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How Governments in Other Jurisdictions Successfully Support the Development of Organic Food and Farming

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Table of contents

1. Introduction

- The challenges of organic farming for policy makers

2. An overview of effective supports

3. Overall planning and coordination

4. Increasing Supply

- The general problem of increasing farm adoption of new practices
- Increasing farm - level adoption
 - Farm-level projects
- Where will the next wave of adopters come from?
- Review of some specific supports for increasing organic production
 - Advisory services
 - Training for farmers and advisors
 - Building social networks and farmer clubs
 - Demonstration projects
 - Research networks
 - Financial measures
 - direct payments for the transition period
 - other financial measures

5. Increasing Demand

- The general challenge of increasing market infrastructure and demand
- Organic identity in the market place
- Support for local and regional markets
- Support for processing
- Public Procurement
- Collecting organic market data

6. Removing disincentives

- Decoupling payments from production
- Changing input prices
- Regulatory requirements

Appendices

Endnotes

1. Introduction

This paper is the second in a series of briefs designed to support efforts by the organic sector to improve its capacity to work with policy makers, particularly at the federal level. This paper provides information on policy and program instruments that appear to help the development of the organic food and farming sector. This is a new field, so there aren't a lot of studies evaluating what helps the organic sector, partly because such things are difficult to study, and partly because resources have not been devoted to the task. We do not provide an exhaustive review, but rather highlight the main themes and sources of information.

The major assumption of this paper is that the organic sector is worth supporting. The benefits of organic food and farming are presented in a companion paper entitled, [Does the adoption of organic food and farming systems solve multiple policy problems? A review of the existing literature](#). If it provides public benefits, and if policy makers want to see them realized, then additional supports must be provided. A central message that comes from the international literature review is that markets acting alone will not advance the sector rapidly enough to generate significant public benefits; hence the need for government intervention. The Canadian organic sector lags considerably behind those in other jurisdictions, hence additional investments on the part of government are required.

In particular, we focus on interventions in Europe and the US. Although Canadian policy makers historically discount the European policy experience as of limited relevance to Canada, they do so at their peril, and that of Canadian farmers. European markets are generally paying attention to Canada's lagging environmental performance, justifiable given Canada's slide down the rankings of OECD nations as measured by agri-environmental indicators¹. Producers are finding that European customers are demanding evidence of environmental stewardship, without which their markets are in jeopardy. In organic, Europe has captured much of the global organic market² and Canada's capacity to both export to Europe and capture other international markets is in serious question, given the degree to which it lags behind some European countries. Consequently, should Canada wish to be a significant agri-environmental player, it would be wise to pay attention to the elements of European successes. This does not mean adopting them without modification, but rather understanding the successful elements and adapting them for the Canadian environment.

Other governments have made significant investments in the sector and the three most common arguments for supporting it are:

1. It's an infant industry with interesting economic opportunities for some producers, processors and distributors and additional choices for consumers. Just like any infant sector that shows promise, the state should provide some resources until the sector is on its feet. This approach is often employed when the state views a sector as a niche market, without widespread benefits. At this point, Canadian government approaches to organic would appear to fall in this category.
2. Market failure - Some might argue that the market alone can determine the public merits of

organic farming, and governments need not make any additional investments. Countries that have taken this view - whether consciously or not - have not seen significant uptake of organic farming³. Even the Netherlands, which has recently decided to focus on market measures to drive organic farming uptake rather than supply-side measures is still making significant investments. One argument to explain the failure of the market place to generate rapid uptake is that organic food and farming represents a typical case of market failure. In the case of organic food and farming, markets are failing to be efficient allocators of resources for a variety of reasons and therefore the state has to intervene. See Appendix 1 for more on this argument.

3. Public environmental benefits - Some governments do understand the public benefits that flow from more widespread adoption of organic agriculture and therefore invest at a level that increases these benefits. See the companion , [Does the adoption of organic food and farming systems solve multiple policy problems? A review of the existing literature](#) for more on these benefits.

The review in this paper focuses particularly on the latter two rationales. We have focussed particularly on review articles, government reports, conference proceedings and evaluative documents. It is apparent that a mix of program and policy drivers are required to build the organic sector and many of these are interconnected. However, for simplicity, following a general overview of effective supports, we organize them into 4 categories:

Overall Planning and Coordination
Increasing Supply
Increasing Demand
Removing Disincentives

In these sections, we examine the mix of supports provided that appear to be producing significant results. These supports are generally enabling, enforcing, or encouraging. They involve regulatory instruments (positive and negative), financial instruments (positive and negative), and communication instruments, sometimes referred to as sticks, carrots and sermons.

The challenges of organic farming for policy makers

Let's first acknowledge that organic farming is a complex issue for policy makers, because:

- it's a complete farming system whereas the history of agricultural policy making is to focus on discrete technologies and best practices, not systems
- it internalizes external costs
- it's difficult to convey to consumers the full value of organic farming
- consumers have a variety of reasons for being organic, beyond the traditional cost, quality, appearance; many consumers are not just looking for a product, but a statement of values, and a shopping experience
- it challenges most of the central tenets of agricultural development
- the pioneers of organic were not people many agricultural policy makers could relate to, contributing to its marginalization

- organic farming has emerged in part out of a social movement, with a certain set of values, that stand in opposition to much of the dominant social and economic activity of current agriculture. Consequently policy, program and regulation must account for that, and not assume that motivations are primarily those of “rational economic actors”
- supporting it causes some confrontation of existing policy directions
- it seems small so not worthy of much consideration
- organic farming is a process, not a product oriented system
- it's tricky to balance supply (push) with demand (pull) initiatives; developing effective policy measures in this area is still an emerging practice
- it's not obvious who the next wave of adopters will be, but they will likely be different from the pioneers
- adoption theory and practice used in much of agricultural development may not be that useful for encouraging adoption of organic farming
- organic tends to develop as a subsystem away from the mainstream farm organizations and policy (with the possible exception of QC); interplay between mainstream and organic organizations is generally limited except in the NFU and to some extent the Christian Farmers Federations
- agriculture, generally, is multifunctional, and organic is about multifunctionality more than most systems.

2. A general overview of effective supports

Since some countries in Europe have the most advanced organic sectors, the European experience developing the organic sector reveals key instruments that have been critical to success⁴. Most of the countries with significant development have used a mixture of supply-side and demand side policies and programs. We explore these in more detail later in the paper.

1. Definitions of organic agriculture.
2. Uniform national (and for Europe an EU level) standard, with political recognition of standards, certification and accreditation. In the EU, there have been statistically positive impacts from introduction of the EU standard
3. Financial support for transitional growers. Numerous studies show initial positive impacts from direct payments in the agrienvironmental schemes; however, modifications to the schemes in the more mature countries like Denmark and Austria appear to have accelerated existing organic farming growth, but not necessarily brought in significant numbers of new organic farmers
4. Advisory services and training to support the adoption process
5. Local institutional supports for organic farming
6. Supports for the development of organic markets - supermarkets and institutional buyers are often drivers of demand in Europe
7. Coordinating and advocacy institutions to advance organic, with positive participation an interaction with the conventional farming sector

3. Overall planning and coordination

It has been recognized for some time that a mix of policy measures would be required to advance organic food and farming. The European experience of encouraging organic farming development has led many states to recognize the need for a more integrated and balanced mix of policy and program measures⁵. This has produced a number of national action plans (and an emerging EU plan) with both supply (push) and demand (pull) measures, with proposals for coordinating and implementation bodies (see Appendix 2 for details). Denmark was the first to develop a plan (1995) and now England, Finland, France, Germany, the Netherlands, Norway, Sweden, Wales and Spain have plans. The plan rationales are to increase the size of the organic sector because of the public benefits that result. They normally include targets for adoption (typically 5-10% by 2000/2005 or 10-20% by 2010), direct financial support through the agri-environment / rural development programmes; marketing and processing support; producer information initiatives; consumer education and infrastructure support. A typical mix is 50% of expenditures for direct payments and 50% for a host of other infrastructure and training related supports. Some plans focus more on demand-side interventions (e.g., the Netherlands), others on building information support systems for all players in the organic food chain (Germany), and others on increasing supply (England and Wales). Interestingly, almost all plans focus on the need for cooperation amongst all players in the food chain, and for formal advisory bodies that guide government decision making on organic agriculture. Plans generally commit millions of dollars in public funds to implementation.

The USA has no formal plan, although it does have certain elements in place. Among Canadian jurisdictions, only Quebec has a full strategic plan that rivals plans in Europe (see Appendix 2 for a comparison with European plans).

These plans provide a full suite of possible policy and program measures from which Canada could select and adapt. We elaborate on some of them in the next sections.

4. Increasing supply

Because certification organizations generally require whole farm transition to organic agriculture, the overarching challenge is to increase the number of farmers practising organic agriculture, rather than increasing acres farmed organically amongst existing farmers as most have already committed all their acres. There are a number of ways governments can support this process, but we'll first examine why governments have often failed to get rapid uptake of environmental systems by farmers. Policies and programs to support organic farming must be designed to surmount the traditional obstacles facing environmental programming.

The general problem of increasing farm adoption of new practices

In North America, most agri-environmental programming has had limited success, for reasons related to the theory of farm adoption and programme design features. The barriers identified to uptake of IPM are typically of those for organic farming and other systems⁶:

The focus and structure of research

- lack of field-focussed, problem-solving, applied research to develop practical and affordable tools that farmers can really use
- lack of communication and discussion of research with stakeholders
- lack of long-term thinking about implementation of existing IPM tools and development of new ones
- lack of information generally on IPM approaches as compared with large amount of information available on chemical pesticides

Problematic government policies

- lack of continuity in policy and lack of political commitment to IPM; policy-makers can be shortsighted and inadequately informed about IPM
- lack of clearly defined IPM standards and tools to monitor and record progress (e.g. impacts on environment, health, farm economics); confusion about what IPM is
- insufficient funds for proper implementation of IPM programmes even when they have been shown to work
- pesticide registration not harmonized internationally and not well-adapted to promoting IPM; process too slow to approve new IPM tools
- current policies distort markets, provide conflicting incentives, offer subsidies for non-IPM farming, and contain inconsistent or illogical requirements (e.g. encouraging IPM but then requiring products to be dipped in insecticide or fungicide after harvest)
- policies are too rigid, demand too much standardization, stifle innovation

Insufficient tools and strategies

- farmers need alternative or consecutive strategies with multiple options

Farmers often legitimately reluctant to change

- see below for details

Weak markets for products

- consumers unaware, uninformed about IPM
- IPM labels confusing
- food quality requirements and grading place excessive emphasis on unblemished produce rather than rewarding IPM production

Pesticide promotion

- Influence of some pesticide producers, development/aid organisations and governments, who promote chemical pesticides to the detriment of other pest control tools

Regarding farm level adoption, from our extensive review of the literature on barriers to adoption of environmental practices and systems, covering several dozen reports in the peer reviewed literature over the past 20 years, we have distilled 15 critical barriers (and provided some notations on a few of them).

1. Anxiety about finances (investments and revenue stream)

Note: Although most studies that organic farming is more profitable than conventional farming (see the companion paper , [Does the adoption of organic food and farming systems solve multiple policy problems? A review of the existing literature](#)), this information is not, of itself, sufficient to convince many growers.

2. Labour challenges

3. Difficulty acquiring information

Note: With more farmer involvement in selecting research priorities comes increased adoption rates⁷. The usefulness of information is often related to having a relationship with the information provider⁸.

4. Difficulty thinking through the sequence of changes

Note: Most countries do not have transition advisory services per se that help farmers with the transition process. We review such services later in this paper.

5. Limited access to trusted advisors

Note: Evaluations in Europe⁹, the USA¹⁰ and Canada¹¹ identify limited advisory supports (whether publicly funded or private crop consultants) as key obstacles to adoption of agri-environmental programming.

6. Few nearby farms modelling the change

7. Obtaining suitable equipment or inputs

8. Lack of confidence in new approaches

9. Lack of confidence in own abilities

Note: Increased management requirements are common in organic production¹².

10. Don't like the "look" of the changes

11. Don't believe the changes reflect good management

12. Fear changes will be stressful

13. Family traditions not consistent with changes

14. Anxiety about changes to one's status in the community and with supporting institutions, e.g., banks

15. The changes run counter to the dominant messages farmers are receiving from the

agribusiness sector and many government agencies

Note: These last few barriers are often viewed as “soft” obstacles, yet they are often more significant determinants of adoption than financial obstacles. It is because of these obstacles that many projects use peer mentors, farmers who have already gone through the transition.

Not all these are in play for every farmer, but many are. Most of these barriers are sensible, given the current state of support for adoption. In this sense, non-adoption is not so much a “farmer failure” as it is a “system failure”¹³. Traditional adoption frameworks have tended to focus on certain ones over others. Profit maximization frameworks, particularly, have received more attention, at the expense of other factors. As well, traditional frameworks suggest that influencing attitudes will lead to changes in behaviour. There are usually differences in environmental attitudes between organic adopters and non-adopters, a situation that isn’t as consistent in other environmental systems¹⁴. But other factors like the ones listed above, are significantly in play and attitudes alone, although a driving force for many pioneers are not necessarily as relevant for the next wave of adopters.

The classic innovation-diffusion models of extension, used for many of these agri-environmental programme designs, has been useful for understanding adoption of specific practices or technologies. Unfortunately, it does not work that well for conservation practices and systems, especially for “preventive” practices and systems for which adoption rates are historically low. As well, voluntary adoption of practices or systems with many off-site benefits that equal or outweigh on-site benefits, is typically low unless incentives are available to compensate for this reality¹⁵.

Improving farm level adoption

This slow uptake has caused some rethinking amongst adoption theorists. One promising conceptual framework is Actor Network Theory or the Network Model of Innovation¹⁶. Within this framework, adoption of new systems is likely to be a product of the relationships and interactions between different actors, both human and non-human, institutional, group and individual. Innovations come from both technical knowledge, and the construction of new kinds of networks to develop, guide and support them. The key variables in such an approach are the farm agroecological and socioeconomic setting, the managerial and technical abilities of the farmer, the support network and the policy environment. What distinguishes this approach from the traditional model of diffusion - innovation is that the latter focuses on the efficiency by which the farmer takes up the innovation, while the network model focuses on the efficiency of construction and performance of the network. This participatory approach lends itself well to packages of technologies and systems rather than single technologies.

In more practical terms, it’s reasonably clear from the international literature the certain kinds of policies and programs have been successful at increasing farmer uptake of environmental systems and organic farming.

The EC believes that agri-environmental programmes are necessary because of the failure of the market to account for the environmental consequences of farming. In their view, spending at least 4% of the CAP Guarantee spending on these programmes is good value for the money. The programme has permitted a diverse mix of state-level programming options to accommodate regional needs, which the EC believes is important. It also believes that successful programmes:

- set measurable objectives and have good monitoring systems,
- pursue a holistic landscape approach to programme design,
- offer a mix of measures,
- encourage a whole farm approach to participation,
- have available extension personnel,
- consult with NGOs and private service providers,
- target priority areas but also mix in measures that have a general impact,
- have minimum 5 year agreements with farmers that can be extended under certain circumstances,
- have solid training, information and advice components

The agri-environment programme is likely to play an even larger and more flexible role in agricultural programming in the future. First, agri-environment programmes have become a compulsory part of all rural development programmes in all territories of the Member States (Rural Development Regulation 1257/1999), and minimum environmental standards are to be assured in all rural development programming. Second, reform of the Common Agricultural Policy (CAP) means that most states will move toward a single payment system that is decoupled from production. Farmers will receive one payment that requires cross-compliance with environmental and food quality standards. Failure to comply will result in decreases in the payment levels. More funding will be available from the EU for agri-environmental measures and to help farmers pay for advisory services related to adoption of new systems.

Farm-level projects

The transition to new systems is a particularly important stage, and according to Dobbs and Pretty (2001)¹⁷, several factors have proven important in European cases:

I) good local pioneers who could demonstrate that their sustainable farming works and pays
ii) effective consultants and extensionists, providing back-up support, economic data and technical advice

iii) those engaged in the transition deliberately stayed in touch with conventional farmers so as to prevent the emergence of ideological divisions; this has also proven important at the larger organizational level where the transition to organic farming has been smoother when good relations existed between conventional and organic farming groups¹⁸.

iv) farmers organized in groups to study and carry out implementation. Danish research has shown that farmers organised into crop protection groups and who access information from extension systems have the greatest reductions in pesticide use (both doses and frequency) and input costs¹⁹. In the mid 1990s, there were 621 crop protection groups in Denmark with 4,300 members (1 in 7 of all full-time farmers).

v) new partnerships between farmers and other rural stakeholders, as regular exchanges and reciprocity increase trust and confidence, and lubricate co-operation.

Other project design features identified from various ICM project reviews²⁰, include protocols or guidelines, inspection and certification, identifiable seals and logos. Many projects are supported by official advisory services, and receive support from EU support schemes.

Where will the next wave of adopters come from?

The first waves of organic adopters were commonly motivated by some combination of the following factors:

- a philosophical commitment to the environment and community-building values
- a crisis related to health, environment, or finances
- a desire to be highly entrepreneurial
- family tradition
- a spirit of rebellion against traditional approaches

However, the first waves of adopters are now in organic, usually without any supports from the state. It is generally true that voluntary programming has proven less effective after the first wave is in²¹. Current approaches to programme designs are proving less effective at engaging subsequent waves, who are actually often more significant contributors to environmental problems than the first wave²².

This begs the question about where the next wave of organic adopters is coming from. If the European experience has any relevance, they will come largely from conventional farming with some of the following characteristics:

- 25-45, because the older the operators, and the absence of successors, conversion is generally more difficult
- Taking over a farm, early stages of managing an operation
- Part of family succession planning or starting a new operation
- College university training, electronic technology skills

New programs have to be designed to account for these possibilities and also to address the problems discussed above. Can the program attract more intensive operations or those farmers who are more risk averse?

Review of some specific supports for increasing organic production

Advisory services

Some history

Formal advisory services, financed by the state, are a reasonably recent development, with funding generally beginning in the 90s although some private institutes offered services earlier. Several states in Europe and the US federal government have funded such services over the past

10 years.

Quick summary of pros and cons

Advisory services can provide critical information and support during key moments in the decision to go organic and the implementation of the conversion process. Their success, however, is particularly dependent on the quality of the conversion advisors and the degree to which services are provided at low or no cost to farmers.

How does it work?

In Europe, advisory services are operating in a dozen or so nations and typically offer combinations of the following programs:

- telephone helplines
- information packages
- farm advisory visits
- courses
- handbooks and manuals
- farmer mentoring programs

The service in Wales is reasonably typical. It is:

- funded by the Welsh government since 1996
- operated by the NGO The Soil Association and the Organic Centre Wales, University of Aberystwyth
- three main services: a telephone help line, a conversion information package, farm visits (2 free ones, the first providing an overview of conversion, the second dealing specifically with the circumstances of the farm), carried out by staff of both non-profit and governmental agencies
- farmers wishing more support for conversion then can pay directly for additional services.

Through revisions to the Rural Development regulation, the EC will help defray advisory service costs for eligible farmers²³.

In the US, conversion advisory services do not exist in the European sense. The closest approximation at a national level is Appropriate Technology Transfer for Rural Areas (ATTRA). ATTRA is an agricultural resource service providing technical support and publications to farmers, extension agents, and other agricultural professionals nationwide. It handles tens of thousands of requests and the website receives hundreds of thousands of visitors annually. Information is provided by mail and electronically and there are no farm visits. Information is not necessarily provided in an advisory capacity, nor does it necessarily focus on conversion. However, a forthcoming report will identify information gaps in the conversion to organic agriculture²⁴. The federal government has historically funded ATTRA in the \$2-3 million US range.

What are the impacts?

An evaluation of the Organic Conversion Information Service, Wales (1996-2001)²⁵ revealed the following:

- most participants had limited to fair knowledge about organic farming when they contacted the service
- most farmers followed through from initial telephone call to preliminary visit, to second visit
- generally high farmer satisfaction
- of the 2480 farmers who had called the service in a 5-year period, 56% had the first visit, 30% the second, and 11% had gone on to convert
- 61% of farmers surveyed had decided to convert and 56% of those said the service was very or fairly instrumental in their decision; many had already decided to convert prior to starting with the service, so they were not included in the 56%
- those who did not convert named larger issues around the stability of organic markets and costs as their reason for not converting

Improvements:

- the quality of the advisors is key: some farmers felt the advisors weren't sufficiently practical or knowledgeable about farm finances and marketing
- many farmers felt experienced farmers would make good advisors, rather than just professionals; this would require some training in "consultancy" and communications to augment their practical knowledge
- more course material on planning the financial aspects of conversion would be useful

A review of the English OCIS in 1997 drew similar conclusions except that the emphasis on marketing information did not emerge.

Adapting the intervention to the Canadian context

Canada has had related programs in Quebec since the late 80s, drawing on university and private institute expertise, with government financial support. There are currently nascent private programs in BC and Ontario. Some of the infrastructure for such programming is in place:

- some qualified conversion advisors exist in most provinces
- the Organic Agriculture Centre of Canada provides an overall research and training base
- projects in BC, QC and ON provide lessons on program design
- provincial governments have funded related work (e.g., Ontario Agricultural Training Institute (OATI) in Ontario; MAPAQ support for Agrobio in the late 80s/early 90s)
- the APF agreements provide for capacity building, although no current agreements have seized this kind of training opportunity
- some HRDC staff see the value of this kind of capacity building in the agriculture sector
- some private foundations have expressed interest

Some of the current challenges include:

- the budget required for a good national conversion advisory service, given the need for regional offices; such a service would likely require 4-5 offices, a localized pool of conversion advisors, and a total annual budget in the \$3-5 million range in line with other countries;
- there are not likely at this point sufficient numbers of conversion advisors in all regions;
- given constitutional authorities, it would likely require a cost-sharing agreement between the federal and provincial governments;
- governments do not, by and large, have the internal expertise to deliver such a program, so partnerships with non-governmental organizations would be required and it is not apparent which organizations would best be placed to partner with governments, although existing bodies in BC, ON and QC and the national OACC could be suitable candidates.

Training of farmers and conversion advisors

Some history

Training originally started amongst pioneers who offered short courses and apprenticeships. Private institutes also some courses, all unaccredited by the dominant training institutions. However, formal organic training has increased significantly in many countries in the past decade.

How does it work?

In Europe, a number of governments, at the national and regional levels, provide support for organic farming training (see Table 1). Article 9 of Regulation 1257/1999 provides "support for vocational training to contribute to the improvement of the occupational skill and competence of farmers and other persons involved in agricultural activities and forestry activities and their conversion". Consequently, many national governments use EU dollars to support training in organic farming. Typically, training programs are offered in short-course workshop formats, longer intensives and then university and college level training.

In the USA, there is no coordinated training plan. Many private organizations offer short courses and many universities, especially land grants provide formal training. In some cases, federal and state dollars may be used for training in organic farming although little if any of it would be specifically designated for that purpose.

Table 1 - Selected organic farmer and conversion advisors training programs, Europe²⁶

Country	Courses offered by:	Targeted to:	Details
Austria	Ag. Assn. of Upper Austria	Farmers Conversion advisors	1 year specialized program
Denmark	Organic Agricultural School Farmer Assns	Farmers Farmers	20-30 agricultural students in a 3.5 year program 1-3 day intensives
France	Multiple organizations, coordination by FORMABIO – réseau des établissements de formation à l’agriculture biologique	Farmers Advisors	Extensive network of short and long courses and apprenticeships through high schools, continuing education and universities
Germany	Federal government Universities of Witzenhausen and Bonn	Advisors Farmers and advisors	National training program supported by the organic scheme Specialized university degree

Country	Courses offered by:	Targeted to:	Details
Spain	University of Barcelona	Advisors	M.Sc. in organic agriculture
Sweden	Many organizations with state funding under agri-environmental programming	Farmers Advisors	Full range of general and specialist courses offered regionally
Switzerland	All Cantons FiBL	Farmers Farmers	2-day intro course Apprenticeships and courses leading to “organic farmer” certificate

What are the impacts?

Just as training has been essential for the development of conventional farming, so too is it for the evolution of organic farming. The content, and often the style of training, may differ between the two systems, but the need is clearly established.

Adapting the intervention to the Canadian context

In Canada, Quebec has led the way in training, often using federal training dollars to mount organic farming courses. The rest of the country has patchy training opportunities, nothing as comprehensive as exists in many European states. Canada needs a national training plan for organic farming and for conversion advisors. Some of the infrastructure is in place:

- University training remains spotty, although there are now courses in most agricultural schools, and a minor in organic agriculture being developed at the University of Guelph. OACC is offering organic farming courses on-line in association with other institutions, including

Composting, Organic Crop Production on the Prairies, Organic Field Crop Management, Organic Livestock Production, Organic Marketing, Transition to Organic and Transition to Organic Agriculture.

- several community colleges and provincial training institutes have offered courses, often in association with organic farming organizations
- Some HRDC offices are interested in organic farming training as part of rural capacity building

The challenges include:

- it is not obvious who should lead the development of a national training plan in organic farming
- launching such a plan would likely require investments from multiple parties

Creating social networks and farmer clubs

Some history

Farmers interested in converting to organic production have historically relied on existing organic farmers for information and support because that's where the knowledge has resided. As governments have supported organic farming development, such relations have been formalized in farmer clubs. In Canada, agri-environmental clubs with significant support from government began in 1993 in Quebec using Green Plan money.

Quick summary of pros and cons

Pros

- creates opportunities for regular interactions with peers and experienced organic farmers
- if clubs have staff support, permits regular access to extension supports
- can break down social isolation which often accompanies the transition to new farming systems
- can significantly reduce many of the "soft" barriers to adoption

Cons

- usually involves a farmer self-selection process, so is not necessarily a good vehicle if targeted action is required to improve environmental conditions
- if structured with staff support, the positions are frequently not well funded so staffers may not be that experienced and may leave for other employment after a short term in the position which creates continuity problems

What is the argument in favour?

The emerging theory of extension (see discussion above) for agri-environmental programming focuses on the need to create strong social networks to support the transition process and to maintain commitment to the changes. The clubs are one mechanism to make that a reality.

How does it work?

The Quebec model is a voluntary programme open to all commodity areas, with tripartite funding from the government, the Council for Agricultural Development (the Quebec delivery arm for the CARD program) and farmers themselves (roughly \$14 million each annually). The first two funders provide up to \$500/member/year. These funds are disbursed to cover the salaries of an extension agent and some of the operating costs of providing services to the growers. Services can be group or individually oriented, with group services covering training, demonstration clinics, information days, farm visits and research trials. Individual services include rotation planning, on-farm trials, field monitoring and nutrient management plans.

What are the impacts?

Farmer clubs have accelerated adoption of environmental systems in Europe²⁷. In Quebec, they have produced 25% reductions in fertilizer use since 1997, increased IPM adoption on members' farms from 3-42% between 1998 and 2003, and created 850 km of windbreaks to protect water courses since 1993²⁸.

Adapting the intervention to the Canadian context

Such clubs already exist in Quebec, New Brunswick and Eastern Ontario. The EFP provisions of the APF provide for such clubs to be created and supported by the EFP program if provinces decide that such group processes are appropriate.

Demonstration projects

Some history

Farmers have long looked to other farmers to demonstrate informally the merits and challenges of new innovations. Setting up demonstrations was an early strategy of agricultural scientists looking for ways to diffuse the results of their research to the farming population.

How does it work?

Several models are being used in different parts of the world:

1. Network of model farms - This model has been employed in Europe with generally three variants. In one, each farm is constructed specifically for demonstration purposes, and although selling into the commercial markets, is not strictly speaking a commercial enterprise. In the second variant, existing operations are contracted to provide demonstration services, with the farm continuing to be a commercial enterprise first and foremost. Financial support is usually provided by governments for these first two variants. The third variant is like the second, but operating by NGOs (though often with government support of some kind), and the farmers are

voluntary demonstration models²⁹. Such models often also collect baseline data for use in research and extension projects.

2. University-associated demonstration facilities - Sometimes farms, but more frequently partial farm operations, these facilities are usually well integrated with university research programs. They are generally funded by research grants, and sometimes with block grant funding from government to universities. They are not commercial operations, but sometimes sell products into markets. They usually demonstrate a narrower set of practices than a full farm operation. These are common in North America.

3. Farm visits and field days - This is perhaps the most widely employed model, often used by farm organizations themselves, and less frequently funded by government except on a grants basis. Participating farms are viewed as leaders in their communities. Different farms participate in different years to provide some variety to those attending.

4. Virtual farms - the most recent approach to demonstration is the virtual farm constructed for internet viewing. This approach is being tested, for example, in UK with the swine sector because of fears about biosecurity associated with having a large number of visitors to a real facility³⁰.

What are the impacts?

Demonstration clearly works. Farmers respond to real life examples of how things can be implemented. The more pressing question is the most appropriate models for demonstration, particularly when demonstrating environmental farming systems rather than discrete practices or technologies (see discussion above on accelerating farm - level adoption of environmental systems). Comparative studies are lacking, but there is some anecdotal information that farmers respond best to informal demonstrations that are established on neighbouring farms. Even without formal farm visits, farmers have the opportunity to watch their neighbours implementing successfully a new innovation.

Adapting the intervention to the Canadian context

Demonstration farm networks would appear to be too expensive to implement in Canada, given the size of the country and the variety of production systems. Informal demonstration farm networks, organized regionally, with field days and linkages to university facilities appear to be a more promising route to go.

Research networks

Some history

Organic farming research was first done primarily by farm pioneers. In the 40s, several private research institutes began working with pioneers on research projects, but it wasn't really until the

80s in Europe and the US and 90s in Canada that universities began to examine organic farming in any significant way. In the 90s governments in the US and Europe began creating a broader research infrastructure³¹. Government expenditures on organic farming research remain low, generally less than 1% of total research expenditures in agriculture, with a few notable exceptions highlighted below.

What is the argument in favour?

Just as R&D has played a huge role in the development of current farming practices, so too does it have large impacts on the evolution of organic farming. The research paradigms, the organization and funding of research, and the role of farmers in research projects may, however, be substantially different than in conventional research.

How does it work?

In Europe

Organic farming research is relatively well evolved now in Europe, with many research players and several layers of networks. In total, some 7 private institutes are largely dedicated to organic farming research, 15 universities have Chairs in organic agriculture, and 10 governments provide research infrastructure and funding to projects³². Several countries have formal research networks and a few examples are provided here³³.

Denmark: Danish Research Centre for Organic Farming (DARCOF)

This virtual research institute operates a research secretariat which co-ordinates projects carried out at 15 conventional research institutes (universities, state centres, private institutes) involving 140 researchers and financed by an R&D programme of the ministry of agriculture, food and fisheries. Denmark now reserves 4-8% of its total agricultural r&d budget to organic farming. DARCOF was allocated 30 million euros for the 2000-2005 period.

The Netherlands: Louis Bolk Institute

Researchers from the Louis Bolk Institute, one of the early pioneering private institutes carrying out organic farming research, act as external experts in all organic farming research projects carried out in conventional research institutes in the Netherlands. Their involvement ensures that an organic paradigm is applied to the projects. Some studies are also carried out at the Institute itself. The development of a coherent research program, supported by the Dutch government, was constructed by a network of organic market organizations (Platform Biologica) and the Wageningen University and Research Centre.

Switzerland: From FiBL to a wider organic farming research network

For 28 years, most Swiss research on organic farming has been done at the private pioneering institute FiBL. Research projects cover all disciplines. Projects are often multidisciplinary. Extension and advisory work is organized under the same roof as the research, providing a solid link between these domains. The work of FiBL has been so successful that the federal Research

Institute for Agroecology and Farming (which has a focus on arable crops and grassland) is being converted to organic farming and will form a research network with FiBL including projects and researchers at all federal government research institutes. The Federal Office of Agriculture now allocates 3-4% of total agricultural research spending to FiBL and a further 2-3% to governmental research efforts.

United Kingdom: The Colloquium of Organic Researchers (COR)

COR is an informal network of committed organic farming researchers from private institutes, universities and state R&D bodies, dedicated to discussing methodological issues, co-ordinating the setting of research priorities and collaborating on projects. The Organic Centre Wales at the University of Aberystwyth plays a secretariat function. DEFRA's annual budget for organic farming research is £2.1 million, with four main scientific objectives: a) To assess the economic implications of converting to organic production, b) To compare the environmental effects of organic farming compared to other types of agriculture, c) To relieve constraints to organic production, so to make organic farming more attractive, and commercially viable and d) To ensure that technology transfer is maximised.

Germany: Research initiative of organic farming researchers (FiOEL)

The federal government has launched a very ambitious R&D programme (35 million □) to stimulate strong growth in organic farming. There are significant pockets of activity in many German universities, including chair positions. To ensure organic farming quality in the research projects, a permanent platform of the COR type is planned, co-ordinated by a professional secretariat with two scientific staff (project in application).

A summary of national expenditures on organic farming research is provided in Table 2. Additionally, the EU funds some organic farming research under its Framework Programmes and has supported the formalization of research networks, through the European Network for Scientific Research Coordination in Organic Farming (ENOF)³⁴. It coordinates work in 5 main research areas and holds workshops. Members include public and private research organizations and universities.

An NGO research coordinating body has recently been established³⁵, with membership from scientists across the globe. It's first formal collaboration is to share approaches, information and results from long-term organic field studies located in 8 different countries, including Canada and the USA.

Table 2 - Research funding for organic farming in selected countries in Europe³⁶

Country	Funder	Annual total (in Euros)
Austria	State	~ 1 million
Denmark	State	5 million
Germany	State	17.5 million
France	Several levels of government, and other agricultural institutions	11.7 million
The Netherlands	State commissions research to Wageningen and Louis Bolk Institute	~10 million
Sweden	State and foundation	6.5 million
Switzerland	Primarily 3 federal departments	~ 6 million

Country	Funder	Annual total (in Euros)
UK	State	3.4 million
Europe total		~ 63 million

In the US

US organic farming research is generally driven by federal grant programs, authorized by the Farm Bill. The 2002 Farm Bill authorized up to \$15 million for research, \$3 million US / year from 2003-2007.

USDA Cooperative State Research Education and Extension Service (CREES), Organic Transitions Program: A research grant program to help farmers surmount some of the challenges of organic production and marketing, especially related to the transition process. In 2001, US\$499 000 was allocated to the Program. The 2003 allocation was \$2.11 million US.

USDA Cooperative State Research, Education, and Extension Service
Sustainable Agriculture Research and Education (SARE):

Sustainable Agriculture Research and Education (SARE) funds farmer-driven research and outreach on profitable, environmentally sound farming practices, including organic production. In 2003 the SARE program was funded at Chap 1: \$13.75 Chap 3: \$4.875. States often provide additional funds and in California, due to the state budget crisis, SARE-related programming is in trouble.

Private foundations, private institutes, some universities and some states also provide research dollars. The federal program, however, is the centre of the US research wheel.

What are the impacts?

There's no dispute about the importance of research for advancing organic farming. The very small amount of research has had a significant impact on productivity, demonstrating a high level of improved outputs for minimal inputs³⁷. This, of course, suggests that a more significant

investment in organic farming research would produce exponential improvements in outputs. An evaluation of the Danish research network, DARCOF, concluded that, “There is much evidence that the cross-institutional and multidisciplinary approach of the DARCOF projects has created additional new knowledge of value to both organic and conventional farming development.”³⁸

Adapting the intervention to the Canadian context

Some infrastructure for a national research network is in place. Canada does have an emerging network of organic farming researchers, in part coordinated by the OACC. As well, through the Canadian Agrifood Research Council, an Expert Committee on Organic Agriculture has just been established. The biggest challenges are related to the current approach to agricultural research. Most agricultural research money is disseminated on a competitive grants basis, with peer review of grant proposals. Organic farming is not viewed within the research community as a priority area, so proposals have significantly less chance of success than money for research in other domains. Many research grants required matching industry money and since the organic sector is still emerging, and the check off systems that exist in many commodity areas do not exist in organic, then industry matching money is illusive. Within AAFC, the restructuring associated with implementation of the APF holds some future hope that organic farming will receive more attention internally, but the restructuring will be a lengthy process so organic farming is unlikely to be a short term priority. Dedicating a significant amount of money to organic farming, as is happening in Europe and the US, will consequently be a challenge.

Direct green (USA approach) or multifunctional (European approach) payments to organic farmers

Some history

In Europe in the 1990s, there was movement away from commodity price supports to policies that support rural areas as producers of environmental services and agricultural products. “The farmer is no longer only a food producer but also becomes a care-taker of the environment, countryside and environment”³⁹. Organic farming has become a key dimension of these support programmes. The rationale has been that organic farming (and IPM/ICM) lessens environmental problems and the need for government programmes to clean up problems. It also permits greater dependence on market revenues once through the transition period, leading to lower reliance on commodity payments.

In the USA, there have been direct payments for very specific environmental measures since 1985 (for example, payments for set-asides), but recent developments suggest a shift from very specific environmental measures to farming systems with broad environmental benefits.

Quick summary of pros and cons

Pros:

- if properly designed, can rapidly increase farm adoption as has been the case in Europe
- are not considered trade distorting by the WTO, therefore are permissible
- can adequately compensate farmers for environmental investments that the market can not currently provide

Cons:

- can be expensive for tax payers if poorly targeted and payment levels not well set
- since the connection between environmental practices and real improvements in environmental quality are not always clear, they may not produce tangible environmental improvements
- requires significant uptake in an area for environmental improvements to come about

What is the economic argument for direct payments?

When examining policy, economists are usually concerned about whether the policy or program produces real change at a reasonable cost to taxpayers. Direct payments have been criticized in the past because they are difficult to target to those producers that will generate significant environmental improvements from their actions associated with the payment. Evaluations of programs in the US and Europe have found that some are both too expensive and only really taken up in less intensive agricultural production areas where the environmental problems are not as acute⁴⁰. Other complicating factors include:

- (1) that many farmers and other actors may be contributing to the problem;
- (2) since much of the pollution is non-point source, it is difficult to observe and measure impacts and their sources;
- (3) wide variability in farm types and their economic and ecological conditions;
- (4) the unpredictability of natural events over which no farm has control;
- (5) the need for many farms to improve their environmental management to achieve improvements⁴¹.

All these complications can mean considerable costs for government administering the program.

However, direct payments for organic farming mitigates some of these problems. If only one environmental target is sought, then it is more efficient to design a program specific to that. But since many of the most significant environmental problems in agriculture are not related to a specific farming activity, then combinations of changes are usually required. If multiple environmental improvements are sought, then targeting farms participating in multidimensional environmental improvements is a much more efficient allocation of policy and program resources than designing programs around each specific environmental target⁴². Organic farming fits into the category of generating multidimensional environmental improvements (see the companion paper , [Does the adoption of organic food and farming systems solve multiple policy problems? A review of the existing literature](#)). There is little empirical evidence available to support this, in part because evaluations must assign costs and benefits according to

the multiple environmental benefits that result from organic farming⁴³, an admittedly difficult task.

Since Canada has multiple environmental targets through the APF, in theory, supporting organic farming with support payments would be a much more efficient allocation of resources than spending money on unique programs for each environmental target. There is also some evidence (see the companion paper , [Does the adoption of organic food and farming systems solve multiple policy problems? A review of the existing literature](#)) that organic farming also helps achieve APF targets in 3 other APF pillars (business risk management, food safety, rural renewal). These are presented in Appendix 3.

Other advantages of direct payments to organic farming over other environmental systems:

- When supporting transition to certified organic, many of the administration and enforcement costs are not borne by the state, but rather by private certifiers and farmers themselves.
- The collection of indicator data is not all borne by the state, since private certifiers collect data on their membership.
- Organic farmers are much less likely to revert to conventional farming following completion of a contract.
- Organic farming establishes its own social networks that are part of maintaining on-going commitment to the conservation practice.

Direct support of this type currently falls within the WTO's Green Box, which means it is justifiable given the environmental and other public benefits of organic farming. Since the US and EU have agreed for now to leave Green Box measures intact, these support payments appear to be incontestable for the moment⁴⁴.

How do direct payments work?

In Europe, the most important payments are made on the basis of:

- the area planted with specific crops (arable area payments);
- the number of animals held or slaughtered (headage payments); and
- the participation in agri-environmental programmes.

Organic farmers generally receive higher total support payments than conventional producers, largely because of the organic farming payments. Payments for other measures are lower in total. Set aside payments are largely similar compared to conventional farms, but payments are lower for arable crops, headage and other agri-environmental measures. We'll focus particularly on the organic farming schemes within the agri-environmental programme portfolio.

All EU countries directly support organic farming in some way. In 1997, payment support was around 260 million ECU, and probably higher now⁴⁵. For a summary of payment levels, see Table 4.

Table 4 - Comparison of organic farming support payments (in Euros/ha) for arable crops in selected countries, 1997 and 2002⁴⁶

Country	In - conversion 1997	In - conversion 2002	Existing organic 1997	Existing organic 2002
Austria	327	327	327	327
Germany (Lower Saxony, proposed)	150	285	100	160
Belgium	180	180	112	112
England	80	290	0	~50

Europe's (EEC) Regulation no. 2078/92: Agri-environment programmes

In 1992, the EEC adopted regulation no. 2078/92, known as the agri-environment programme. It replaced other EU programmes and also subsumed many of the national programmes that had existed prior to its enactment. Both national governments and the EC had programmes related to input use reduction and environmental protection, including taxes on production inputs. As well, between 1987 and 92, Austria, Denmark, Finland, Germany, Norway, Sweden and Switzerland had all introduced organic conversion aid schemes and other supports to help spread organic farming. These programmes produced significant increases in acreage under organic management, and their experiences were part of the inspiration for the EU regulation.

The regulation covered a wide range of environmental programmes, but particularly significant for this discussion, programmes existed “to reduce substantially [farmers’] use of fertilizers and/or plant protection products, or to keep to the reductions already made, or to introduce or continue with organic farming methods.”⁴⁷ As well, European states established under the regulation programmes to improve the training of farmers and for demonstration projects.

These programmes were designed mostly around management agreements with farmers. Farmers agreed to achieve specified outcomes for which they receive payments. For the components of particular relevance to this report, management agreements were usually for a 5 year period. The EU co-financed these programmes at 75% for those regions lagging behind in economic development, and 50% in the other areas.

The EC evaluated Regulation 2078/92 in 1999⁴⁸. The most positive results of the regulation, according to the EC evaluation and Buller (2000)⁴⁹, have been on reducing inputs and organic farming. Where programmes have been widely applied, there have been substantial reductions input use overall. These results stand somewhat in contrast to other agri-environmental programmes which have been seen as only partly successful, because they have focussed on the

farming margins without addressing the productive farm landscape⁵⁰, and due to larger questions of government organization, objectives and conflicting mandates⁵¹.

The EC evaluation and a related one by Lampkin (1996)⁵² revealed that twenty percent of EU agricultural land was then covered by agri-environmental programming, exceeded the initial 15% target. However, much of the land in programmes was located in 5 countries, and uptake was limited in the most agriculturally intense areas⁵³, a problem discussed earlier.

In organic farming, practices are specified by an existing regulations (EC Reg. 2092/91, extended in 1999 to include animal production, Regulation 1804/99; see appendix 4 for summaries of the key EU regulations) that provide organic standards, certification and verification systems. Farmers participating in the measure must meet the requirements for transition to organic as laid out in this regulation, including having a relationship with a recognized certification body. Many state organic support programmes are open to both existing and converting organic farmers. Support for existing producers is seen to be important because they are an important source of information for converting farmers, they already provide environmental services, and as more farmers convert, price premiums may fall and affect those already in operation⁵⁴. Organic farming is supported with payments for the conversion period, usually 2-3 years, and then sometimes on-going support. As well, programmes provide some money for training and demonstration.

In the US

A few states (Minnesota and Iowa, for example) will provide per acre payments to converting organic farmers through the **Environmental Quality Improvement Program (EQIP)**.

Minnesota allocated \$1.6 million to help farmers convert to organic farming in 2002. Incentive payments were approved for 102 contracts on 32,819 acres of cropland 2,212 acres converted to livestock production. They also ran training programs for advisors to help organic farmers with the conversion process⁵⁵. Farmers could receive incentive payments for 3 years of a minimum 5 year contract (\$45/ac on up to 120 acres for up to 3 years). They could hire a technical advisor. They could also receive additional incentives for related conservation practices, and must implement nutrient management and pest management provisions. Certified farmers are not eligible, nor are certified acres. Participants must belong to an accredited certifying organization⁵⁶.

The **Agricultural Management Assistance program (AMA)** provides cost-share payments to producers to voluntarily address issues such as water management, water quality, and erosion control by incorporating conservation into their farming operations. In addition to some more traditional eligible practices, farmers may use this program to support the transition to organic farming⁵⁷. Farmers may also be eligible for other conservation provisions not directly related to the transition to organic farming. Since AMA is delivered at the state level, each state determines which conservation practices it wishes to devote resources to.

Cost sharing is at the 75% level and farmers enter into 5-10 year contracts. A transition plan (part of a conservation plan) must be developed, either in association with the Natural Resources Conservation Service or through an independent contractor (Technical Support Person or TSP) as long as each state as decided to provide resources for the hiring of such TSPs. There is no money for any financial losses during the transition period. Farmers can not receive more than \$50,000 in total from all AMA sources.

Eligible states are: Connecticut, Delaware, Maine, Maryland, Massachusetts, Nevada, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Utah, Vermont, West Virginia, and Wyoming. All these typically have low participation in the Federal Crop Insurance Program.

Another program created from the 2002 Farm Bill is the **Conservation Security Program**. Consultations on the rules are still underway, so all the details have yet to be finalized, but will likely be the most innovate conservation program in the US. According to US officials, organic farmers are unlikely to be rewarded for being organic farmers per se. They will, however, be eligible for payments based on adoption of specified practices. There may also be funds for technical advisors to help with transition planning.

What are the impacts?

Direct payments to organic farmers are too new to evaluate in the US. However, the rapid increases in organic acreage experienced in Europe owe much to the existence of organic aid schemes⁵⁸. Over 80% of growth in Europe has occurred since implementation of definitional and control measures and support schemes⁵⁹. According to Lohr, “The ability of EU farmers to rely on direct payments for conversion to and continuation of organic enables greater risk-taking in enterprise mixes, including high-value, high-risk crops, faster adoption of practices that require land-use adjustments that improve yields, and broader extensification of organic acreage that increases total output.”⁶⁰ Comparing the US and Europe, she found that while dramatic growth rates were the result of the introduction of direct payments in the EU, during the same period, the number of organic farmers and acres actually declined slightly in the US where governments have relied primarily on market mechanisms with some grants. Based on Swedish data, and comparing a situation with no direct payments to provision of direct payments for conversion, it has been estimated that direct payments can induce a 27% increase in farmers undertaking a conversion⁶¹.

Total expenditures on organic farming through the regulation likely exceed 200 MECU / year through the 1990s, averaging a little over 10% of total environmental regulation expenditures in the EU⁶². By far the largest percentage of payments were directly to farmers for environmental services. However, there is widespread agreement that a number of components need correction to increase their effectiveness, including setting the payment levels. The effectiveness of

payment levels is also determined by the existence of other services - research, training, extension and market development. Training of farmers in good environmental management and organic agriculture are also provided, with grants to farmers for attending courses and traineeships; and grants to organizations for organizing programmes and preparing materials; and money for demonstrations that can be integrated with the training efforts. The Netherlands and Belgium have established organic demonstration farm networks. About half the states provide for training in organic, and about 1/3 provide for advice. However, according to Lampkin (1996)⁶³, the agri-environmental programme has been generally weak on encouraging the provision of training and information services. Germany, Denmark, Sweden, Finland, Austria, and the Netherlands have full-time state-funded advisors in organic farming, but most organic farmers still rely on private sector consultants, often in limited supply. There is insufficient training available for organic advisors. Demonstration projects have only been taken up in a limited way. Budgetary expenditures on these elements have been minimal.

The other point to highlight is that even with conservative calculations, direct payments to organic farmers are saving money on other EU expenditure portfolios. A very conservative estimate is that 46% of direct support payments to organic farmers are recouped by reductions in support payments for other measures that would have had to be paid were they not organic farmers⁶⁴. This estimate does not include all the other less direct savings associated with reducing other policy problems as described in companion paper , [Does the adoption of organic food and farming systems solve multiple policy problems? A review of the existing literature](#). A study of the UK Organic Advisory Scheme attempted to evaluate some of these wider benefits using Contingent Ranking valuation methods. The costs to the UK treasury for the scheme were £ 419,000 and the net value £16.6 million. The value arose primarily from biodiversity benefits associated with virtual elimination of pesticides⁶⁵.

Other financial supports

Crop insurance with premiums⁶⁶:

Since 2001, as a result of the Agricultural Risk Protection Act (ARPA) of 2000, which recognizes organic practices as good farming practices, organic farmers have been eligible for federal crop insurance in the US. Since then, many organic farmers trying to purchase insurance for their organic crops have been subject to such conditions as higher premiums, reductions in dollar amounts rewarded to organic losses, written agreements, and mistaken beliefs about organic crop damage. Fortunately, the recently released 2004 crop insurance guidelines should redress these problems as they require a written agreement to provide coverage for organic producers. The written agreement states that all damage caused by insects, disease, or weeds will be covered if a farmer follows recognized organic farming practices and they fail to provide an effective control. As well, as long as the farmer is following organic cultural practices, a loss due to a named peril is still covered by the policy.

One positive state story is North Dakota. Since March 15, 2001, organic farmers in North Dakota have been able to get conventional crop insurance policies but with premiums paid out for organic crops. The same insurance policies are also available for crops that are in transition

to organic, although for both transition and organic crops, certification is required to obtain insurance. During 2001 organic growers purchased federal crop insurance on 13,800 acres, about 2% of all organic cropland.⁶⁷

Adapting the intervention to the Canadian context

Canada is substantially behind the EU and the USA on recognizing and rewarding farmers for being environmental stewards. Canadian policy makers are not yet prepared to recognize multifunctionality as a policy measure. There appear to be two main reasons for this reluctance. The first is related to Canada's commitment to market-based measure to agricultural development. Policy makers appear to continue to hold the view that the agricultural market place is fundamentally functional and only needs some tweaking or removal of government measures that distort markets (see below for some discussion of the limitations of this position). Secondly, for several years, culminating in the APF, federal policy makers have been trying to limit their budgetary commitments to the agriculture sector, and multifunctionality appears to be more expensive (in contrast, see above for some discussions of the savings brought by multifunctionality).

However, a number of things have happened recently that create pressures on the federal government to develop multifunctionality as a policy measure:

- the US, with which Canada models many of its policy approaches to agriculture and trade, is now quietly embracing multifunctionality, as demonstrated through some of the new provisions of the 2002 Farm Bill
- PEI's programming to support adoption of IPM and other systems demonstrates some multifunctionality features
- some regional municipalities are now paying farmers per acre payments to improve water quality (e.g., Regional Municipality of Waterloo, Ontario)⁶⁸
- farm organizations such as the Christian Farmers Federation of Ontario and the Keystone Agricultural Producers in Manitoba are making multifunctionality style proposals to governments

The next round of APF negotiations (culminating in a 2008 agreement) may present a good opportunity for having multifunctionality embraced.

5. Increasing Demand

The general challenge of increasing market infrastructure and demand

The Canadian organic market is immature, meaning that it is in a state of rapid evolution, with many new players, and lacking the infrastructure that characterizes more mature markets. It is generally viewed to be at least 10 years behind markets in Europe and the US. For a review, see the National Organic Strategic Plan.

In most of the OECD world, food markets are dysfunctional, exhibiting significant market failure.

Market failures cause a divergence between market values and social values, meaning that what the market values does not necessarily reflect what is socially valuable, beneficial or efficient⁶⁹.

The following conditions must be in place for markets to bring about outcomes that are socially efficient:

1. Markets must be competitive. The presence of one seller (*monopolies*) or a small number of sellers (*oligopolies*) on the supply side of the market, or the presence of one buyer (*monopsonies*) or a small number of buyers (*oligopsonies*) on the demand side will prevent socially efficient allocation of resources.
2. Buyers and sellers of the product must have the same information about the product so that market outcomes represent their true valuation of the good. If not, it may lead to more or less of a good being sold than would otherwise be socially desirable.
3. All the social benefits derived from the consumption of that particular good are completely captured by the individual buyers participating in that market.
4. All the social costs incurred in the production of that particular good are completely captured by the individual producers or sellers participating in that market.

Unfortunately, food markets rarely, if ever, reflect fully these conditions. In the OECD, and particularly Canada, food markets are characterized by high degrees of oligopoly and oligopsony. Particularly at the retail level, there is significant information asymmetry related to environmental and some nutritional characteristics. Social benefits are rarely fully captured by consumers since there is a significant disconnect between individual dietary choices, and population health, economic performance, and social cohesion. Producers do not absorb all the social costs as there are significant health and environmental externalized costs associated with food production. Some of these costs are borne by governments, others remain unpaid. As a result, price signals between buyers and sellers are significantly distorted.

This situation presents two general rationales for governments to intervene in the organic market place. First, market failures are generally seen as a sound reason for government action. Second, organic markets can redress some of the market failures that generally confound food markets, particularly in the areas of environmental information and internalizing costs. Since organic food is subject to significant traceability, audit and labelling systems, consumers can receive significantly more information regarding the environmental benefits of the products and the legitimacy of the claims. The environmental benefits of organic farming reduce pollution and the external costs associated with its cleanup (see the companion paper , [Does the adoption of organic food and farming systems solve multiple policy problems? A review of the existing literature](#)). Organic farmers, therefore, are capturing much more of the social costs than conventional farmers.

Organic identity in the market place

Symbols

The European experience is that one national symbol is critical to building consumer awareness. It doesn't matter necessarily if it is a private or government symbol⁷⁰. In at least thirteen European countries, a common label or symbol for organic products exists. However, the degree of consumer recognition of the label varies from just 2% in Germany to 100% in Denmark⁷¹. Germany stepped in to set up a single national label scheme when private sector efforts to establish one failed, so recognition has started to improve⁷². The seal is provided free and abuses result in fines levied by the state. In March 2000, the European Commission decided on a logo for organic products. This is a voluntary logo that can be used for all produce whose production is regulated by EU regulation 2092/91⁷³. It is generally found more frequently on imported than domestic product as an assurance that the organic product meets EU standards and requirements.

Consumer campaigns

The countries in which organic has reached significant percentages of the retail market place have all historically had a variety of consumer awareness campaigns, at least partly funded by the EU, national and regional governments. As part of efforts to reach their target of 5% of retail sales in organic foods, the Dutch government is funding a 2 year media campaign designed to reach out to new consumers who are not the first wave, including explanations of why the prices are higher, with industry providing product- specific promotional materials.

Support for local and regional markets

Organic farming projects received support under Objectives 5b and 1 of the EU Structural Funds up to 1999 and this support has continued under Agenda 2000 and the Rural Development regulation. Funded projects cover a variety of activities, including direct marketing, promotion of regional products, market and food quality research, technical advice and training. Some regional development schemes include support for marketing and processing activities in the organic sector, mainly aimed at small-scale projects⁷⁴

Supply chains

As part of the Dutch action plan, the government created a supply chain task force with environmental groups as participants. The strategy is to specifically target the marketing chain in order to generate long-term agreements on marketed product volume and price per unit⁷⁵. Chain players agreed in 2001 to make certain changes to production and marketing, and the government committed to being a facilitator and provided financial support. Chain plans for pigs have included 3-year guaranteed pricing arrangements based on real costs, with government supporting farmer investment in new pig housing schemes to support the price structure. The government provides additional support in the form of market studies, product promotion and/or

specific support of primary producers. It might also provide funding for the recruitment of so-called chain managers, people who bring market partners together in chain agreements⁷⁶.

An important feature of the supply chain strategy is the involvement of retailers. The greatest market penetration in Europe lies in places where there are significant sales from major retailers⁷⁷. Price premiums were also lower in these circumstances, often 20% lower than the weighted average for Europe. The primary reason was lower distribution costs due to bulk distribution⁷⁸.

Support for processing

Chronic undercapitalization is a recurring theme in the organic processing and distribution sector, especially for start-up, small and medium sized firms. Many of the difficulties for these farms are not unique to the organic sector but characterize most firms of these categories (known in the trade as SMEs - small and medium enterprises). Since the organic sector is dominated by SMEs - with sales of less than \$100 million annually - it suffers proportionately more from these problems. Undercapitalization is the product of a number of factors: disinterested or ill-informed financial institutions and venture capitalists; lack of knowledge and resources to prepare good business plans; lack of track record for organic entrepreneurs; lack of data on the state of the organic sector and its prospects; and difficulties assuring markets.

There are several dimensions to the quality assurance challenges. The first is the quality of the supply. As discussed in the farming section, not all producers have the knowledge or equipment to optimize crop and animal product quality. Consequently, what is purchased by processors may have a significant degree of dockage or may not produce a processed good of the desired quality. Depending on the size of the processing operation, quality control resources within the plant may be limited. Finally, packaging may not be optimal, depending again on the knowledge and resources of the processor.

In Europe, under the Rural Development Directive, support can be provided for processing⁷⁹. Article 25 of Chapter VII (Improving processing and marketing of agricultural products) states:

1. Support for investment shall facilitate the improvement and rationalisation of processing and marketing of agricultural products and thereby contribute to increasing the competitiveness and added value of such products.
2. Such support shall contribute to one or more of the following objectives:
 - to guide production in line with foreseeable market trends or encourage the development of new outlets for agricultural products,
 - to improve or rationalise marketing channels or processing procedures,
 - to improve the presentation and preparation of products or encourage the better use or elimination of by-products or waste,
 - to apply new technologies,
 - to favour innovative investments,
 - to improve and monitor quality,

- to improve and monitor health conditions,
- to protect the environment.

EU support comes up to 40% of costs is provided in most regions, 50% in disadvantaged ones. Some states provide additional supports. For example, in Germany, under the "Guideline for the Promotion of the Marketing of Organically Produced Agricultural Products", subsidies are provided to producer-based marketing organisations, for processing and for the development of marketing concepts. Many states have also developed their own programmes to support marketing⁸⁰. In Germany, such schemes have been particularly successful at helping develop regional marketing networks, overcoming the problems of a small organic sector and encouraging the entry of new operators⁸¹.

Public procurement

Public procurement has historically been used to support emerging sectors, although its use has been reduced of late in the WTO environment. An Austrian case study provides some evidence of effectiveness⁸². It found that substantial amounts of organic foods, in most product categories except out of season vegetables and fruits and some processed foods, could be sold in Vienna hospitals. With skilful purchasing and accounting for seasonal and regional variability, cost increases were far lower than anticipated. Also, cutting back on material losses, and slightly reducing portion sizes of things like meat, reduced the additional costs. The study also found that the labour costs associated with increasing use of raw materials were lower than the costs of using lower labour convenience items. When looking at the results from an economic point of view, it was possible to increase the share of organic products to 30% for industrial kitchens without any substantial increases in costs if:

- meat cooking was closely matched to the quality of the cuts;
- meat portions were reduced by 20 to 30 grams;
- servings of vegetables and fruit were based on seasonal availability.

Similar results were found for some senior's homes and a small purchasing group supplying a few senior's homes, hospitals, a fire brigade and a vocation school.

The case study provided the following lessons for increasing the organic share of institutional menus:

- Planning must be done jointly with kitchen staff, administration, labour, dietary services, and teaching staff.
- Start gradually by using uncomplicated organic products, which will build trust in the quality of organic products and to allow for consistency in supply.
- Give preference to regional food that can be easily supplied.
- It is all about seasons, for vegetables, some fruits and even meat
- Introduce organic components step by step - It's more practical to introduce organic components in all the dishes on the menu, rather than create entire "organic menus".
- Measures to reduce costs when putting organic products on the menu:

- buy seasonally
- replace individual menu components
- offer inexpensive meat stews and vegetarian dishes;
- reduce the size of meat portions in favour of vegetables and side-dishes;
- substitute meat cuts based on what is most available organically;
- do not only use the expensive cuts;
- use expensive convenience products very selectively.

Collecting organic market data

In most jurisdictions, there is only limited data available on the organic market, little of it collected by official statistical services. The consequence is that companies have significant market research costs or are unable to accurately determine where market opportunities lie. The lack of data acts as a barrier to entry for both conventional farmers wishing to developing a marketing plan for the transition period and beyond, and food companies with an interest in developing an organic line. It's also critical for developing long-term contracts between producers, and processors and retailers, viewed as a critical feature for market development⁸³. Long-term contracts are only a worthwhile risk if market players can forecast market development.

Several projects are underway in the US and Europe to increase data collection.

European Information System for Organic Markets (EISFOM)⁸⁴ - funded by the EU, this project brings together many institutions already involved in collecting data on organic markets in Europe.

US provisions - The 2002 Census of Agriculture has collected organic production data for the first time, and the 2002 US Farm Bill has provisions for collecting organic market data.

What are the impacts of market interventions?

Market development measures appear to have significant positive impacts when the market conditions are not optimal. For example, Denmark's consumers are not as health conscious as Germany's, yet organic has higher market shares in Denmark which may be a function of government intervention and retailer supports. Where consumption of organic food is very price sensitive, policy measures affecting price premiums - such as subsidies to organic products or production - will be highly effective at increasing consumption of organic foods⁸⁵.

Adapting the intervention to the Canadian context

Canada has some significant history of supporting market development in other agricultural sectors, usually cost shared with the commodity sector. The challenge is to obtain more dedicated support for the organic sector.

6. Removing Disincentives

In addition to provision of positive supports to the organic sector, some jurisdictions have altered policy and program provisions, or introduced new policies, designed to create a level playing field for environmental stewardship in agriculture. These jurisdictions have recognized that removing disincentives to organic farming adoption can be useful complements to promotional programming. Three of the more critical disincentive areas are briefly described here.

Decoupling payments from production

Measures that financially reward growers for producing a limited range of crops will generally discourage more diversified crop rotations, including those that are the foundation for organic farming. A Finnish study on the subject concluded that “an income-neutral policy reform (decrease of output prices and compensation through direct subsidies) will increase farmer incentives to switch to organic farming”.⁸⁶ Price supports are often capitalized in land prices which discourages new entrants to farming⁸⁷.

In both the UK and US, although some progress has been made, price supports are still sufficiently high that they discourage growers from diversifying out of the narrow range of commodities that are well supported with production subsidies. Consequently, there are few incentives to move beyond the first steps of adopting new environmental practices. Safety nets tend to be too narrowly defined around production supports⁸⁸.

Changing input prices

Many inputs are incorrectly valued within production systems. Pesticides, for example, generally account for 4-5% of production costs, yet many farms operate as if they are completely dependent on pesticides for revenue generation. Pesticides would be much more costly if they reflected their apparent value. Because they are underpriced, pest prevention tactics often appear to be a more costly investment. This is reinforced by economic studies that grossly undervalue IPM practices and/or assume there are no viable alternatives to pesticides when estimating cost/benefit ratios⁸⁹. Additionally, the negative health and environmental consequences of using pesticides are not reflected in their price. Damage to ecosystems is usually unpaid, or when paid, comes out of public coffers, not out of the pockets of pesticide sellers or users. Consequently, there is an unpaid environmental subsidy and paid public subsidy to pesticide use.

In part as a consequence, several jurisdictions in Europe and the US tax input use. Denmark has taxed pesticides since the 1980s. Though it started at the modest rate of 3% in 1987, by the late 1990s this had risen to 33% for herbicides and fungicides and 53% for insecticides and soil disinfectants⁹⁰. Several studies suggest that taxation at these rates is required to significantly impact purchasing behaviour⁹¹. Other jurisdictions have maintained taxes at lower levels and used revenues to fund sustainable agriculture programs.

Regulatory requirements

In most jurisdictions, a relatively small number of regulations related to food safety, phytosanitary requirements, and pesticide and GMO registration may make the transition to organic agriculture and food processing more difficult. Related to food safety provisions, this usually occurs when organic certification standards do not permit a process, practice or material that may be required in regulation. Regarding pesticide registration, the rules for data submission and risk assessment may so increase expenses for applicants that small market products are not deemed worthy of submission. GMO assessments have not traditionally examined the impacts on non-GM producers, a particularly acute problem for organic producers because of certification standards.

These regulatory dilemmas are slowly being resolved. Commonly, discussions with food safety officials can produce an acceptable alternative strategy. Some jurisdictions have established programs to reduce costs for small market pesticide products which may eventually be useful to organic pesticide manufacturers. Although regulators are examining co-existence between GM and non-GM production, these provisions may be too late to protect organic production of some crops, such as canola.

Appendix 1 - Setting the level of payment for environmental services - European observations

The EC believes that all farmers must respect basic environmental measures without compensation, but that environmental services beyond this baseline should be paid by society. The EC have tried to find levels that do not substitute for the market's contribution to income generation, but also recognize the broad societal benefits that result from farmer's delivery of environmental services, benefits that can not necessarily be recouped from the market place. On the other hand, when farmers are learning through the conversion process, the benefits go beyond their own finances. It is for this reason that governments began to support the conversion process in the late 80s⁹². The intention, consequently, is to have the payment schemes be neutral - they should replace revenue foregone because of the adoption of environmental measures. The EC believes that small incentives beyond this should only be paid to increase uptake to reach a stated environmental objective⁹³. One argument is that environmental payments for organic farming are 'trade-correcting' because they account for costs currently unaddressed by the market⁹⁴.

According to Lampkin, the payment levels should take account of the costs of environmental improvements farmers are expected to meet, the resulting environmental benefits, the costs of conversion and the potential for savings in public expenditures. It does not appear that these have been the guiding determinants in Europe of payment levels. The guideline in Europe, then, is that the payments in agri-environmental schemes should compensate for 20% of market losses, 40% for organic production schemes⁹⁵.

The evaluation revealed that, to some extent, uptake of organic farming is connected to the level of payment. In general, levels of payment have not been sufficient to encourage arable, horticulture, pig and poultry producers. The most common conversions in most countries have been low to medium intensity dairying⁹⁶. This suggests that those systems that are particularly reliant on pesticides have not had sufficient encouragement from the program to take up pesticide reduction. The EC believes that payment levels have to be better targeted to mitigate potentially negative income effects. It also plans to include in the payment rates previously excluded compensation from capital items required during the conversion process. It also plans to increase the co-financible margins compared to present limits. Member states will also be given more flexibility to top up in particularly environmentally important cases⁹⁷.

In the late 1990s, Austria (335 ECU/ha/yr for cereals) and Finland (365 ECU/ha/yr for cereals), with the highest payment rates also had the highest uptake, whereas the low rates in the UK (82 ECU/ha for all organic crops⁹⁸) proved to be less attractive⁹⁹. On average, payments have ranged from 190 ECU/ha/yr for cereals, 210 ECU for grassland, 280 for vegetables and 540 for fruit trees. Conversion rates in livestock operations were particularly sensitive to available payments.

A comparative assessment of direct subsidies in Canada and New Zealand¹⁰⁰ indicates that the appropriate level of government support is not so high as to encourage unsustainable farming practices, yet sufficient to compensate for the market's inability to reward farmers for being good environmental stewards.

Appendix 2 - Summary of Action Plan elements

Country Elements	England	Wales	Denmark	Netherlands	Germany	EU (elements being discussed for 2004)	Quebec (2004-2009)
Rationale for Action Plan	Public benefits Managing growth	Public benefits	Expansion and consumer confidence	Pioneering role meeting societal objectives	Environmental benefits Reduction of technology risks Helping organic get on its feet	Organic is a path to sustainable development Provision of public goods	Growth Environmental and health benefits
Targets	1 # converting farmers by 650 / year over 5 years	10% by 2005	By 2005: Trebling production 10% more farmers, 20,000 more ha	10% of acres by 2010	20% of agriculture by 2010		Triple certified or in transition farms 5-fold increase in processed food 5-fold increase in domestic sales Triple exports
National Advisory (to government) Committee	√ standards √ research	√	√ Organic Food Council √ Standards and inspection	√ to help develop business plans for sectors	√ for overseeing action plan implementation	√ EU wide for standards improvements	√ Coordinating plan implementation
Improving standards	√ for production		√ for processing and production	√ for processing √ EU harmonization			√
Improve the regulatory framework for organic							√

Country Elements	England	Wales	Denmark	Netherlands	Germany	EU (elements being discussed for 2004)	Quebec (2004-2009)
Increased monitoring of inspection				✓		✓ for EU harmonization	
Improved traceability						✓	✓
Cost sharing for certification / accreditation							✓
Food chain partnerships	✓ Particularly major retailers	✓	✓	✓	✓		✓
Support for local and regional markets	✓		✓		✓	✓	✓
Improving business plans, skills & performance	✓		✓ especially for the SME sector and processors	✓	✓		
Grants for market initiatives				✓	✓		
Public procurement	✓		✓			✓	
Increase consumer information			✓ support identification of organic label	✓	✓ including schools	✓	✓

Country Elements	England	Wales	Denmark	Netherlands	Germany	EU (elements being discussed for 2004)	Quebec (2004-2009)
Support for maintaining GE-free status				√			√
More money for research	√		√ production, storage, processing, markets, food safety	√	√ production, processing, socioeconomic modelling	√ production, food quality, environment, processing	√
Direct payments to farmers	↑ to support conversion target √ converting farmers √ established organic farmers		√ Adjust levels for converting farmers √ Maintain levels for established farmers				
Loan guarantees for capital intensive sectors				√ particularly hog production			
Transition insurance				√ 50% of lost income			
Adapt revenue and crop insurance							√
Tax measures (depreciation and allowances)				√			

Country Elements	England	Wales	Denmark	Netherlands	Germany	EU (elements being discussed for 2004)	Quebec (2004-2009)
Forming labour pools				✓			
Demonstration farm network	✓	✓			✓		✓
Build coordinated advisory and training system		✓	✓ Increase funding existing services and build new ones		✓ for production processing, distribution, food service	✓	✓
Farmer clubs		✓					✓
Funding for universities		✓	✓	✓	✓		
Funds for increasing organic crop protection products				✓			
Support new processed product development			✓		✓		✓
Targeting OF to environmentally sensitive areas						✓	
Ensuring CAP supports OF						✓	

Country Elements	England	Wales	Denmark	Netherlands	Germany	EU (elements being discussed for 2004)	Quebec (2004-2009)
Standardize procedures for imports						✓	
Collection of statistical data					✓	✓	

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Appendix 3 - The goals and targets of the Agricultural Policy Framework and the potential for widespread adoption of organic farming to address them [how to modify programs to make organic work with it]

APF Pillar	Goal, principle or target	What organic farming (OF) provides
Business Risk Management	Common Goal 15.1.2 to ensure that these tools are designed as incentives for producers to increase profitability through growth, diversification, value-added activity, and other means.	OF is not a risk management program per se and organic farmers require production insurance as do all farmers; however, adoption of organic farming generally increases profitability relative to conventional production, and is widely recognized as a farm and product diversification strategy. OF generally widens the coping zone for adverse weather conditions.
	Principles in section 16.1 16.1.7 contributing to profitability through innovation and value-added activity; 16.1.8 assisting in the management of risks related to environmental stewardship and food safety; and 16.1.9 facilitating long-term planning by farmers.	OF generally requires that farmers be more engaged in marketing and frequently value-added activity; lack of support requires innovation OF reduces environmental risks and may also reduce certain food safety risks OF requires whole farm transition planning and, consequently, farmers generally devote more attention to longer-term planning

<p>Food Safety and Food Quality</p>	<p>Common Goals</p> <p>20.1.1 to protect human health by reducing exposure to Hazards; 20.1.2 to increase consumer confidence in the safety and quality of food produced in Canada; 20.1.3 to increase industry's ability to meet or to exceed market requirements for food safety and food quality.</p>	<p>OF benefits from OFFS as conventional farming, but offers additional benefits based on production design: Because of standards required for OF, exposure to some potential hazards is reduced The system of standards, inspection, certification and accreditation, IP, and audit trails can contribute to consumer confidence OF is a marketing tool for both environment and food safety</p>
	<p>Targets and indicators</p> <p>21.1.4 the development by industry of traceability systems which would allow for eighty (80) per cent of domestic products available at the retail level to be traceable through the agri-food continuum; and 21.1.5 the development by industry of traceability components for all products/commodities within the food quality and food safety control systems.</p>	<p>OF has established a traceability system that is often studied by other food industry sectors</p>

<p>Environment</p>	<p>Common Goals 24.1.1 reduce agricultural risks and provide benefits to the health and supply of water, with key priority areas being nutrients, pathogens, pesticides and water conservation; 24.1.2 reduce agricultural risks and provide benefits to the health of soils, with key priority areas being soil organic matter and soil erosion caused by water, wind or tillage; 24.1.3 reduce agricultural risks and provide benefits to the health of air and the atmosphere, with key priority areas being particulate emissions, odours, and emissions of gases that contribute to global warming; and 24.1.4 ensure compatibility between biodiversity and agriculture, with key priority areas being habitat availability, species at risk, and economic damage to agriculture from wildlife.</p>	<p>OF generally reduces the amount of nutrients and pesticides added to water</p> <p>OF reduces soil erosion relative to conventional systems</p> <p>OF generally reduces emissions of greenhouse gases</p> <p>OF generally increases biodiversity</p>
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Renewal	<p>Common Goals</p> <p>28.1.1 to increase their profitability;</p> <p>28.1.3 to help them meet market and consumer demands respecting food safety and food quality and environmentally-responsible production</p>	<p>OF generally improves profitability relative to conventional production</p> <p>Organic food is purchased by consumers because of its food safety, quality and environmental attributes</p>
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Appendix 4 - Summary descriptions of key EU regulations

(Adapted from Lohr, L. 2001. The importance of the Conservation Security Act to US competitiveness in global organic markets. **Dept. Agriculture and Applied Economics Discussion Paper FS01-19**. University of Georgia, Athens, Georgia.

http://agecon.lib.umn.edu/cgi-bin/pdf_view.pl?paperid=3822; and

http://europa.eu.int/comm/agriculture/markets/hori/index_en.htm)

EC Reg. 2092/91 - EU Organic Standards: The EU Organic Standards regulation establishes criteria for organic certification for producers, processors, and handlers in the EU member states. It also sets up rules for import acceptance, including a mechanism (Article 11) for non-EU countries to obtain “Third Country” status whereby that country’s standards are considered equivalent to the EU standards, and imports are to be accepted as if produced within the EU, without additional requirements. Exporters from countries that do not hold Article 11 status must establish equivalency of their certification with EU standards independently. This regulation was introduced in 1991.

EU Reg. 1804/99 for organic animal husbandry: This regulation extended Reg. 2092/91 to include animal production.

EC Reg. 2078/92 - EU Agri-Environment Program: The EU Agri-Environmental Program provides financial support to farmers who reduce and maintain reductions of chemical use or implement and continue organic farming methods, extensify production areas, reduce animal units per land unit, engage in nature protection or biodiversity measures, manage land for public access and environmental set-asides, and attend training or set up demonstration projects to promote environmental or organic farming practices. The regulation was introduced in 1992, subject to member implementation on a country-by-country basis. It was effectively folded into Regulation 1257/99 on rural development in 1999 (see below).

EC Reg. 746/96 - Clarification of EC Reg. 2078/92: As part of the clarification of EC Reg. 2078/92, this regulation required that member states take specific account of EC Reg. No. 2092/91 in setting financial assistance levels for organic farmers, and explained the limits for combination of support programs. Under this regulation, the level of any incentive element of a support program could not exceed 20% of foregone income and expenses incurred to implement the practice. Organic farming was eligible for an additional 20% incentive payment. Maximum total payments varied by agricultural product, time since implementation of practices, and other factors set unilaterally by member countries. The EU co-financed 50% of the program cost (up to 75% in some regions seen to be at financial disadvantage), and member countries paid the remainder, although any country may elect to pay more. The regulation was introduced in 1996 and was also effectively folded into the Rural Development regulation.

EC Regulation 1257/1999 on rural development - adopted May, 1999, this regulation provides the framework for support of sustainable rural development. Support may be provided for:

- the improvement of farm structures and structures for the processing and marketing of agricultural products,
- the conversion and reorientation of agricultural production potential, the introduction of new technologies and the improvement of product quality,
- the encouragement of non-food production,
- sustainable forest development,
- the diversification of activities with the aim of complementary or alternative activities,
- the maintenance and reinforcement of viable social fabric in rural areas,
- the development of economic activities and the maintenance and creation of employment with the aim of ensuring a better exploitation of existing inherent potential,
- the improvement of working and living conditions,
- the maintenance and promotion of low-input farming systems,
- the preservation and promotion of a high nature value and a sustainable agriculture respecting environmental requirements,
- the removal of inequalities and the promotion of equal opportunities for men and women, in particular by supporting projects initiated and implemented by women.

Subsequent regulations have spelled out the transition process to this regulation and its implementation (see http://europa.eu.int/comm/agriculture/rur/leg/index_en.htm)

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