maximise just one criterion but to achieve objectives, to validate the technical and economic feasibility of well defined systems, and/or to determine the limits of a given system.

In the case of genetic selection of wheat varieties in organic farming, for example, the ordering of the criteria of productivity, nitrogen content, ground cover rate, disease resistance, and straw length is necessarily related to the production systems employed. The multiplicity of situations

seems to call for several rank orders but assumes some degree of openness in the choice of production systems which may not be agreed to by all and which could explain why there is no unanimous agreement about the criteria. It also assumes that we have data about the most relevant situations, which is difficult at present.

Production standards are an obvious starting point (prototype) but they are liable to change (in line with the technical and ethical logic of production or in accordance with new objectives related to society's demands). In addition, standards may be interpreted in accordance with situations and practices, which illustrates the diversity and variability of production systems even within organic farming.

### ***The research mechanisms and methodologies***

As concerns the research mechanisms, the first approach (organic farming as an area of research) implies that once the objectives have been defined (*e.g.* selection criteria for varieties suitable for organic farming), the resources are generic within the principles of organic farming, which principles may be debated but on the sidelines of the research project. The second approach entails reflecting about just how specific the research is. For example, organic farming calls for a systemic approach in its very conception of production. This is not completely exclusive, as systemic research is carried out for other production systems, but the approach may help in differentiating some organic farming research from strictly analytic approaches.

Nevertheless, this approach is complex because it entails varying several factors at the same time, which infringes the principle of "all else being equal". In some instances, it seems that the system can be broken down into almost independent sub-units (this might be the case for research in the Camargue on hard wheat and rice: genetic research, production systems, and value-enhancement processes are all partly independent). Conversely, in the case of INRA's investigation of sheep farming referred to above, it is helpful in order to increase the flock's productivity through three lambing sessions over two years to conduct research simultaneously into the economics of sheep farming, the cross-influences of animal husbandry, flock health, feed, and the quality of the meat produced. This is not self-evident and caused fierce debate within the team and with the practitioners.<sup>3</sup>

To this extent, it can be asked whether the systemic and analytic approaches are complementary, with the former looking into the way the system operates and at ways of optimising it (the Redon site in the Massif Central) while the latter seeks to identify phenomena and to study the action of one factor on one effect by comparing organic and non-organic systems (as at the Orcival site in the Massif Central). As such, it is pointless to oppose comparisons (suspected by some practitioners of tending to "evaluate organic farming") and the study of how an actual organic system operates, as the two approaches can be complementary.<sup>4</sup> This is why there is a continuum between experimental units, systemic arrangements, comparisons and pilot-farm networks, depending on the specific objectives in view (Niggli and Schmidt, 2002).

Another source of specific features about research into organic farming could be the understanding of biological variability, which is the corollary of agriculture based on natural

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3. The same is true of the project for fruit tree growing (INRA Gotheron) where infestation by apple tree greenfly, nitrate fertilisation and the nitrate content of the soil, and the ecology of auxiliary insects close to hedgerows are being investigated at one and the same time.

4. The same can be seen for research on the quality of organic products: the systemic approach seeks to describe a phenomenon while the analytic approach seeks to explain it.

equilibria. This presupposes that practitioners and scientists alike come to consider learning about the scientific management of variability of living organisms in an uncertain environment as a primary objective. This is not a straightforward question as it is beset by scientific and political controversies. It prompts scientists to think about intentionally reducing variability (this is often the case in animal hygiene and product hygiene), and goes as far as genetic engineering. Adapting varieties to various situations may, for example, lead some geneticists to want to return to “population varieties” while their colleagues only see progress in F1 hybrids. This choice is not self-evident as it leads to controversy and contains very real challenges for scientists and laboratories.

Practitioners too are confronted with this question, for example, about how far and in what way to codify practices in production standards, which are necessarily simplifications compared with the actual diversity of practices and local situations. In doing this, legitimate questions are raised about generalising organic farming and about the limits of the system.

Finally comes the question of approaches that are so radically new (compared with “standard” scientific approaches) that they confound the scientists. This is the case, for example, with the principles of biodynamic agriculture, of homeopathy, or the “global” approach to quality based among other things on “tangible crystallisation”. Such approaches demand a special effort if they are to be changed into research questions, and skills that are not necessarily found in institutes like INRA, prior studies of the literature in which validation by outside experts and scientific debate are primordial in insuring stringent protocols and general results. This process is not necessarily beyond reach but it will take time.

While fuelling the debate about the specificity of a research programme on organic farming, the foregoing developments raise the ethical question of the neutrality of science. From the outset, they adopt a “procedural” posture of science in the making (by the sociological interplay of the world of research and its environment (Latour, 1995) and of scientific research programmes advocated by Lakatos (Cabaret, 2002)). This calls for a large dose of modesty, both because scientific truth is by definition falsifiable and consequently knowledge is historically dated, and because what were thought of as linear orientations of agronomic research defined by their own internal logic were in fact greatly influenced by the objectives of a historically dated agricultural policy and by the industrial rationale of the post-war period.

## **Conclusions and recommendations**

In conclusion, it can be said that the complexity of the question and the specific nature of organic farming research addressed in this paper should prompt us to a good deal of modesty and patience, since the various projects need to be evaluated with a view to validating or rejecting many of the hypotheses set out here. The examples of partnership-based research conducted by INRA so far show that these are always historically long processes that are time consuming and that entail gradual, mutual learning processes with a view to defining common objectives as well as finalising (as joint constructions) mechanisms that are often complex and difficult to manage.<sup>5</sup> In addition, this type of research assumes, as we have seen, transverse scientific leadership, continual project monitoring, evaluation from the standpoints of scientists and practitioners and, of course, the unfailing support of the institutions and their research departments. On a more political front we need:

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5. GIS Alpes du Nord began in 1970, the Redon platform in 1980, the Camargue project in 1988 and the Gotheron unit in 1994.



- to lobby for a permanent network compiling the research projects in progress, project results, and scientific publications throughout Europe. The ECODIS has been rejected twice. This urgent question must be put before the EU.
- to work out a co-ordination system in order to gather practitioners' requirements for further research *e.g.* farmers, processors, consumers and institutions (certification bodies, etc.) and to evaluate research results according to their ability to fulfil those requirements. This system must extend to different levels: the projects themselves and the overall political level.
- to complete research projects, in order to reach a single definition of what organic farming is in Europe, since diverse interpretations of the EU regulations lead to unfair competition within the organic market and mar the image of organic farming.
- to conduct projects in closer relationship with non-organic research, in order to legitimise the specificity of organic farming in scientific terms and to ensure positive exchanges between research on conventional and organic farming systems.
- to diversify the fields of research, for example the impact of organic farming on the environment and rural development, better definition of animal welfare, nutritional and hygienic quality of organic products, consumer expectations and general education concerning agriculture in general (*i.e.* biology, economics, science); relations between overall social and political aspects and organic farming production methods world-wide (fair trade, energy balance, public policy evaluation, etc.).

## *Annex*

### **INRA's current research projects**

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#### **Internal projects (INRA, 2000-2003)**

Cereal production: kinetics of crop requirements and soil nitrogen mineralisation rates  
Fruit growing: fertilisation, fruit quality, hedgerows, biodiversity  
Livestock production: sheep farming, extensive production, production periods, animal feeding, health  
How to improve organic farming standards to meet consumer requirements?  
Development of production systems in potato growing  
Plant breeding for potato growing  
Environmental risk assessment in dairy farming  
Sustainability of organic farming holdings in dairy farming  
Organic milk quality and supply chain management  
Plant breeding in cereals, cabbage, cauliflower  
Influence of wheat cultivation management on mycotoxins  
Cultivation of organic oilseed rape  
Influence of organic farming on nitric waste in soil  
Development of organic rice and hard wheat in the Camargue (marshlands in Southern France)  
Organic fertilisation in vegetable growing  
Organic feed quality for pig farming

#### **Collaborative projects (Call opened by INRA and ACTA, 2001-2003)**

How to reduce the use of copper  
Controlling grapevine yellows  
Production of seeds and plants in organic farming  
Fertilisation in organic farming

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## DUTCH POLICY ON ORGANIC AGRICULTURE: A MARKET-ORIENTED APPROACH

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### **Abstract**

*The organic share in the total agricultural surface in the Netherlands is relatively small: 1.9% of the total agricultural area is under organic management. Dutch citizens want a sustainable form of agriculture, and organic farming has a pioneering role in this. In its efforts to promote organic farming, Dutch policy takes a market-oriented approach but the emphasis is on establishing co-operation between market players with the demands of the public and consumers as the guiding and controlling principle. Market players have formed a Task Force made up of representatives from all the links in the chain. In a chain plan, the parties set out targets to develop the market for the product group concerned. In order to communicate effectively the Task Force has drawn up a joint communication plan to improve the harmonisation between supply and demand and further the development of the organic chain. The first results are promising: agreements have been concluded in the pig production sector and more are likely to follow for organic bread, beef, fruit and vegetables. A first evaluation of the current chain approach will be made by the end of 2002 to determine whether it can replace the current subsidy scheme for the primary producer who wishes to convert to organic production.*

### **Setting the scene**

With a total surface area of about 4 million hectares and a population of 16 million people, the Netherlands ranks among the densely populated countries in the world.. The limited land area puts an almost permanent pressure on rural areas. The agricultural area amounts to 1.95 million hectares and in 2001 there were 93 000 farms. Farming concentrates on animals (56%), horticulture (21%) and arable cropping (14%). Fruit-growing farms account for 5% of the farms and mixed farms for 4%. This sector faces are many challenges as consumers are increasingly concerned about the environmental and welfare aspects of production methods. Effort are being made to balance economy and ecology through a more sustainable form of agriculture. The government has an encouraging and controlling role in this development.

In 2001, 1.9% of the total agricultural area was organically managed. On 1 July 2002, there were 1 562 organic farms, of which 322 farms were still under conversion. The largest sector in the Dutch organic farming sector is the animal husbandry sector. The number of organic dairy farmers has

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risen sharply in the past few years because conversion to that sector is relatively easy. Increasing consumer demand and the introduction of organic dairy products in supermarkets has also stimulated the growth of the organic market for dairy products.

### **Dutch policy on organic farming: an organic market to conquer**

The market-oriented approach is the key to current policy on organic agriculture. Like other parts of the agri-food complex, the organic chain faces the challenge of developing over the coming decade into an independent sustainable sector able to compete in international markets, as well as setting the standard in Europe. Opting for a market-oriented approach has consequences for the role of the parties involved. The Policy Document on organic agriculture, “An Organic Market to Conquer”, fleshes out the role of central government and the Ministry of Agriculture, Nature Management and Fisheries in particular, by bringing assisting to the organic chain from 2001 to 2004 inclusive.

The organic sector has an excellent record of socially responsible business practice. In all links of the chain, organic production largely meets social requirements in terms of environment, animal welfare and biodiversity, and plays a pioneering role for the entire agri-food complex. There is a growing demand for organic produce. While total food sales in the European Union are stagnating, sales of organic products are rising. Consumers are motivated not only by social conscience, but also by the healthy and reliable image of these products. The certification of products and the method of production with the Dutch “EKO” quality mark contribute to this image.

The organic sector is moving quickly from a pioneering into an expansion phase, although this growth is currently proceeding in fits and starts. The chain is not yet performing well enough on a scale great enough to generate sufficient demand and in strength to continue to meet high consumer expectations. Furthermore, there seems to be some hesitation within the chain which, at a time when market prospects are better than ever, is not taking sufficient initiatives. The market players have a primary and joint responsibility. There is an important role to be played by the retail, wholesale and catering trades. They form the link with the consumer and, as the demand for organic products grows, they can exert influence on the conversion process.

Responsibility for investment in the future lies within the organic chain itself. However, the combination of market prospects on the one hand and the pioneering role of organics in the area of social responsibility and innovative enterprise on the other justify a policy of incentives to give a boost to the organic sector. We have opted for a stronger market-oriented approach: the market must be the guiding factor and the different parts of the chain must capitalise on the market potential for organic products. The Dutch government hopes to accelerate growth by providing a temporary impetus, with the emphasis on establishing co-operation between market players. It is hoped this will contribute to organic agriculture as a socially responsible and innovative type of operation with effects for the entire agri-food complex.

### **Commitment from all parties**

Obtaining commitment from all parties involved is essential for promoting organic farming. In spite of the positive factors which should favour the growth of organic production methods, the production chain is confronted with a number of bottlenecks. Flaws in the chain mean that supply and demand are not properly harmonised, result in high prices for the consumer and uncertainty for primary producers unsure of sales in the mid to long term. As long as sound co-operation between the various partners is lacking, the growth of organic farming will not be able to achieve its full potential.

The key to finding a solution is the consumer. The modern citizen increasingly demands products that are produced in a responsible manner. However, in the Netherlands this same citizen also balks at paying high prices for organic products. The Dutch government believes that the traditional approach, where the emphasis lies on stimulating supply, is no longer the most appropriate and the only way. This is why Dutch policy takes a market-oriented approach: the demands of the public and consumers are the guiding and controlling principle in the agri-food complex.

A distinction must be made here between the public and consumers. Although the public demands high standards, this not necessarily reflected in consumer buying patterns. The consumer is not always prepared to pay the high price required by these production methods. The consumer's wishes must be central to the promotion of organic farming. These wishes are translated to all links in the organic chain. An increasing demand for organic products has a knock-on effect in encouraging primary producers to convert. Production costs would then be reduced. If the links in the chain work together more efficiently this will lead to a wider range of organic products being made available to the consumer at lower prices.

The choice of a market-oriented approach means a change in thinking. It is, after all, the market partners that will have to make good the improvements to the organic chain. It is not desirable for the government to have the leading role. Its job is to facilitate the change. The government supports, challenges and spurs on the process.

### **Task force**

On the initiative of the Ministry of Agriculture, Nature Management and Fisheries the market partners have formed a Task Force for the market development of organic farming, made up of representatives from all the links in the chain (the Dutch Organisation for Agriculture and Horticulture; Platform Biologica, the umbrella organisation for organic farming and nutrition; the Netherlands' Society for Nature and Environment; the Dutch Association of Food Trade Organisations; the Rabobank; Triodosbank (financial banks); Stichting Merkartikel, the umbrella organisation for processors with a private brand). The Task Force works to get the process underway.

The work of the Task Force resulted in the signing of an agreement in 2001 which contained statements by the parties that a change should be made in production and marketing in the coming years from a product-based to a market-based approach. In addition, the parties agree that market, product and production development is primarily the responsibility of the market partners, and that umbrella organisations and the government will concentrate on fulfilling an important stimulating and facilitating role for the market partners. The concrete target of the agreement is: *by 2004 organic products will have an average of 5% of the market share of consumer spending on food and drink in the Netherlands at an acceptable price for all parties, that is from consumer to farmer/producer.*

### **Chain plans**

The intentions laid down by the parties to the agreement will be made operational for each product group in so-called chain plans. Chain plans for each product group are necessary because the rate of development and bottlenecks can vary from product group to product group. In a chain plan, parties together set out targets to develop the market for the product group concerned. It is essential that the market partners commit themselves to these targets. In the execution of the chain plans, the government will make financial contributions to concrete activities which promote market development and chain co-operation. The financial support will be limited to projects in which several

market parties have an interest, projects which will not get off the ground without extra government support and which contribute to the targets agreed in the chain plans.

It is still too early to make a final evaluation of this chain approach, but the early signs are promising. The first tangible results stem from the two agreements to scale up organic pig production. Each agreement consists of price arrangements between a supermarket, a slaughterhouse and a group of pig producers. The idea being that the producers sell their pigs to the slaughterhouse at an agreed price after which the meat is sold to the supermarket. The price agreed is fixed for three years and is based on real costs. The market parties have asked the Ministry to introduce an investment scheme. This scheme will allow farmers to invest in the replacement of their conventional pig housing with organic housing.

Expectations are that these agreements will soon be followed by chain plans for organic bread, beef, fruit and vegetables. Where necessary the government will decide on additional support in the form of market studies, product promotion and/or specific support of the primary producer. It might also provide funding for the recruitment of so-called chain managers. Hiring such persons who bring market partners together in chain agreements has proved to be effective in the pig production sector.

### **Consumer information**

In addition to chain organisation, a market-oriented approach requires special attention to be given to consumer information. In order to communicate effectively, the Ministry of Agriculture, Nature Management and Fisheries and the Task Force are working from their various areas of responsibility with a joint communication plan.

Early in September 2002, Cees Veerman, Dutch Minister of Agriculture, Nature Management and Fisheries, launched a media campaign promoting organic products. Through to 2004, consumers in the Netherlands will be informed about organic products via advertising on television, magazine articles, a website and leaflets. This promotion campaign is facilitated by the government at the request of market parties. The Dutch government is financing the media campaign while the industry is spending an equal amount on product-oriented promotion campaigns. They have organised promotional offers allowing people to taste products in the shops and organic products are given extra shelf space. Shop assistants are being trained in selling organic products and answering consumer's questions.

The purpose of the media campaign is to reach a new group of consumers who are less influenced by idealistic purchasing motives and more by the quality and range of products. In addition, good communication can make it clear to the consumer why the price is higher for organic products so that he or she will be prepared to pay more.

### **Supporting organic primary production**

The emphasis in Dutch agriculture policy has shifted from supporting the producer to stimulating demand. The Dutch government believes that co-operation in the chain will ultimately provide sufficient guarantees to allow primary producers to convert to organic production. A better organisation of the chain and proper harmonisation of supply and demand will provide a stable market for organic production.

Since the 1990s, the Netherlands has had a conversion scheme in place to support farmers who wished to convert to organic production. The scheme will come to an end by the end of this year if the evaluation of the current chain approach shows that the conversion scheme in its present form is no longer necessary.

The Dutch government realises that the market-oriented approach requires a change in mindset. It is not the conversion of primary producers that is most important, but the strengthening of the organic chain. We are, however, firmly convinced that this approach offers the best guarantees in the long term for a strong organic sector.

## **Conclusions**

By promoting co-operation between market players in the chain the government aims to strengthen the organic sector in the Netherlands. This co-operation is reflected in the chain agreements and a joint communication plan to improve consumer information. The government's job is to facilitate matters and to spur on the process.

The emphasis in Dutch agriculture policy has shifted from supporting the producer (the conversion scheme) to stimulating demand. The major market parties support the government's chain approach and the first results are promising. A first evaluation of the current chain approach will be made by the end of this year. This evaluation will make clear if and if so, in what form, a government conversion scheme is still necessary. The final objective of the current approach is ensuring that chain agreements will strengthen the organic market so that primary producers can be certain of adequate sales.



## WAYS TO IMPROVE THE ORGANIC FOOD CHAIN: A CONSUMER-ORIENTED APPROACH

*Bettina Brandtner and Erhard Hoebaus<sup>1</sup>*

### **Abstract**

*Consumers' decisions on how their organic food is produced, processed, handled and marketed are key factors in the organic food production chain. Consumer attitudes, concerns and decision criteria on organic food are crucial points of departure for recommendations to the actors in the organic food chain for a consumer-oriented approach to improve and to bolster the organic production chain. At present, insufficient data or knowledge impede practical recommendations in some areas.*

### **European study launched**

A concerted action of institutions from seven European countries commenced in 2002 to identify consumers' values and concerns with respect to organic food, and to describe current production and control methods.<sup>2</sup> The concerted action aims at giving an overview of current practices and at establishing practical recommendations for all actors in the organic food chain.

Consumer criteria are surveyed by reviewing and compiling the results of existing local, regional and national studies on consumer concerns, needs, attitudes and responses to organic products, production methods, and marketing and distribution channels. Different consumer values towards organic food in different European regions are taken into account.

Current management and quality assurance related to the chains of production, processing, and distribution as well as to labelling of certified organic foods will be exemplarily described and compiled. The detailed descriptions will cover selected commodity groups of organic food widely produced in the EU: wheat bread, fresh cabbage, fresh tomatoes, fresh apples, wine, fresh eggs, fresh pork, fresh milk, plain yoghurt.

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1. Ministry of Agriculture, Forestry, Environment and Water Management, Austria. The authors wish to thank Kirsten Brandt, project manager, for permission to present an overview of the concerted action.
  2. Participants in the concerted action: Denmark: Danish Institute of Agricultural Sciences (DIAS), Royal Veterinary and Agricultural University (KVL), Kirsten Brandt, Project Manager. Italy: Institute for Food Science and Technology (ISA). United Kingdom: University of Aberdeen. Netherlands: Agro EcoConsultancy BV (Agro Eco). Portugal: Universidade de Trás-os-Montes e Alto Douro (UTAD). Norway: National Institute for Consumer Research (SIFO). Switzerland: Swiss Research Institute of Organic Agriculture (FiBL). Austria: Ludwig Boltzmann Institute for Biological Agriculture and Applied Ecology (LBI).

Each selected commodity will be analysed, using the procedures developed for Hazard Analysis by Critical Control Points (HACCP), for each of the following seven aspects of safety and/or quality: microbial toxins and abiotic contaminants; correspondence with traditional values about proper food; nutrient content and food additives; harmful micro-organisms; freshness and taste; natural plant toxicants and adulterations.

The assessment of each Critical Control Point will reveal the adequacy of current procedures for production management and control, and the range of current problems and opportunities with regard to improving the safety and quality of each commodity group.

## **Conclusions**

The expected output of the concerted action are practical recommendations for improvement of procedures and control along the organic food chain to be given to the stakeholders involved (consumers, regulating bodies, sales outlets, distributors, producers and safety authorities). Relevant stakeholders (researchers, research policy makers, safety control units) will be made aware of identified research areas with insufficient scientific data for practical recommendations.

## ORGANIC FOOD FOR PUBLIC INSTITUTIONS

*Thomas Rech*<sup>1</sup>

### **“Eating out” in Austria**

“Eating out” is a growing trend, given the rising number of people working outside of their home, geographical and social mobility and the increase in single households. These days, families hardly ever come together at lunchtime to share a meal. “Eating out”, because of its immense economic importance and trend-setting qualities, takes centre stage in the entire food industry. In Austria, an average of 3 million people go out for meals and drinks every day, that is, almost 40% of the overall Austrian population. Two million of them make use of different forms of industrial catering; about one million people visit restaurants. This also has a great impact on the ingredients and the way in which food is prepared, which is reflected in the cooking at home.

About one-fifth of what consumers spend on food goes towards eating out. This corresponds to a spending volume of approximately EUR 3.3 billion a year. As for industrial catering, food at the workplace plays the greatest role by far. Approximately 52% of all working people take their meals at their workplace. This is equivalent to about 80% of all those who get their food through industrial catering. At restaurants, as well as in industrial catering, there is a growing predilection for Austrian regional dishes and ethnic cuisine. The value-added share of “eating out” with respect to overall food production has doubled over the last ten years and now accounts for more than 30%. The food sector (including agriculture) in Austria accounts for an estimated 15% of employment, with the number of those employed in industrial catering rising constantly.

### ***Structure of this sector***

As for eating out, a distinction is made between industrial catering and restaurants. Industrial catering comprises both public and private kitchens at companies, institutions and schools as well as food delivery services. In contrast to the gastronomic sector, providers of industrial catering services usually “cater” to consumers’ desires and tastes to a much lesser extent.

The structural separation of home and work led to changes in family structures, which have also affected, in particular, demand for catered food. Among other things, we need to mention the increase in the number of working women. While in the past women would be in charge of preparing meals for their families, in addition to caring for relatives that require special attention, these tasks are now being fulfilled, more and more, by companies and public institutions.

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1. Ministry of Agriculture, Forestry, Environment and Water Management, Austria.

Eating at one's place of work, without having to leave it (self-catering), is the most common form of "eating out" — 25% of people do that three days a week; another 10% at least once a week. The second most common type is eating at industrial-catering institutions (cafeterias or canteens at companies and universities or institutions) — used by 12% at least three days a week and 22% at least once a week.

Among those that eat at home at least occasionally, the age group of up to 30 years is the one group represented most prominently, with respect to all different types of locations and variations. The marketing of products also entails the selective conveyance of certain corporate philosophies and attitudes that are closely linked to gastronomic culture. Concomitant qualitative interviews with selected representative companies specialising in "eating out" have shown that health considerations play an important role; it is primarily about improving the products in terms of nutritional physiology. Much importance is also attached to taste and the pleasure of dining. However, price does not seem to be the decisive factor. For better quality, customers will often accept higher prices.

Institutions of industrial catering (companies, schools or other training facilities) offer, for the most part, partial service (lunch and/or snacks), which covers about 30% to 50% of a person's daily requirements. Full service is mainly offered by old people's homes, hospitals, barracks and penal institutions. Public institutions with a particularly high demand for food services are schools, military and old people's homes.

Growing demand for different types of industrial catering resulted, in particular in combination with rising personnel costs, in an increase in the use of convenience products (finished products, frozen vegetables, etc.) and in the establishment of centralised industrial catering outfits, which are capable of supplying a large number of customers because of new methods of preservation and distribution. For example, companies with a small number of employees and public institutions frequently have their meals catered by specialised firms. The Austrian catering market is characterised by a high level of concentration. A few large catering companies (for example, Gourmet or Wigast) supply most of the companies and institutions that buy their meals from the outside. Other catering companies are generally of local importance only. Attempts by foreign catering companies to gain a foothold on the Austrian market have failed so far due to regional differences in taste.

### **Why should industrial kitchens use organic food?**

The increased amount and variety of organic foodstuffs in the past few years has made it possible and practical to use organic food in industrial kitchens. The market volume amounts to approximately EUR 240 million. Since public institutions such as hospitals, government facilities, old-people's homes, day-care centres and schools are to lead by example, and because organic food is viewed positively by large parts of the population (especially among the educated), the political interest in organic food is significantly growing. Additional reasons for using organic food at public institutions:

- Implementation of the Kyoto Protocol and compliance with environmental requirements: industrial agriculture is responsible for about 2.3 tonnes of CO<sub>2</sub> emissions per hectare. This also includes the high rate of fossil energy consumption needed to produce mineral fertilisers. Compared to conventional agriculture, organic farming helps to reduce CO<sub>2</sub> emissions by 60%. Organic farmers can achieve this by not relying on mineral fertilisers and imported fodder.
- Consumers demand food produced "without chemicals".

- Consumers demand meat from farms where animals are treated humanely.
- Consumers demand food that is considered healthy.

## **Examples of organic products at public institutions**

### *Feasibility study on maximising the use of organic food in industrial kitchens of Vienna hospitals<sup>2</sup>*

A pilot project conducted at the Rosenhügel hospital over a period of six months has shown that the monetary share of organic food can be increased substantially. In day-to-day business, tests were carried out to determine whether cereal products, meat and sausages, fats, dairy products, fruit and vegetables from organic farming might be able to find their way on to menus in a large way. The share of organic vegetable products increased by more than 50%. All the pork and beef used was organic; with respect to meat and sausages, organic products accounted for 78% and 85% for grain and cereal products. The organic share for fats and for milk and dairy products increased to 65%.

The study also showed that the quantities of organic food available on the market would be enough, across almost all product groups, to supply all Vienna hospitals. Organic beef, in particular, is available in sufficient quantities in Austria, provided that not only the best pieces are processed, but also other parts of the animals. With respect to organic fruit and vegetables, however, supplies cannot be guaranteed for the entire year and in sufficient amounts due to growers' seasonal dependence and distribution problems. In addition, the lack of organic convenience products (*e.g.*, frozen food) explains why frozen organic vegetables, for example, are hard to find during off-season, and if found, they would be very expensive and subject to very long transport routes. Increasing demand has already resulted in a significant rise in the organic convenience products on offer.

The cost increase per meal was lower than one would have expected based on the prices for individual organic products. This was made possible through a policy of skilful purchasing and through the fact that regional and seasonal availability was taken into consideration. On average, meat and sausages, for example, are 30% more expensive. Shorter cooking times have led to fewer material losses, thus making it possible to compensate for the premium by more than 10%. Additional savings came from the reduction in the portion size of meat for reasons of nutritional physiology. The market prices of milk and dairy products are only about 5% higher than the prices of products from conventional agriculture.

Further savings may be derived, in particular, from reducing the use of convenience products, because the additional personnel costs for processing raw products is often cheaper than the use of finished products. This was an essential aspect in assessing the situation based on economic factors: labour input helps to save money. The input of labour for kitchen activities such as preparation of salads, as well as the seasonal adjustment of menus, can lower the costs by reducing the number of purchased finished products.

Streamlining kitchen staff is economically counter-productive from this point of view. The additional personnel costs resulting from the use of less-processed foodstuffs amount to about 17 cents per patient and day. However, the savings potential from reducing the use of convenience products accounts, on average, for more than 50 cents per patient and day, with an organic share of 50%.

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2. Project co-ordination: Claus Holler, Ludwig Boltzmann Institute for Metabolic Diseases and Nutrition, Director: Prof. Dr Karl Irsigler, Wolkersbergenstrasse 1, 1130-Vienna, Austria, [Claus.Holler@kav.magwien.gv.at](mailto:Claus.Holler@kav.magwien.gv.at).

When looking at the results from an economic point of view, it becomes clear that it is possible to increase the share of organic products to 30% for industrial kitchens without any substantial increase in cost, provided that the better quality meat is taken into account with respect to cooking; that meat portions are reduced by 2 to 3 decagrams; and provided that vegetable and fruit are included in the menus according to their seasonal availability. Leaving the aforementioned measures aside would increase the costs of food input by about 17% per patient and day. If the accompanying measures are used in a reasonable way, achieving an organic share of 50% with a cost increase of about 20% will be a realistic goal; if savings potentials are ignored, the costs will rise by more than 30%.

If the costs for repairing environmental damage, which arise in connection with the rehabilitation of intensively, industrially farmed land (conventional agriculture), such as the purification of drinking water, are taken into account, for the purposes of cost transparency, the use of products from organic farming may be significantly more economical. The project shows that the share of organic food can be increased to about 50% without any special problems.

### ***Organic food used by industrial kitchens; pilot project: “Residential home, Saggen”, Tyrol<sup>3</sup>***

The input of regional organic products from Tyrol amounted to 53% of total sales at the Saggen old people’s home during the trial year. This input was offset by cost increases of 10% of the total budget for meals (not excluding beverages). But it is important to note that the number of meals provided also increased during the project's time frame due to strong demand for organic products.

Within the organic product groups, the highest price hikes were found for eggs (46%), followed by pork (25%), veal (21%) and potatoes (18%). The price increase for baby beef is low, at 7.8%. By purchasing fully rendered animals, ready for processing in the kitchen, the workload increased on some days, but it also helped to keep the price increase low, as compared to conventional meat. The frying losses of organic meat are also smaller.

In order to keep the residents of the home happy, it was necessary to make only a relative small number of changes to the menu. The kitchen of the Saggen home had already switched to fish products before the start of the project, and so it was possible to meet this requirement for the most part. The actual changes had to do, mainly, with improved product quality and higher product safety. There were no serious problems with delivery; the experience with all the suppliers was positive throughout. The various requirements of regular supplies resulted in closer co-operation among farmers.

In conclusion, the product exchange for eggs, potatoes and dairy products was relatively free of any problems; with meat, it was somewhat more difficult. Sticking to the budget seems easier if whole animals, fully rendered and ready to be processed, are bought, rather than individual parts. Direct deliveries by farmers (including commercial contract processing) constitute another requirement for minimising costs. But this requires even better co-ordination among producers. The newly formed trading co-operative of farmers, “Bioalpin”, can make substantial contributions to this.

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3. Project co-ordination: Dipl. Ing. Markus Schermer, Institute for Alpine Research, University of Innsbruck, Technikerstrasse 13, A-6020, Innsbruck, Austria. Telephone: 0512 507 5690; fax: 0512 507 2817, e-mail: [markus.schermer@uibk.ac.at](mailto:markus.schermer@uibk.ac.at).

### *“Organic food for industrial kitchens” initiative — purchasing group Tulln<sup>4</sup>*

February 1999 saw the launch of the pilot project “*Bio in der Großküche*” (Organic Food for Industrial Kitchens) in the region of Tulln (Lower Austria) as well as the creation of a purchasing group that comprises the following partners, feeding a total of 1 500 people a day:

- two hospitals;
- five old people’s homes;
- the regional fire-brigade school in Tulln; and
- the vocational college for agriculture.

A special driving force behind the purchase of organic products is species-compatible animal husbandry. This is why almost all animal food is also nearly completely organic.

Organic farmers and regional traders participated in public tenders and placed their organic bids. The highest organic bidder was awarded the contract for a year. Apart from the goods put out to tender (meat, dairy products, baked goods, potatoes, and eggs), seasonal fruit and vegetables as well as juices and, occasionally, carp, duck, and pasta are bought from organic producers in Tulln. For special occasions, there is also beer, wine and sparkling wine of organic quality.

Keeping all the employees of the institutions informed and motivated was a crucial pillar of the project. For example, each institution organised an afternoon information session for its staff. Those in charge of the kitchens visited suppliers — slaughterhouses, organic meat plants, organic dairy farms, organic mills and pasta producers, growers of organic vegetables and farms — in order to get a first-hand look at the production process. At monthly training sessions and at regular meetings at the local pub, kitchen managers discussed, among other things, the different possible uses of organic food and organic labelling. Attention is drawn to the special organic offerings using appropriate decorations in the dining halls, specially designed posters, table banners/stands, folders and special notices in the menu. Senior citizens from the old-people’s homes take part in trips to their suppliers of organic food. Patients and their families are kept informed of promotional events for organic products.

During the period under review, from May 1999 to December 1999, the additional costs for total food purchases accounted for 8.4% — organic food for 51%. The fact that the purchasing group required larger quantities allowed for more attractive prices. Lower material losses from cooking, and thus a higher yield, smart menu-planning and the use of seasonal offerings were the factors leading to such relatively low additional expenditure for kitchens.

All the organic product groups offered were given top grades by about 1 500 diners. They especially emphasised the quality of fruit, vegetables, potatoes, meat (which was especially tender), and dairy products. For that reason, organic food became the norm at the nine institutions. Currently about 40% of the input is organic. The project “*Bio in der Großküche*” was managed by the association “*ERNTE für das Leben*” and “*die umweltberatung*” of Lower Austria. In addition, it was financially supported by 5b subsidies of the EU, the Austrian Federal Government and the Federal Province of Lower Austria. The project lasted from October 1998 to February 2000.

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4. Project initiator: “*die umweltberatung*” (Environmental Consulting), Lower Austria, [oesterreich@umweltberatung.at](mailto:oesterreich@umweltberatung.at); [www.umweltberatung.at/](http://www.umweltberatung.at/). Organic-food association: “*ERNTE für das Leben*” (“HARVEST for life”) [bundesverband@ernte.at](mailto:bundesverband@ernte.at).

## **Practical tips on using organic food in public institutions<sup>5</sup>**

**(a) Planning must be done jointly:** The general acceptance of organic food depends on the commitment of kitchen teams. Discuss your ideas in the course of preliminary talks with staff and opinion-formers related to kitchens, administration, works council, dietary services, and teaching staff.

**(b) Start by choosing the right organic product:** Putting together a complete organic menu will be very demanding on suppliers and the kitchen organisation. Start gradually by using uncomplicated organic products, which will result in acceptance among staff and guests; this will help to build trust in the quality of organic products and to professionalise supply.

**(c) Give preference to regional food:** Regional food products, which can be readily supplied, are ideal for starters. Depending on your region, a starter product could be pasteurised milk, potatoes, vegetables, or baby beef (from suckler-cow farming).

**(d) It is all about seasons:** In spring and summer, we particularly prefer crisp salads and fresh vegetables. Salad buffets are therefore quite popular at cafeterias. The absolute favourite is the vegetable buffet. Three to four carefully prepared types of organic vegetables a day will make for variety and may be used, depending on a person's personal taste, as a side-order or a main course. Autumn and winter are the perfect seasons for switching over to meat. Of course, beef is available all year round, while special promotional weeks of organic beef may be highly attractive in winter, it cannot be ruled out that such a campaign may flop in the middle of summer. Carp is available from autumn to spring. Spring is also the ideal time for sampling lamb or rabbit. Poultry is available all-year long. Dairy products, too, are in season all the time.

**(e) Introduce organic components step by step:** Existing industrial kitchens should introduce organic components gradually. This makes good economic sense, because it keeps additional costs with respect to purchasing and the kitchen within acceptable limits. The higher prices for organic products will have only negligible effects on menu prices. It would be more practical to introduce organic components throughout all the dishes on the menu, rather than create entire "organic menus".

- Benefits for the kitchen: The new business relationships can be developed gradually. The existing order system can be maintained, because the number of suppliers stays the same.
- Benefits for suppliers: Ordering larger quantities of a certain product facilitates delivery. In addition, prices can be set at more attractive levels if there is a purchasing guarantee.

**(f) Measures to reduce costs when putting organic products on the menu:**

- Buy seasonally — make use of the products on offer at any given time;
- replace individual menu components — this will be easier on your budget than developing entire organic menus;
- offer inexpensive meat stews and vegetarian dishes;
- reduce the size of meat portions in favour of vegetables and side-dishes;
- substitute veal with organic baby beef;
- do not only use the expensive fine pieces of animals;
- use expensive convenience products selectively only.

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5. Prepared by the ERNTE association and "die umweltberatung": [www.biokueche.at](http://www.biokueche.at).



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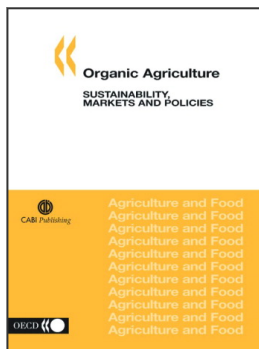
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**From:**  
**Organic Agriculture**  
Sustainability, Markets and Policies

**Access the complete publication at:**  
<https://doi.org/10.1787/9789264101517-en>

**Please cite this chapter as:**

OECD (2003), "Research, Information and Communication", in *Organic Agriculture: Sustainability, Markets and Policies*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264101517-11-en>

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