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Part III.
Policy Approaches To Organic Agriculture

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THE ROLE OF GOVERNMENT STANDARDS AND MARKET FACILITATION

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Abstract

This paper provides an update on the US Department of Agriculture's (USDA) organic standards implementation process, offers reflections on organic controversies, and outlines the opportunities for government intervention to facilitate the marketing of organic products.

Introduction

What are standards? The International Organization for Standardization (ISO) defines standards as “documented agreements containing technical specifications and other precise criteria to be used consistently as rules, guidelines and definitions of characteristics, to ensure that materials, products and services are fit for their purpose.” It goes on to say, “standards thus contribute to making life simpler.” To those of us involved in the political debate since 1989 over the US National Organic Program (NOP), however, life seems only to have become more complex. Yet, is life not better for having national organic standards? Yes, it is and let me back this assessment by addressing ten frequently asked questions about US organic standards and government actions to facilitate organic markets.

What is organic agriculture?

I appreciated that Dr Liebhardt opened the conference with a definition of organic agriculture from the NOP, which captures the environmental objectives of organic production (see paper by Liebhardt in the Introduction). In a larger sense, however, this same definition does not clearly define organic agriculture. When the legislation was written in 1989, the objective was to establish an environmental standard and only one rule was set, that is a requirement for the “safe” use of manure, and a nod to animal welfare.. This rule is in fact essentially an environmental standard allowing for only a few exceptions. For example, consumer demand rather than environmental objectives led to a ban on genetically modified organisms (GMOs) and irradiation.

While many of us believe there are nutritional benefits to organic food, this has yet to be scientifically documented and USDA never misses an opportunity to claim that organic food is no better than conventionally grown food. At the time this rule was passed, many of its supporters also

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viewed organic agriculture as a surrogate for the family farm debate, meaning that supporting organic agriculture was synonymous for helping small and moderate-sized farms to survive. Yet much of the criticism of the current NOP has to do with its failure to explicitly deal with social aspects of organic agriculture, like farm size and treatment of farm workers. These are important issues that are not addressed by the rule as written nor in the authorising statute. The present discord on social objectives is creating consumer confusion that will, if continued, undermine organic markets.

Have standards facilitated the entry of corporate agriculture?

This is the implication in many press accounts. Michael Pollen of the *New York Times*, for example, explored this tension in an article last year focusing on Cascadian Farms and its purchase by General Mills. Dr Jim Hanson has echoed his view at this workshop, stating that NOP standards have created commercialisation forces that favour larger farms. I respectfully disagree.

An example is our experience with the “natural” label, which was very much on my mind when I drafted the Organic Foods Production Act of 1990. Indeed, Mel Coleman (founder of Coleman Natural Beef), who witnessed USDA’s watering down of the requirement for obtaining the label “natural” so as to favour big industry access, advised the creation of strict standards and labelling regimes. Many small farmers were also alarmed by the growing interest of corporate agriculture in organics following the Alar pesticide scare in 1989. The truth is that corporate agriculture was going to enter this market, with or without standards. Thus, the law established both strong standards and the National Organic Standards Board (NOSB), a citizen board that gives consumers, environmental groups and organic farmers a voice in determining NOP operations.

How prescriptive should standards be?

Too many so-called organic standards are in fact statements of principles, rather than measurable, enforceable practices. This is not the case with the NOP. In fact, the opposite is most likely true in that there is too much detail. Part of the demand for detailed standards stems from the organic community’s fear that industry will attempt to twist the programme to meet its own needs. However, there are many downsides to having overly prescriptive standards. It takes a long time to build national consensus on standards and to fulfil the required notice and comment procedures of the Federal Register. This means the system is not flexible and cannot react quickly when changes are needed. It also limits the discretion of the certifying agents. I have always envisioned an important role for certifying agents in developing farms and handling plans with their clients — adapting national standards to local conditions. I would not want our standards to become so prescriptive as to limit the value of individual planning. It may be counter-intuitive, but there are times when less is more.

Will the 21 October deadline for NOP implementation be met?

USDA received 117 applicants for accreditation. About 40 of those applicants were foreign, with the greatest number of European Union (EU) candidates coming from Germany. As of September 2002, 56 of the 117 organisations were accredited, at least conditionally, and most applications will have been reviewed by USDA by 21 October 2002.

International trade will continue in some areas without disruption, but there are growing problems. Japan has recognised the NOP crop production standards as equivalent to their own, with the exception of three materials. The USDA has not yet recognised Japanese standards. There have

been six requests for recognition of foreign accreditation programmes, but these are still under USDA review. The EU and USDA began their joint technical review of standards in October 2002, and the process promises to be a long one.

Materials are regularly reviewed and approved. In September 2002, the NOSB approved 32 materials which, along with previously approved materials, will be published in the Federal Register as allowed under the NOP. If USDA does not publish the Federal Register notice before a certain date, certifying agents can assume all NOSB approved materials have been approved. To date, the Secretary has never used her power to delete materials from the Proposed National List approved by the NOSB.

The commercial disputes involving chicken and fish have been resolved, at least for now. USDA is adhering to the Final Rule, despite great political pressure to do otherwise. Thus chickens must have access to the outdoors and consume 100% organic feed. USDA has declared that fish can be organic if they can be certified. However, organic production standards for fish have yet to be developed.

USDA has resolved the issue of back inventory. Companies will have two years to empty their warehouses of pre-existing products labelled as organic, even if it does not meet the new standards. Anything produced as of 21 October 2002 must conform entirely with NOP standards. Finally, no state organic programmes have been approved, although four have been submitted for review.

What are the major challenges ahead of us?

- a) **Materials approval policy.** The NOSB, and therefore the NOP, has yet to define the materials needing NOSB review, although they have gone beyond what I had imagined in drafting the law. For example, the use of pheromones is not guaranteed under the NOP because a particular pheromone likely contains undisclosed inert ingredients on the US Environmental Protection Agency's "List 3" (a list of inert materials in pesticide compounds that are of unknown toxicity) and the NOSB states that it therefore requires review. However, the statute explicitly cites pheromones as desirable organic inputs. Much of the NOSB's time is consumed in the evaluation of food processing agents beyond anything conceived of in the authorising legislation.
- b) **Regulation of retail markets and restaurants.** Under the NOP, retail markets and restaurants are required to follow the standards but certification is not required. This is a glaring gap in the programme that must be addressed. Frankly, grocery stores are a powerful lobby and the government may need their co-operation to achieve this goal.
- c) **Enforcement resources.** No resources have been dedicated for enforcement at the federal or state levels. I expect that USDA will be alerted to fraud by suspicious consumers and, more likely, by business competitors. In turn, they will seek to enforce a few high profile cases and use them as a warning to all those in the industry. The penalties are in place — USDA can impose up to USD 10 000 per violation. Nevertheless, there is no plan for proactive enforcement.
- d) **Equivalency determinations.** This will likely take many USDA and US Trade Representative (USTR) hours as we try to negotiate equivalency with other countries. The concern here is that other non-organic issues may be on the table as trades are made. Public disclosure of these negotiations will be critical.

- e) **Complementary standards.** USDA is continuing discussions with EPA on establishing a labelling regime for biopesticide products approved under the NOP. Currently it is up to organic farmers to determine whether such products are allowed under the NOP. Clear labelling would reduce the risk that farmers make mistakes and certainly make their lives easier.
- f) **Food safety and manure.** Critics of organic agriculture cite the use of manure in organic systems as troublesome, which is true. Organic foods are no more or less safe than conventionally produced foods with regard to manure since both production systems rely upon its use. We have not answered the scientific questions surrounding safe use of manure. The government needs to make an investment in scientific investigations to determine safe manuring practices.
- g) **GMO-free standards.** Organic products must be produced without the use of genetic engineering or “excluded methods” as defined in the NOP. We are waiting for the government to fully resolve standards for adventitious presence, testing and labelling. This is not solely the organic community’s burden, but it does affect organic marketing in a very dramatic way.

Will there be defections come 21 October 2002?

Yes. In general, organic farmers and processors will continue under the NOP because interstate and international commerce require a marketing standard that can be understood along the entire food distribution chain. However, some small farmers have declared that they want no part of this NOP, that it is overly restrictive, expensive, and bureaucratic. Some of the smallest farmers, who direct market their products, will certainly bow out of the NOP and create new labels for their goods. For example, Elliot Coleman, a respected organic farmer in the state of Maine, is now marketing his produce as “authentic” to stay clear of the NOP. Given the close relationship Elliot has with his customers, I think this is just fine.

I also expect that labels that go beyond organic will appear following NOP implementation. Since organic has crystallised primarily as an environmental claim, I expect that food companies will seek to add additional claims on organic products such as “fair trade”, “socially just”, produced without particular inputs that would otherwise be allowed under the NOP (*e.g.* Chilian nitrate), “locally grown”, etc. This is not necessarily a negative verdict on the NOP, but rather fascinating marketing opportunities.²

What do consumers want, need, and understand?

The labelling categories under the NOP will dramatically alter the organic market and represent the most important achievement of our national programme. Requiring a minimum threshold of 70% organic content for the word “organic” to appear on a product’s principle display label provides the kind of protection consumers seek. It will also increase the demand for organic at the farm gate as companies who label their products as organic will have to substantially increase their

2. On 7-9 November 2002, the Friedman School of Nutrition at Tufts University hosted a conference on ecolabels and the greening of the food market to better understand the issues these new label claims present.

procurement to maintain their claims. It would be useful for USDA to supply market information to accompany these new labels and then evaluate their effectiveness.

Consumers have been full partners from the beginning of this process. The Center for Science in the Public Interest and Public Voice are two prominent consumer groups who helped get the legislation passed. The tens of thousands of letters denouncing USDA's first proposed rule were mostly from consumers. They are the power behind organic farmers. That's the good news. The bad news is that the customer is "always right". The outright ban on GMOs may have some negative implications for organic farmers and handlers, limiting their access to some critical materials such as animal vaccines.

The major consumer challenge in the post-21 October 2002 era will be developing a consumer consciousness of what organic is, rather than what it is not. Most consumers will tell you organic equals no pesticides, fertilisers, hormones, antibiotics, etc. They will not tell you about the positive elements, *i.e.* the NOP requires crop rotations and other soil-building techniques. There are other negative claims labels in the marketplace — no GMOs, no detectable residues, no hormones or antibiotics. If organic is to trump all these competing claims, communication work is necessary to promote our message.

How important is consensus?

There was a comment from the floor that policymakers unfairly expect organic advocates to speak with one voice. In my various policymaking roles, I have often demanded that the organic community speak with one voice and in concert with consumer and environmental groups. Is it an unfair burden? I think not. That is the foundation of the organic movement's strength. Unlike other industries, it seeks to operate by consensus. Yes, it takes longer but the results are more profound. The very voting structure of the NOSB gives environmental and consumer groups a veto-like power over the organic industry. If this programme is to work, and if organic advocates hope for more than a foothold on government policymaking, consensus will continue to be important.

What other policy initiatives should the government undertake to facilitate the organic market?

There is a broad spectrum of activities government could undertake that would aid the organic sector. I will focus my list on marketing initiatives and of government activities within the US context for the sake of being specific, but understanding that such activities are generic and could be replicated across the world.

- a) **Regulation of look-alike labels.** This is really the domain of the US Federal Trade Commission (FTC) as the government agency responsible for protecting consumers from fraudulent label claims. The explosion in the ecolabel sector may require scrutiny for any negative impacts on organic. Furthermore, after all this effort to define appropriate uses of the term organic on food product labels, it is possible that companies can circumvent the NOP by having the term organic as part of their name (*e.g.* Great Organic Cereal Company). Without FTC intervention, this could limit the value of our standards work to date.
- b) **Collection and analysis of market data.** The USDA Economic Research Service (ERS) and the Agricultural Marketing Service (AMS) have both begun to collect data on the organic sector, although much more is needed. AMS efforts, in particular, are

minimum compared to what is undertaken on behalf of conventional agriculture. Several times a day, AMS employees across the country post prices for various commodities to provide market information for traders. This could be done for organic products as well.

- c) **Distribution of consumer information.** The NOP brings about profound change in the organic sector, especially in terms of labelling. A national education campaign should accompany NOP implementation. Furthermore, the Environmental Protection Agency should once again attempt to provide a consumer information booklet on food choices and pesticides for distribution in grocery stores. Unfortunately, any effort to educate consumers about organic agriculture is attacked by conventional agriculture as disparaging non-organic products.
- d) **Assistance with slotting fees.** I do not know the answer to this problem, but it is a significant barrier to entry for small firms trying to bring new products to market. If the government sees value in organic goods, perhaps it could develop an assistance programme to help organic companies defray slotting fee costs when they first begin. Maybe USDA could, in exchange for various USDA services, require a certain percentage of supermarket shelves be provided for new goods. Perhaps antitrust authorities could be exploited to find ways for the government to disallow prohibitively expensive fees that result in market concentration by large firms.
- e) **Collection of foreign market information.** The USDA Foreign Agricultural Service (FAS) has begun this process and reports on the organic markets in dozens of countries. Information on organic markets from China to Mexico to Germany is found on FAS' webpage.
- f) **Collection of pesticide residue data.** The USDA AMS has a pesticide data programme that collects food at supermarkets across the country and tests it for pesticide residues. Recently, AMS began to test organic produce in addition to conventional produce. As a result, Chuck and Karen Benbrook and Brian Baker were able to publish a powerful comparative study between organic and conventional produce that underscores the value of organic to the consumer. The analysis of that data is presented in a user-friendly form on the Environmental Working Group's webpage which encourages consumers to do the comparison themselves. While the AMS data are elucidating, much more needs to be collected for firm conclusions, especially post-21 October when all farmers will be producing under a unified definition.
- g) **Procurement of organic food.** The government is a very big business for the food sector. Food purchased for the military, the National School Lunch Program, the USDA cafeteria, elderly feeding programmes, etc., could be organic as a matter of government policy. We already have built-in preferences or set-asides for small and minority-owned businesses. Why not do the same for organic?
- h) **Institution of organic crop insurance.** USDA has begun looking at this, but organic farmers need it now. USDA has proposed a rule now open for public comment. Organic crop premiums must be accounted for in insurance programmes, as well as crop loss from genetic drift (GMO contamination).
- i) **Diversification of the farm sector.** Organic farmers are not insulated from the massive consolidation that is occurring in agriculture. USDA must find ways to empower

farmers in contract agriculture and maintain a diversity of market opportunities. USDA has always been reluctant to exercise their full anti-trust authority or to comment on contracting arrangements, but such involvement is critical to the survival of small and moderate-sized farms.

- j) **Determination of an adventitious presence policy and testing regime.** The organic community is vulnerable to GMO contamination and needs the government to determine a *deminimus* level of GMO residue (*e.g.* 1%) that would allow a product to maintain an organic label if the producers and handlers acted in good faith but were victims of inadvertent contamination. Furthermore, the government, as it is now contemplating, must develop or at least certify credible testing regimes for GMO presence because the market impact of such findings is immense.

This is a short list of ideas that USDA and other government entities could undertake within the marketing realm that would benefit organic agriculture. A full accounting of all government actions — regulations, disincentives, incentives, research, subsidies, etc. — would make for an extensive list. My point here is that in the US we are about to celebrate the institution of our national organic standards, but that we have just begun to contemplate the many roles government can play in support of this sector.

Is the organic experience unique?

Many of the farmers and NGO representatives with whom I have had the privilege to work in the field of organic agriculture are creative, visionary, moral leaders. I was struck by the slide in Dr Nieberg's presentation depicting the economic success of organic farmers in several European countries. Without exception, the organic curve paralleled the conventional curve and her point is that organic farmers have more in common with conventional farmers than not. The vagaries of weather, markets, etc., affect all farmers. Understanding that, we do not want to isolate organic within USDA, but fully integrate it into all the programmes suggested above. Farmer Brown needs crop insurance no matter what her choice of production methods. Organic agriculture is not unique.

Are the wars on standards unique? Much has been made of the record-breaking 300 000+ public comments USDA received on its several rule publications. While unprecedented in the level of participation, the difficulty in achieving consensus on standards is not unique. This was confirmed, for example, by Glenna Carlson, Chairperson of the Poodle Club of America. Do the poodle people have standards debates and implementation issues like us? The answer is yes. In her 25 years with the organisation, Ms. Carlson has never known a standard to change, although there have been many proposals and great acrimony. Consensus even among her small organisation is difficult. The Poodle Club of America did publish an *Illustrated Standard* after years of debate. Words are one thing, she counselled, but when you ask ten people to read the same description and then draw it, you're sure to get ten different drawings.

This is where we stand as we enter the next phase of organic standards. We are completing our debate on the choice of words and it is time for farmers to state how well we have captured the essence of their best efforts for replication across the land. Every farm presents a different picture, although our standards are a common marketing language and seek to protect consumers. If these standards fulfil their promise, they will be flexible enough to accommodate individual iterations and evolutions in knowledge.

THE IMPACT OF CONSUMER STANDARDS AND MARKET FACILITATION IN KOREA

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Abstract

Interest in sustainable/organic agriculture in Korea has increased significantly in the last few years. Sustainable/organic agriculture is still a small but growing part of the agricultural industry, and has now become one of the important elements of consumer choice. The production and distribution of agricultural products are increasing by 30-40% every year. The government is promoting a sustainable agriculture that uses a minimum amount of chemicals and chemical fertilisers, and organic agriculture that does not use any chemical resources such as agricultural chemicals and chemical fertilisers. An Agricultural Product Quality Certification System has been developed to assist the supply of sustainable/organic agricultural products to consumers. In 2001, a survey on Consumer Inclination Analysis towards Sustainable/Organic Agricultural Products indicated that 88% had purchased sustainable/organic agricultural products. Vegetables turned out to be the most commonly purchased item category. The biggest reason for purchasing these products was for health and the prevention of chronic diseases. However, the majority of consumers complained about the high price. By building consumer confidence towards sustainable/organic products through the establishment of the Agricultural Product Quality Certification System, reducing the product cost, and diversifying the distribution channel, we expect the consumption of sustainable/organic agricultural products in Korea to continuously expand in the coming years.

Introduction

Until the late 1980s, Korea promoted the expansion of agricultural production as part of a national policy to address food shortages. As a result, problems relating to insufficient food supply have been resolved. However, the excess use of chemicals and chemical fertilisers has resulted in environmental contamination. In turn, sustainable agriculture in Korea is now being threatened.

In order to continuously develop our agriculture, actively cope with the increasing national interest in environmental conservation and food safety, and meet the increasing national demand for safe and high-quality agricultural products, the government has been promoting a Sustainable Agricultural Promotion Policy ever since the latter half of the 1990s. In 1994, the government launched a new Sustainable Agriculture Division under the Ministry of Agriculture and Forestry and established a Sustainable Agriculture Upbringing Law, which became the foundation of the Sustainable Agriculture Upbringing Policy in 1997. It also implemented a Sustainable Agriculture Direct Payment Service in 1999 and a Rice Field Agriculture Direct Payment Service in 2001.

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Korea is promoting both sustainable agriculture and organic agriculture that do not use chemical resources such as agricultural chemicals and chemical fertilisers.

Korean Agricultural Product Quality Certification System

The Korean government is facilitating the distribution of sustainable/organic agricultural products and reinforcing quality control through the implementation of the Sustainable/Organic Agricultural Product Quality Certification System and expanding the production and distribution of such products by building consumer confidence. Under this system, a professional certification institution examines and identifies safer sustainable/organic agricultural products for consumers under a strict standard, and the government guarantees product safety. The government now allows the certification by both the public and the private sectors. To date, including Hulksalim, there are three private certification institutions.

The sustainable/organic agricultural product certification granted by the government is divided into two categories: agricultural product and animal product categories. The animal product category includes the organic animal products and the transitional organic animal products. The agricultural product category includes:

- a) Organic Agricultural Products: agricultural products cultivated for more than three years without using chemicals or chemical fertilisers.
- b) Transitional Organic Agricultural Products: agricultural products cultivated for more than one year without using chemicals or chemical fertilisers.
- c) Chemical-Free Agricultural Products: agricultural products cultivated without using agricultural chemicals.
- d) Low-Chemical Agricultural Products: agricultural products cultivated using agricultural chemicals but not exceeding more than half of the recommended safety standard.

Output and distribution of Korean organic products

Recently, the number of certified farm households and cases have increased substantially. Following such trend, the output of sustainable/organic agricultural products has increased by 30-40% each year. In 2001, the number of farms that produce organic products accounted for 899 households, the areas that cultivate organic products 962 ha, and organic product outputs 31 105 tonnes. In terms of organic agricultural products according to cultivated crops, vegetable outputs take the lead, accounting for 26 000 tonnes, or 82.9%. Cereal, such as rice, accounted for 2 000 tonnes, or 6.4%; fruit 1 900 tonnes, or 6.0%; and miscellaneous 1 400 tonnes, or 4.0 %.

Table 1. Status of organic production in Korea

Year	1999	2000	2001
Farm households	601	669	899
Cultivation area (ha)	528	667	962
Output (tonne)	16 805	19 257	31 105
Organic products (A, '000 tonne)	16.8	19.2	31.1
Agricultural products (B, '000 tonne)	18 944	19 311	19 696
Ratio (% , A/B)	0.1	0.1	0.2

Source: Ministry of Agriculture and Forestry, *Status Quo of the Production of Organic Products*, 2002.

Out of the total agricultural output in 2001, the share of organic agricultural products was 0.2%, not a very substantial level. Nevertheless, this figure is expected to steadily increase, as it is increasing by 30-40% every year.

Consumer inclination analysis on sustainable/organic agricultural products

In the past, there were only a handful of producers and consumers who exchanged small quantities of organic agricultural products through direct transaction. Today, thanks to increased advertisements in the media, improved income levels of the consumers, heightened interests about the environment and health, and increased doubts about ordinary agricultural chemicals and overused chemical fertilisers, the consumption of such products are gradually increasing.

In 2001, Dr Lee conducted a survey of 366 consumers nation-wide on Consumer Inclination Analysis towards Sustainable/Organic Agricultural Products.² The main results were as follows:

- ***The purchase behaviour of consumers:*** 75% of consumers sometimes buy sustainable/organic agricultural products; 12.8% always buy; and 11.8% do not buy or do not know. In short, the consumers who bought (88.2%) sustainable/organic agricultural products outnumbered those who did not (11.8%).
- ***The categories of the purchased sustainable/organic agricultural products:*** vegetables and rice took the lead, accounting for 54.9% and 36.5% respectively. Fruit accounted for 4.5% and cereal, agricultural processed products, and miscellaneous 4.2%.
- ***The reason for purchasing sustainable/organic agricultural products:*** those who replied “For health and the prevention of chronic diseases” accounted for 41.2%; “Because people say it is good”, 35.3%; “Because they have “good taste and flavour”, 16.2%; “Because you can eat without worrying about chemical substances”, 5.9%; and “For the protection of the environment” and “Miscellaneous”, 1.4%.
- ***Consumer opinions about the price of the sustainable/organic agricultural products:*** 70.1% thought they were expensive; 16.7% adequate; 7.9% didn’t know; 4.9% extremely cheap; and 0.3% relatively cheap. In all, 75% of the consumers considered the sustainable/organic agricultural products to be more expensive than ordinary agricultural products.
- ***Price of sustainable/organic agricultural products deemed adequate by consumers:*** when asked to suggest a price for the sustainable/organic agricultural product, 50% of the consumers suggested a price that is 1.5 times higher than the ordinary agricultural products; 31.1% suggested the same price; 6.9% a price that is two times higher; and 4.4% a lower price. Finally, 7.5% answered that they would buy regardless of price. In sum, the price of the organic agricultural products preferred by the consumers was a figure 1.5 times higher than the ordinary agricultural products.

2. Lee, Jong Sung, “Current Status of Sustainable Agriculture and Consumer’s Taste in Korea”, Department of Agronomy Graduate School, Dong-A University Busan, Korea, 2001.

Measures to expand organic agriculture production

In order to nurture organic agriculture, increase the number of farm households that produce organic agricultural products, expand cultivating areas, and raise output, the Korean government has established the Organic Agriculture Upbringing Mid- and Long-term Comprehensive Countermeasures. It is planning to expand the share of organic agricultural products in total output to 0.5% by 2005 and 2.0% by 2010. It will also expand the number of organic farms from the current 899 households to 2 000 households by 2005 and 5 500 households by 2010. The cultivating area of organic agriculture will be expanded from the current 962 ha to 3 200 ha by 2005 and to 14 300 ha by 2010.

To this end, the government will develop adequate species and technologies, reinforce government support for those farm households that practice organic agriculture, secure skilled human resources by newly establishing an organic agricultural engineer system and establish regulations for standardised usage of organic agriculture resources.

Measures to expand consumption of organic agricultural products

At the moment, the output and consumption of organic agricultural products are continuously increasing. But to boost consumption even further, the most important thing to do is building consumer confidence towards the Sustainable/Organic Agricultural Product Quality Certification System. If we are not able to secure consumer confidence towards organic agricultural products, we will face difficulties and limitations in popularising their consumption.

In order to secure consumer confidence towards the Sustainable/Organic Agricultural Product Quality Certification System, the consumers must be able to trust the quality and safety of the organic agricultural products before they can purchase them. In order to receive high premium, the producers must produce high-quality organic agricultural products that are in line with the certification standard.

The government must establish an organic agricultural product management system in order to secure consumer confidence over organic agricultural products from the initial production to final consumption phases.

- **Farm households:** by observing the certification standard from the initial production phase, the producers should market high-quality organic agricultural products that will help build consumer confidence.
- **Certification institution:** reinforce the organic agricultural product quality test and management at the production and distribution phases.
- **Government:** expand the sales network of organic agricultural product, strengthen advertisement, and support the producers.
- **Consumer:** participate actively in the consumption of fresh and high-quality organic agricultural products.

ORGANIC AGRICULTURE AND NATIONAL LEGISLATION IN TURKEY

*Meral Özkan*¹

Abstract

Turkey is one of the most suitable countries for organic agriculture due to its ecological and climatological conditions. Organic agriculture in Turkey started in the 1980s due to demand from importing countries. At first, dried sultanas, apricots and figs were the first exported crops grown organically. Most of the products are grown in the Aegean region. Since then, organic production has expanded to all regions and various crops have been grown. However, dried fruits are still the main products for export. Until 1994, organic agricultural production and exports in Turkey were regulated according to EU Regulation 2092/91. In 1994, National Regulation on organic agriculture was prepared and published in harmony with the EU Regulations. The National Regulation of 1994 was revised according to the amendments of EU Regulation and new Turkish Regulation named “Regulation on Principles and Application of Organic Agriculture” was published on 11 July 2002.

Introduction

Organic farming began in Turkey in the mid-1980s following demand by European importers. Organic production was mainly concentrated in the Aegean region. Dried sultanas, apricots and figs were the first items produced organically. Today, Turkish organic products have increased into various categories, such as dried fruits, fresh or processed fruits and vegetables, pulses, edible nuts, cereals, spices and herbs, and industrial crops. Some of the processed organic products are frozen fruits and vegetables, and fruit juice concentrates. Most of the organic production goes to the export market. The domestic organic market has been developing over the past ten years but the overall market share for organic product is still small. Organic products are sold in some supermarkets, hypermarkets and specialised retail shops.

The first national regulation on production, processing and marketing of organic agricultural products was published on 18 December 1994 and an amendment to this regulation was made on 29 June 1995. The National Regulation of 1994 was based on EU regulation 2092/91. Since then, amendments to the EU basic regulation have been followed and a new regulation was prepared and published on 11 July 2002. Further amendments to the EU regulation will be adopted. With the publication of comprehensive national legislation, most of the issues from the field to the fork of the consumer are covered. The aim of the Ministry of Agriculture and Rural Affairs (MARA) is to build up trust in the organic sector. The Organic Agriculture Committee (OAC) at MARA is the competent

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authority to prepare and implement the regulation on organic agriculture, to give permission to control and certification bodies, to inspect these organisations and co-ordinate all other activities to improve organic agriculture in Turkey. Prime Ministry Undersecretariat for Foreign Trade and MARA are the authorities for regulating import and exports of the products certified as “Organic”.

Organic agricultural production in Turkey

In 1996, 1 947 farmers dedicated 6 789 hectares of farmland to organic agriculture. Organic production was 10 304 tonnes with 26 kinds of product. According to the data of 2000, 18 385 producers grow 237 209 tonnes of 95 different kinds of organic crops on 59 984 hectares. Production data for year 2000 is given in Table 1. Some of the organic products for export include hazelnuts, walnuts, pistachios, dried figs, dried apricots, raisins, pulses, spices and herbs, and industrial crops, such as cotton, frozen fruits and vegetables, fruit juice and concentrates, olive oil, and rose and rose products. Some of the exported organic products are given in Table 2. These products are exported to more than 20 countries, with the majority of exports going to European Union countries. The major importing countries are Germany, France, the Netherlands, Switzerland, the United Kingdom and the United States of America. Organically produced dried figs and apricots, fruit juice and concentrate, and olive oil are exported to the US. The Aegean Exporters’ Union (AEU) co-ordinates the exportation of organic products. According to national export regulation, certified organic products must be registered before exportation. Therefore, the export certificate given by inspection body must be submitted to the AEU.

Table 1. Organic production, number of farmers and acreage in Turkey

Crops	Number of farmers	Acreage (ha)	Production (mt)
Apricot	316	1 723	40 800
Figs	1 045	3 858	7 635
Tomato	341	674	15 534
Apple	3 232	2 337	34 605
Sultanas	1 190	2 584	7 583
Peach	60	63	1 738
Lentil	1 063	6 860	7 163
Chickpea	240	1 622	2 054
Hazelnut	1 842	4 244	4 142
Almond	130	534	508
Plum	62	188	3 463
Pear	67	261	6 186
Olive	1 134	2 379	12 875
Olive oil	782	1 200	1 620
Honey	7	5 000	259
Rose and rose products	447	225	69
Cotton	740	5 344	23 091
Garden sage	157	203	264
Linden	27	140	159

Source: Ministry of Agriculture and Rural Affairs, 2000.

Table 2. Organic agricultural products exported from Turkey

Crops	Amount (tonnes)		
	1998	1999	2000
Dried sultanas	2 839	3 289	4 028
Dried figs	1 469	1 580	1 733
Dried apricots	953	1 045	1 050
Dried prunes	20	116	213
Hazelnuts	742	879	1039
Pistachios	19	36	52
Lentils	335	616	897
Chickpeas	590	934	679
Apple juice	-	555	290
Other fruit juices	-	15	236
Cotton	75	169	175
Pepper	29	131	145
Poppyseed	213	137	165
Olive oil	21	381	15
Others	724	1 796	1 330
TOTAL	8 029	11 679	12 047

Source: Aegean Exporters' Union.

National legislation

In 1994, the “Regulation on the production of livestock and vegetable products by ecological methods” was adopted and published. A year later, an amending regulation adding articles related to sanctions was adopted. These regulations were prepared in harmony with EU Regulation 2092/91 and worked well for years in organising and controlling organic agriculture in Turkey. With the changes in EU regulations, our national regulation needed to be revised. Some 20 amendments of EU Basic Regulation 2092/91 have been worked on and instead of amending our original regulation, a new regulation has been prepared. Recently, the “Regulation on Principles and Application of Organic Agriculture” was published in the Official Gazette of the Republic of Turkey (OGRT) on 11 July 2002. This comprehensive regulation has 6 parts with 17 sections and 10 annexes. This regulation has been prepared in harmony with the EU basic regulation on organic agriculture and its amendments, and also local needs were taken into consideration. The new regulation deals not only with the production of vegetable and livestock products but also brings very strict rules related to official controls in organic agriculture. In order to apply sanctions and penalties, legislation was prepared and submitted for approval of the legislative body.

The six parts of the “Regulation on Principles and Application of Organic Agriculture” cover the following topics. The first part contains information about general rules that explain aim, definitions, legal base and scope of the regulation.

The principles of organic agriculture and the rules on how to start organic production are explained in the second part. In this part, the rules for the operators who wish to produce organic foods are explained in detail. For example, an operator has to apply to one of the Control and Certification Bodies and signs a contract with them. Upon agreement, the control body has to inform the OAC and Provincial Directorates. This part also contains rules about organic vegetable and livestock production.

The first section of this part covers general rules for vegetable production. For example, organic vegetable production has to be carried out under the control of control bodies, rules relating to conversion period and also methods for protection and preparation of soil, sowing, planting, harvesting rules and using of fertilisers, plant-protection products and irrigation methods. Rules relating to production in greenhouses and mushroom production are explained in this part. The second section of this part is related to organic livestock production. This section covers the following topics: the origin of animals, methods for supplying feeding stuffs and feeding of animals, animal health and veterinary treatment issues, shelter, transport and slaughter conditions, handling procedures for animal manure and organic bee-keeping. The next section is about organic fish production. The second part of the regulation also contains information about production, packaging, labelling, storing, transportation and marketing rules of organic products.

The third part of the regulation is about how the control and certification system works in Turkey. Authorisation for control and certification, necessary documents for the controls of production units and operators, control procedures, principles of certification system and preparation of certification reports handled in this part. Upon demand, raw product, processed product, export or import certificates can be prepared.

The next part regulates operating principles of control and certification bodies. Rules related to permission to conduct control and certification activities in Turkey, conditions and documents to apply for this permit, sanctions to be applied in case of violation, approval of inspectors and regulation of control, and certification fees are covered in this part.

The fifth part is related to the Official Committees in organic agriculture. There are four different Committees in this area. First is the OAC in MARA. Other Committees are: the “Organic Agriculture National Guidance Committee (OANGC)”, “Organic Agriculture National Trade Committee (OANTC)” and “Organic Agriculture Research and Projects National Committee (OARPNC)”. These Committees are at the national level and have members from other ministries, NGOs, the Exporters’ Union, different associations and chambers, research institutes and universities. The OANGC and the OARPNC gather twice a year. OANGC determines development strategies for organic agriculture. Their decisions are submitted to the OAC as advice. OARPNC prepares project proposals, organises research programmes and sends the results to OAC. The third National Committee, OANTC, gathers four times a year. This Committee discusses issues related to marketing of organic product in and outside the country, determining the difficulties in supplying necessary substances such as fertilisers and soil conditioners, and developing strategies for the improvement of trade. Its advisory decisions are submitted to OAC.

The sixth part concerns the establishment of an advisory body. Provisions related to consulting organisation handled in this part. Necessary documents for the application, necessity of an accreditation from Turkish Accreditation Institute (TAI), rules related to experience of personnel and the conditions to establish an official or a private advisory body explained here. The last sections of this part are about legal issues. The inspection body has to determine which court to apply in case of violations.

There are 10 annexes for the application of the issues referred in the articles of this regulation. Most of them were prepared in harmony with EU regulation 2092/91. The tables are in the same format as those presented in the EU regulation and the content of the tables is revised regularly according to the amendments of EU basic regulation. The annexes include: tables related to fertilisers and soil conditioners, plant protection products, ingredients of non-agricultural origin, such as food additives, processing aids which may be used for processing of ingredients of agricultural origin from organic production, ingredients of agricultural origin which have not been produced organically,

minimum surface area indoors and outdoors for livestock production, characteristics of housing in different species, maximum number of animals per hectare, feedingstuff and cleaning materials used in production unit.

“Annex 3” has provisions for the use of Turkish Organic Logo (TOL) on the packaging material, competent authority to print and distribute TOL in different sizes and colours that can be printed are explained. Sample pictures of TOL are also displayed in this annex. TOL is designed similar to EU logo in order to be easily recognised in EU countries.

Some of the annexes are prepared to meet local needs. A sample organic product raw material certificate, organically processed product certificate, organic product import and export certificates are designed in tables to get information from inspection bodies in the same order. “Annex 8” includes charts for the activities of the production units such as plant production activity explaining name, address of the arable field, size of the area, cultivation, plant protection and harvesting methods, amount of production and yield. Similar charts about livestock production units, fisheries and shelters for animals are also included in the same annex.

Duties of the Organic Agriculture Committee

- To apply obligations of this Regulation.
- To give working authorisation to Control and Certification Bodies, unauthorise them or permanently stop their authorisation in case of violation of rules of this regulation.
- To give a code number and identity card to Control and Certification Bodies, inspectors, trainees and farmers, and processors.
- To inspect Control and Certification Bodies, inspectors, trainees and farmers and processors.
- To warn Control and Certification Bodies, inspectors, trainees and farmers and processors if they fail to apply rules of the Regulation and apply sanctions if needed.
- To forbid Control and Certification Bodies, inspectors, trainees and farmers and processors from organic agriculture in case of not complying with the rules of the Regulation.
- To encourage organic agriculture in Turkey, pursue unfair competition in organic agriculture, apply for legal acts for situations that are against the interest of Turkey.
- To get opinions of the other three national Committees related to organic agriculture and call for a meeting if needed.
- To work closely with NGOs and collaborate with universities, institutions, research organisations and press agencies, and also with other related official and civil organisations, to improve organic agriculture in this country.
- To prepare seminars, symposiums, congresses and fairs on organic agriculture area.
- To follow the amendments of the regulations of other, especially EU countries. And also to make necessary changes in this regulation to harmonise with amendments of EU regulations.

- To co-operate with international organic agriculture organisations.
- To follow international seminars, symposiums, meetings, congresses and fairs on organic agriculture.

The Committee meets ordinarily every month on Thursday. In extraordinary situations, the Secretariat can call an urgent meeting. Decisions are made on a majority vote basis and they are binding. Work of rapporteur is done by the Secretary member chosen from the Council of Research, Planning and Co-ordination. Decisions are signed by members in ten days and submitted to approval of Ministerial Authority, and come into effect after signed by the Authority.

Control and certification bodies

Currently, inspections of organic production are carried out by private control and certification bodies. These bodies must receive a permit from OAC to perform activities related to control and certification. OAC supervises the activities of these inspection bodies. OAC members make both notified and random visits to these bodies and also to the organic farms to control their inspections. Currently, two national and five foreign organisations work as inspection bodies to control organic agricultural products in Turkey. IMO, BCS, INAC, ECO-CERT and, SKALL are active foreign bodies, and EKOTAR and ETKO are national bodies in this field. Another foreign control and certification body, BIOAGRICOOP is not currently active. Information about addresses and origin of control and certification bodies active in Turkey is given below:

- Institute for Mareketecology (IMO) (Swiss)
- ECOCERT (French)
- SKAL (Dutch)
- BCS OKO-Garantie GMBH (German)
- International Nutrition and Agriculture Consultancy (INAC) (German)
- ETKO Gözetim Hizmetleri Ltd., Sti. (Turkish)
- EKOTAR (Turkish)
- BIOAGRICOOP (Italian) (not active).

Conclusions

Turkey's organic producers are mainly focused on export markets. The domestic organic market has only a small portion of the Turkish food market. The majority of consumers in Turkey are price-sensitive and because of the higher costs of organic foods, consumers prefer conventional food products. Currently there is no governmental support to organic production such as supporting farmers during conversion period. Besides its regulatory duties, OAC organises seminars and courses on organic agriculture. OAC aims to build confidence in Turkish organic products. To do so, control and certification bodies are inspected regularly. A draft of the Law on organic agriculture has been prepared to lay down penalty provisions and the provisions on administrative fines to be applied in case of violation by operators, control and certification bodies and consultant firms.

ORGANIC AGRICULTURE IN JAPAN: DEVELOPMENT OF A LABELLING SCHEME AND PRODUCTION POLICIES

Yukio Yokoi¹

Abstract

Policy development on organic agriculture and future perspectives in Japan are discussed. The general public is now greatly concerned about food safety issues owing to the recent incidents of bovine spongiform encephalopathy (BSE) and the detection of excess pesticide residues and the use of prohibited pesticides. Policies on organic farming and organic food have been developed in terms of the “JAS Organic” accreditation system and technological support of organic farming. While there is potential for further shifts to organic agriculture, more technical support will be needed. The Ministry of Agriculture, Forestry and Fisheries (MAFF), having shifted agricultural policy to give high priority to consumers, is to provide more administrative as well as technical support for organic agriculture.

Introduction

The general public is concerned about food safety issues owing to the recent incidents of BSE and the detection of excess pesticide residues and the use of prohibited pesticides. Consumers consider “organic food” to be value-added food and are concerned about the traceability of food. They are, therefore, actively promoting the production of safe food directly/indirectly, thus resulting in a steep increase in environmentally friendly farming practices. MAFF has done its utmost to reinforce the inspection system of both domestically produced and imported food, and has also pushed forward environmentally-friendly farming, including organic farming, and the establishment of an accreditation system for “JAS organic”. Agricultural co-operatives (JAs), NGOs, private sectors and consumers have been promoting “organic farming” co-operatively and/or on their own. The purpose of this paper is to describe policy developments in organic agriculture and future perspectives in Japan.

Historical development of “JAS Organic”

In the 1970s, agricultural products with the label “organic” first appeared in Japanese markets. At that time, no regulations and no guidelines had been established, and the quality of such products and cultural practices for its production greatly varied. In those days, “organic” products ranged from “truly organic” — without any chemicals — to “organic fertiliser used”, in which organic fertilisers such as compost and manure were used together with pesticides, chemicals and the like. Thus, there was no accepted term on a national level for “organic”, making it difficult for consumers and retailers to know what they were getting when purchasing “organic” products.

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In 1992, MAFF issued guidelines describing farming practices necessary for a grower to label produce “organic” and no or reduced use of pesticides and/or chemical fertilisers. The guideline lived up to people’s expectation to a certain extent. However, as it was no more than a guideline and did not have any enforcement tools, consumers and producers were not yet satisfied. Designed primarily to protect consumers from fraudulent labelling, the guidelines were criticised by a variety of consumer groups, who argued permitting use of such labels as “reduced pesticides” only confuses the buying public. They insisted that the word “organic” should be reserved exclusively for products without any chemical use in the production.

In July 1999, the Codex Committee adopted “Guidelines for the production, processing, labelling and marketing of organically produced foods”. International standards for organic products resulted in stronger pressure from producers and consumers who wished to have national legal standards. MAFF revised the Law of Japanese Agricultural Standards, establishing an inspection and accreditation scheme, which came into effect in June 2000. The Ministry also established standards for organic agricultural products and organic agricultural processed products, following guidelines adopted by the Codex Committee. In April 2001, the standards also came into effect; labelling of “organic” came to legally require compliance with the standards.

Inspection and accreditation scheme of “JAS organic”

In the Japanese accreditation scheme, either domestic or foreign bodies, which have been pre-registered with the MAFF, provide accreditation to producers, processors, re-packers and importers who are to handle accredited organic products. Those accredited inspect the would-be “organic” products and issue the label “JAS organic” and then, allow it to be sent to the market if the products meet accredited standards. Thus, the scheme traces all the processes from producers to consumers and ensures that the products be organically produced, processed, and packed.

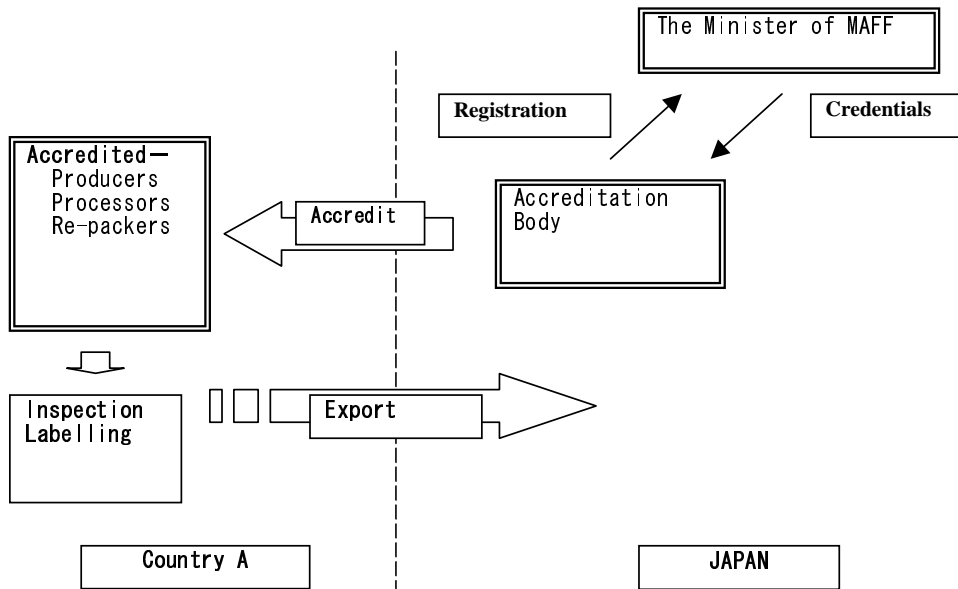
Producers, processors and re-packers who export “organic products” to Japan are required to be accredited by either:

- registered Japanese accreditation bodies (Figure 1); or
- registered foreign accreditation bodies in advance (Figure 2). The accredited producers, processors, and re-packers must inspect their products themselves, and then only label products “organic” which meet standards; or
- for countries which are recognised by the Japanese government as having the equivalent accreditation standard and scheme to Japan, the government of the exporting country attaches a certificate to the products to prove that they are “organic”, and that the products can be exported to Japan through accredited Japanese importers (Figure 3). Such countries currently include the EU-15, Australia and the United States.

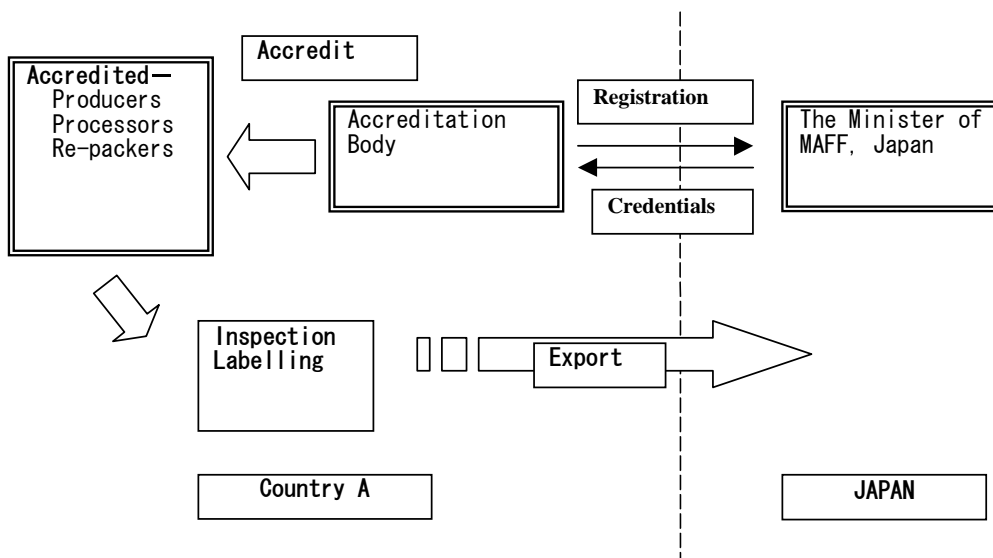
As of August 2002, the numbers of registered accreditation bodies and accredited cases are as follows:

- registered Japanese accreditation bodies: 63;
- registered foreign accreditation bodies: 8;
- accredited processors, groups of producers, re-packers and importers: 3 000 (Figures 5 and 6);
- accredited producers: 5 700 (Figure 7).

**Figure 1. Accreditation Scheme (a):
Exports accredited by registered Japanese accredited bodies**



**Figure 2. Accreditation Scheme (b):
Exports accredited by foreign accredited bodies**



**Figure 3. Accreditation Scheme (c):
Exports from countries with equivalent accreditation standards**

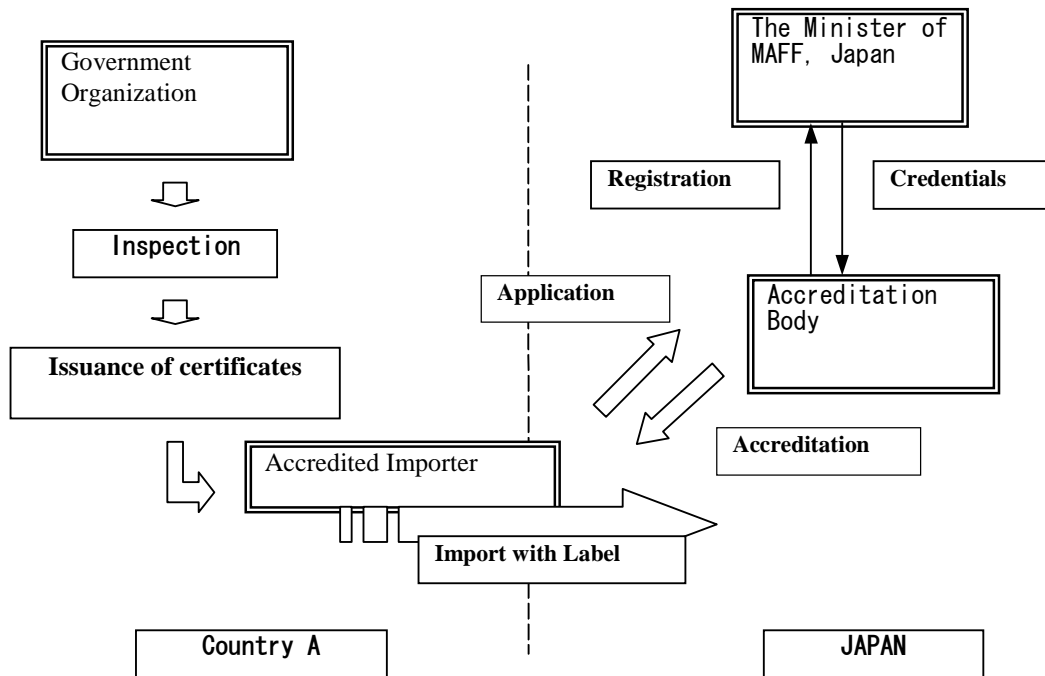
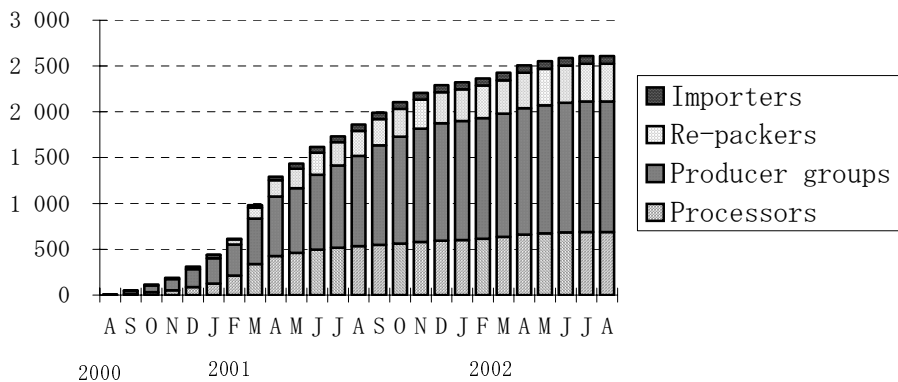


Figure 4. Change in the number of domestic accreditation groups



Promotion of “organic farming” meeting the demands of producers and consumers

While there is no specific “organic farming” policy in Japan, organic farming is encouraged as one of the forms of environmentally friendly agriculture (EFA).

Technical support

Whenever farmers consider adopting EFA, they come across a die-hard bottleneck: how to attain a reasonably high yield with considerably fewer or no chemical fertilisers and pesticides. MAFF has supported local governments with expenditure for technical support to local farmers’ groups for the implementation plan of decreased practices of pesticides or chemical fertilisers, on-site testing of the cultivation under low use of pesticides or chemical fertilisers, and the technical training of high yielding organic farming. Research on machinery, integrated pest management, and fertilising is also on-going.

Figure 5. Number of foreign accreditation groups

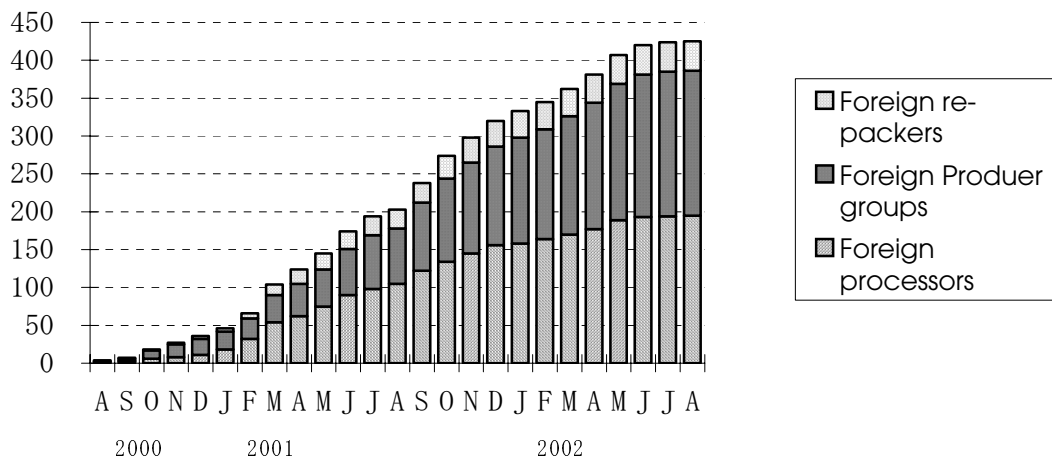
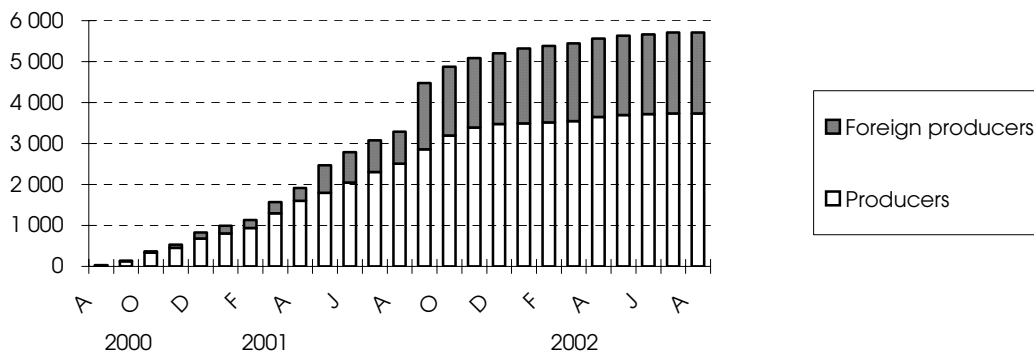


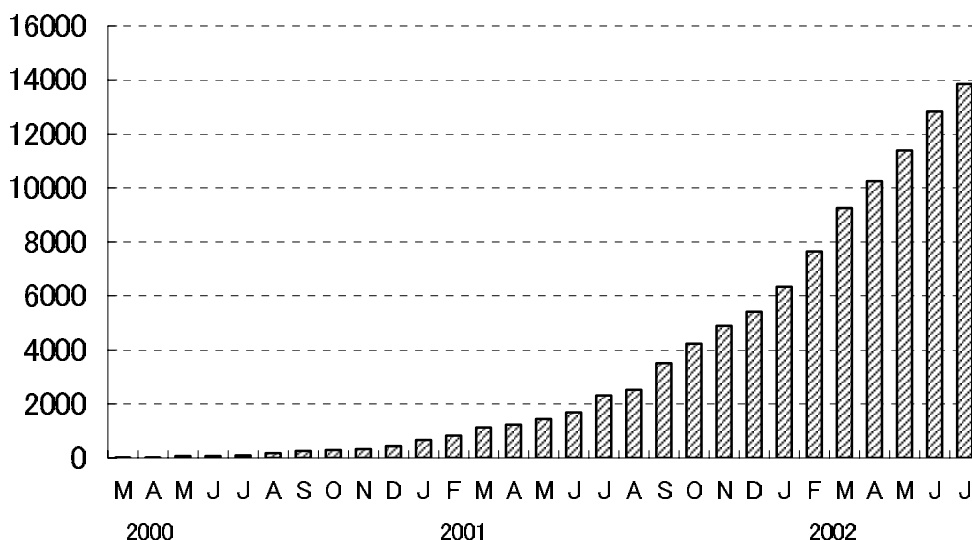
Figure 6. Number of domestic and foreign accredited producers



Administrative support by law enforcement

The law for promoting the introduction of sustainable agricultural production practices (referred to as “Sustainable Agriculture Law”) came into effect in October 1999. The law is to promote EFA in terms of increased numbers of “eco-farmers”. Provincial governments issue guidelines for the eco-farmers in their own province based on the Sustainable Agriculture Law; therefore, guidelines may be different from one province to another. Farmers who abide by the guidelines are accredited by the governor as eco-farmers and adopt environmentally friendly practices such as organic farming. Eco-farmers are eligible for benefits, *e.g.* entitled to have a larger loan and longer due term. Since April 2000, some 14 000 eco-farmers have been certified, which corresponds to only 0.5% of total Japanese farmers, but the number of certified farmers is on the increase.

Figure 7. Number of eco-farmers in Japan



Future perspectives

A rough estimation has been made of the number of so-called “organic” consumers. A total of 3 million or more people are enjoying “organic products” throughout Japan on a regular basis. Recently, BSE-infected cows have been successively identified in Japan and big food processing companies have been prosecuted for fraudulent labelling of dairy and beef products. There has also been some detection of excessive pesticide residues and prohibited pesticides. Under such circumstances, consumers have become more concerned about food safety and pay greater attention to the traceability of food. MAFF has taken the situation very seriously and is shifting agricultural policy to give high priority to consumers.

“JAS organic” accredited farm households represent less than 0.2% of total farm households in commercial farming, and an estimated 0.9% of planted areas. Some 22% of total farm households are adopting EFA practices. Currently, “JAS organic” accredited farmers represent only 0.7% of EFA farmers, but 6.5% of EFA farmers wish to obtain “JAS organic” accreditation. As previously described, there will be a sizeable number of “organic producers” if die-hard technical bottlenecks in the organic production are solved. Faced with high temperatures and high humidity, Japanese scientists are urgently requested to develop breakthrough technology and technological integration of the relevant component technologies to cope with the outbreak of pests, disease, weeds, and the like.

ORGANIC FARMING IN POLAND: PAST, PRESENT AND FUTURE PERSPECTIVES

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Abstract

In this paper the development of organic farming in Poland is presented from its original phase in the 1930s, through the period of abandonment i.e. the outbreak of the Second World War, up until the beginning of the 1980s, when the organic farming movement was reborn. A more detailed description is devoted to the period since 1990 — when for the first time inspection and certification took place. The development of formal structures is pointed out — the establishment of organic farming associations and the inspection bodies of the Department of Organic Farming in the Ministry of Agriculture and Rural Development; the creation of a supervising office in the form of the Office of Purchase and Processing of Agricultural Products; the parliamentary acceptance of the organic farming regulation; as well as the introduction of subsidies for organic farmers. The potential of organic farming is evaluated by comparing average yields of organic crops with intensive conventional farms. The main obstacles to the dynamic development of the organic sector are identified: 1) the insufficient number of well-qualified advisers, 2) the insufficient number of veterinary doctors trained in organic farming healing methods, 3) the scarcity of applied experiments which are much expected by farmers, 4) the scarcity of biological pesticides and mineral fertilisers approved of by the organic standards, 5) the limited demand for organic products in the country, and 6) hindrances in the development of export. In the final section, the friction caused by different development tendencies in Polish farming is discussed, namely the still worsening economic situation of agriculture, and the ageing of farming machinery and buildings on the majority of farms, but also the growth in the number of intensive conventional farms. In the plans made by the government and the President, growth of the organic sector is forecast to increase from 0.2% at present to 3-5% in 2010.

Introduction

The number of farms in Poland amounted to 1.88 million in 2000, utilising an area of 16.5 million ha, and with approximately 2 million ha fallow. The average acreage of a farm stood at 8 ha. Extensive methods of farming are still dominant in Polish agriculture. The use of industrial means of production is made only on a limited scale in comparison with EU countries. The average use of artificial fertilisers per hectare amounts to 48 kgN, 17 kgP₂O₅ and 21 kgK₂O. Chemical

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pesticides are applied in the average amount of 0.53 kg of active substance per hectare (Central Statistical Office, 2001). A striking, and from the point of organic farming advantageous, feature of Polish agriculture is the running of both crop and animal husbandry in the majority of farms. A decisively bad point of Polish agriculture, as far as a conversion to an organic method is concerned, is the improper structure of cropland use. Cereals are grown on 71% of arable land, with as little as 2.6% producing legumes and 1.1% pulses for grain.

Organic farming in the past (1930s-1990s)

The first farm in Poland which was run according to principles of organic farming was created in 1930. Count Stanislaus Karlowski on his 1 760-hectare farm in Szelejewo started a practical application of the oldest method of organic farming — the bio-dynamic method — achieving very good results. It began six years after the development of this production method by R. Steiner in 1924. Count Karlowski did not limit his activity in this field to cultivation in accordance with this method, but promoted actively bio-dynamic farming by organising one day courses in Szelejewo and by establishing an Association of Farmers and Growers. He also published instruction brochures. Thanks to his endeavours, in 1938 a Poznan-based Association of Promoting Principles of Life in Accordance with Nature was established. The Association's main outlet was a newspaper entitled *Biology and Life*. The outbreak of the Second World War annihilated these promising initiatives. Karlowski was killed by the Nazis, his farm was confiscated, and the movement fell into oblivion (Soltysiak, 1993).

The development of organic farming in Poland after the war was extremely difficult. Agriculture, which was traditionally based on family farms, was repressed for ideological and political reasons. The most difficult period was 1949-56, when the government chose the policy of forced collectivisation. Nobody thought about organic farming — peasants fought for survival (Gazinski, 1992). It was as late as 1960, when an engineer named Julian Osetek, animated by philosophical impulses, created in Nako, near Bydgoszcz, a 3-hectare bio-dynamic farm. For many years he worked alone, not finding any followers.

Since 1980, in connection with the political thaw, people started discussing and writing on organic methods of farming. Journalists soon discovered this example of a native organic farm. Following the ensuing publicity, Julian Osetek earned the reputation of a pioneer of bio-dynamic farming. At that time, together with his son, Jerzy, he began to promote strongly this method of farming and gave many lectures throughout Poland. In 1983 he began translating and publishing Maria Thun's bio-dynamic calendar. A few years later, in 1989, he published his own work entitled *Bio-dynamic Farming and Horticulture*.

At the turn of 1982-83, Professor Górny joined in the popularisation of bio-dynamic farming. Thanks to him, bio-dynamic farming became well-known and evoked wide public interest, resulting in the organisation of numerous courses by various institutions, such as the Association of Rustic Youth, branches of the Main Technical Organisation, the Polish Association of Allotment Owners, the Association of Dowzers and a large number of regional associations. Meanwhile, a lively polemic of followers and antagonists of bio-dynamic farming appeared in the press. In 1984, the Psychotronic Association published a book edited by Professor Górny entitled *Bio-dynamic growing of crops on allotments*. For the same audience — allotment owners — Dorota Metera wrote outstanding articles in a weekly publication, *A Housewife*, in the second half of the 1980s. Her collected texts were published as *A Bio-dynamic Garden by a House*, in 1989.

The origin of the movement which resulted in establishing an organisation of organic farmers began with a course with the participation of Dr von Wistinghausen in Warsaw in January

1984. Important courses took place throughout Poland: in Jachranka near Warsaw in February 1985; in Chelm Lubelski in February 1987; and in Przysiek near Torun in June 1988. During the last of these courses, the idea of establishing an association of organic farmers reached fruition (a few farms having adopted organic farming methods by this time). The organisation was created on 1 April 1989 in Torun, and registered as the Association of Organic Food Producers (EKOLAND) the following September.

Promotion and organisation were followed by practicalities. In the mid-1980s another farmer and long-time practitioner of organic farming, Remigiusz Jasieniecki, from Gostkowo near Torun came into the public eye. His 17-hectare farm, with its big cattle livestock density and prepared composts, was an excellent example of the application of organic methods for Polish enthusiasts.

A new group of farmers began converting their farms in the period 1986-87. Consequently, the EKOLAND Association was able to undertake its first inspection in 1990 and give certificates to 27 farms — for the first time in post-War Poland.

Present state (1990-2002)

The EKOLAND Association was the only association of its kind in Poland until 1993, when the Polish Association of Organic Farmers (PAOF) was established, with its headquarters in Lublin. Both associations (*i.e.* EKOLAND and PAOF) provided a forum for farmers to come together, as well as controlling their farms and issuing certificates. The inner structure of the two organisations kept production matters and controlling functions separate, *e.g.* in the EKOLAND Association there were different committees for inspections and for certification. Keeping the two above-mentioned committees in the framework of the same organisation was against international rules and, among others, against those of EC Council Regulation No. 2092/91 of 24 June 1991 *on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs*. Consequently, in 1996, on the basis of EKOLAND's committee of inspection and certification, a new association, Agro Bio Test, was created —the first Polish inspection body in organic agriculture. In 2001, three inspection bodies were in operation on the Polish market:

- The Polish Association of Organic Farmers;
- Agro Bio Test Ltd.;
- Bioexpert Ltd.

They operated in the framework set by the Minister of Agriculture and Development of Rural Areas.

The attitude of the Minister towards organic farming was changing with time. Shortly after the creation of EKOLAND in 1989, its board applied to the Minister with a request for a parliamentary regulation of organic agriculture. Each new board of the association met each new Minister of Agriculture and made the same request. Finally, the Parliamentary Regulation on Organic Farming was accepted by Sejm on 16 March 2001 and came into force 6 months later. In accordance with the Polish legal system, the Regulation itself does not provide many details. These are found in the supplementary regulations, issued as appendices to the Regulation. Four supplementary regulations have been issued:

- on 12 April 2002 — concerning acceptable heavy metal concentration in soil;
- on 14 May 2002 — concerning detailed conditions of producing organic farming products;

- on 15 May 15 2002 — concerning a list of additional substances, other supporting ingredients and ingredients of agricultural origin made by methods other than organic and approved of for use in processing organic farming products;
- on 21 May 21 2002 — concerning conditions which should be fulfilled by inspection bodies and set by the Minister of Agriculture pertaining to controlling, certifying and de-certifying.

Finally, under the Polish legal system organic farming is considered equivalent with international regulations in force. The only significant difference constitutes the additional requirements relating to an acceptable concentration of heavy metals in soil (Table 1). Although the requirements are very strict, 97% of Polish soils meets them.

Table 1. Accepted level of heavy metals concentration in soils in the case of organic farming

Heavy metal (element)	Concentration of dry soil in given soils (mg/kg)		
	<i>Sandy soil*</i>	<i>Loamy soil**</i>	<i>Clayey soil***</i>
Lead (Pb)	50	70	100
Cadmium (Cd)	0.75	1	1.5
Chromium (Cr)	50	80	100
Copper (Cu)	30	50	70
Nickel (Ni)	30	50	75
Mercury (Hg)	0.5	1	2
Zinc (Zn)	100	200	300

* Soil containing up to 20% silt and clay;

** Soil containing more than 20% to 35% silt and clay;

*** Soil containing more than 35% silt and clay.

Mere fulfilment of the legal requirements does not, however, permit direct access for Polish organic farmers to the international market, and especially to that of the European Union. The Polish Ministry of Agriculture is to undergo a procedure confirming the Polish system of organic farming as equivalent to that of the EU — a process which will take at least two years. Only then will Poland be added to the list of so-called “third” countries, thus enabling Polish farmers to supply products with Polish certificates on the EU market. Consequently, up until now Polish exports of organic farming products have been relatively small, and only possible after direct control, in Poland, by inspection bodies from the EU. EU certificates are, however, very expensive — a few times more expensive than domestic certificates. An additional commercial barrier is the necessity of receiving individual permits by importers. In 2001, Polish organic food exports amounted to some USD 3.5 million.

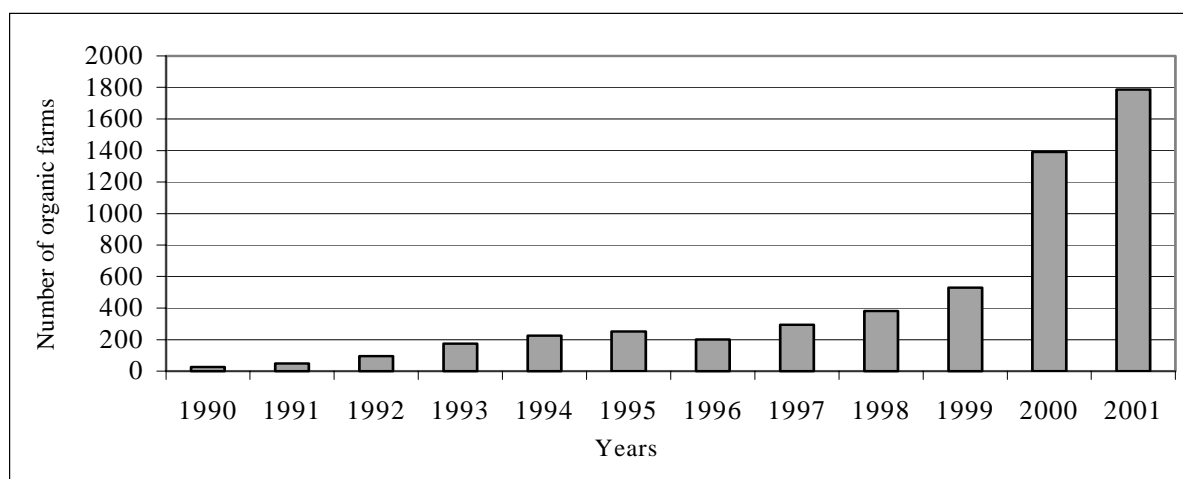
Before the legal system of organic farming in Poland was established in 2001, however, the Ministry of Agriculture had supported the development of this kind of agriculture. Subsidies for organic farmers appeared for the first time in 1998 to partly cover the costs of inspection. In 1999, additional support was provided for each hectare of organically grown crops. In the first year of conversion a farmer receives subsidies only for the costs of inspection. From the second year on, the farmer receives a subsidy for each hectare of organically grown crops. Furthermore, these subsidies for acreage of organically grown crops are higher in the second year of conversion than after receiving a certificate (the intention being to compensate farmers for their expenditures, and for a fall of yields when it is not yet possible to offer their products as “organic” and so obtain a premium price). These subsidies (and also those for the costs of control) are offered only to producers who have been positively verified by lawful inspection bodies. Subsidy rates are given in Table 2.

According to data from the Polish Inspection of Purchase and Processing of Agricultural Products office, which supervises the activities of organic agriculture, the number of organic farmers in 2001 amounted to 1 787 and their total acreage stood at 44 886 hectares, which was, respectively, 0.2% of agricultural land and 0.1% of total farms. As compared with the year 2000, this represents a 20% rise in the number of farms, and a 41% rise in acreage. In 2001, 15 certified factories ran the processing of organic products. Changes in the number of organic farms in Poland in the period 1990-2001 are shown in Figure 1.

Table 2. Subsidies offered to certified and in-conversion farms per ha of cropland

Type of crops	Second year of conversion		Certified farms	
	Zlotys	Euros	Zlotys	Euros
Field vegetables	500	123	400	99
Arable crops	200	49	150	37
Orchards	550	136	450	111
Plantations of berries	550	136	500	123
Meadows and pastures	80	20	50	12

Figure 1. Changes in the number of organic farms in Poland, 1990-2001



The geographical distribution of organic farms in Poland is very uneven. The largest number of organic farms lies in the Swietokrzyskie province (462), the Lubelskie province (288), the Mazovian province (233) and the Podkarpackie province (185): the largest acreage of farmland in this system of agriculture is in the Podkarpackie province (6 973 ha), the Mazovian province (5 377 ha), the Lubelskie province (4 989 ha) and the Zachodniopomorskie province (4 549 ha).

Organic farms in Poland have one particular feature — in comparison with the average Polish farm, they stand out by a higher mean acreage and different structure of sowing. The average size of a farm in Poland is 8 ha, but for an organic farm it is 25.1 ha. Within this average, farm size ranges from 1 ha (the lowest value at which to consider an agricultural unit as a farm), to 1 000 ha. In general, however, since the beginning of inspections and certifications in post-War Poland there has been a tendency towards organic production on bigger farms. This is not in accordance with the expectations of organic farming pioneers, who believed that the abandonment of industrial methods of production (chemical pesticides and artificial fertilisers) would be a factor in increasing employment

in rural areas. It should be noted here that many organic farms, especially those with a large acreage of vegetables, employ numerous seasonal farmhands, which is, however, not shown by statistics.

As far as the structure of agricultural utilised area is concerned, it is distinguishable by the higher share of meadows and pastures as well as plantations of vegetables and berries (Table 3).

Table 3. The structure of land use in Poland and on organic farms

Cropland structure	Mean in Poland*	Organic farming**
Arable land	72.1%	53%
Meadows and pastures	24.8%	41%
Fields of vegetables	1.5%	3%
Plantations of berries	-	2%
Orchards	1.6%	1%

* Data according to Central Statistical Office.

** Data according to the Office of Purchase and Processing of Agricultural Products.

A high share of meadows and pastures takes place mainly in big farms and in marginal areas. A higher share of vegetables results from the possibilities of selling these products with a premium. In Poland, vegetarians are the largest consumers of organic food. Plant products sell better than animal products. Selling animal products involves processing, and big processing plants cannot process small amounts of raw materials, for economic reasons. Organic premiums for vegetables range from 5-40%, for cereals around 30% and for potatoes around 50%. At the moment about 50% of plant products are sold as organic: in the case of vegetables, 60%; cereals 50%; potato 80%; meat 5% and milk 10% (Babalski, 2002).

Future perspectives

Organic farming in Poland currently lies on the fringe of the mainstream (occupying 0.2% of agricultural land). As for the possible development of this system, representatives of scientists, members of the business community and politicians are not in agreement. In this argument it is appropriate to ask what would be the outcome of an increase in the share of organic farming from the point of view of the volume of production?

Research comparing agricultural systems has been done in Poland since the beginning of the 1980s. Some take the form of field experiments, where the comparisons pertain to experimental plots, while others examine existing farms. I will first present the results from the latter, prepared by J. Tyburski and T. Sadowski, which are currently in press. The authors adopted the method used by the USDA in its famous 1980 report for comparing the results of the best organic farms with conventional ones in order to determine the prospective of the system (USDA, 1980). From the research which has been carried out in the period 1992-2002 it is clear that yields of wheat in a well-run organic farm are 26% higher than the national average, but at the same time are 43% lower than those of intensive conventional farms (Table 4). Similarly, yields of potato are also higher than the national average — in this case by 8% — but they are 53% below the yields of intensive farms. It is worth noting that in Poland potatoes are traditionally grown on the poorest soils. This does not, however, apply to the intensive system, where potatoes are grown for processing with precisely determined demands (cultivar, shape and size of tubers) only on good soils and in very intensive technology. To give some examples: Polish farmers traditionally apply 1-2 treatments against potato blight, whereas intensive farmers use around 20; they traditionally apply about 40 kg N, whereas intensive growers apply around 200 kg N.

Table 4. Average yields of wheat and potatoes in Poland on the best organic farms and intensive conventional farms

Crop	Yield level in tonnes per hectare		
	Average for Poland*	Best organic farms**	Conventional intensive farms**
Wheat	3.44	4.63	8.1
Potato	18.4	21.0	44.7

* Averaged for 1998-2000, data according to the Central Statistical Office.

** Averaged for 1992-2002.

Source: (Tyburski J. and T. Sadowski).

In general, the conclusions from this comparison are as follows: yields in well-run organic farms are higher than the national average, thus the large-scale introduction of organic farming, on condition that a high quality extension service is provided and the yields of the best organic farms are obtained, does not threaten a breakdown of the balance of agricultural production in Poland. At the same time, the intensive system is almost twice as effective as the organic system in terms of the level of yields. In this context, at least two questions arise:

1. What would be the result of widely applying intensive farming methods considering the already existing over-production?
2. What environmental consequences could be expected?

So as not to be limited to the research presented above, data from other sources will be quoted. In this case they do not come from the comparison of the existing farms, but from strict field experiments. The data are presented in Table 5.

Table 5. Yields of wheat and potato obtained when applying organic methods of growing in field experiments by different authors

Author	Yields in tonnes per hectare
<i>Wheat:</i>	
Szymona, J., 2000	4.1
Kuce, J., 1995	5.03
Stalenga, J., 2001	4.33
<i>Potato:</i>	
Kuce, J., Stalenga, J., 1999	24.5
Krasowicz, S., 1996	19.8

It was clearly confirmed that when comparing average national yields, the proper use of organic methods gives not lower but even higher yields. Nevertheless, in practise there are organic farms of strongly differentiated levels of operation. Quite a number of them obtain yields lower than before conversion. The reasons for obtaining low yields by many organic farms include:

- lack of a sufficient number of well-qualified advisers;
- difficulties with purchasing mineral fertilisers approved of in organic farming standards; and
- difficulties in obtaining a supply of biological pesticides.

The most important of the above-mentioned problems is the first — the lack of well-qualified advisers. It happens quite often that a farmer who contacts an extension service centre meets an adviser with an unwilling attitude towards organic farming or with insufficient knowledge. It is not

a rare occurrence that farmers, deprived of any advisers' help, are challenged with the problem of farm conversion. Consequently, they are forced into a method of trial and error which is costly. Often there are fiascos that lead to negative publicity.

The difficulties of buying means of production lie in the fact that organic farming in Poland is not widespread, so that traders are not interested in supplying the needs of organic farmers. As biological means of production are far more expensive than conventional ones, no conventional farmer is willing to buy them. For example, the price of biological pesticides to control the Colorado potato beetle is more than ten times higher than the chemical one. In the case of biological pesticides there also arises the problem of registration in Poland. The costs of this registration are very high and Polish law requires three-year investigations before registering. Since the potential biological pesticides market in Poland is limited, most firms are slow to invest in the Polish market.

Concluding remarks

At the moment one can perceive several different tendencies in the development of Polish agriculture. Some farms are being closed down, no longer able to compete in the gradually worsening economic conditions of agriculture. Some agricultural land, mainly low-quality, lies fallow (approximately 2 million ha — 11% of total farmland). Some farms are still operational, but investment in their development is insufficient. However, a small but growing number of farms have abundant financial resources, and invest in more land and new machinery — these are the farms with good soils at their disposal, which are not numerous, as the majority of soils in Poland are sandy (around 60%). These developing farms usually cover 50-200 ha and introduce very intensive chemical methods of production. This technology is effective in financial terms. It should be emphasised that applying such methods on sandy soil is unthinkable.

In this context organic farming can be viewed as an alternative form of development for a considerable group of farms. It could be a particularly attractive form for farms situated on marginal soil, lying within the borders of nature reserves, landscape parks and natural parks as well as those farms in the vicinity of big cities, representing potential purchasing markets. In the wider context, organic farming products may be perceived as one of Poland's export successes in the future. With the heavy surplus of conventional farm products in Europe and the US, there is no demand for more conventional products. Polish farmers may prove more competitive in producing organic food.

The current view of decision makers in Poland regarding the development of organic farming is favourable, with the government aiming to increase the share of organic farms to 3-5% of all farms by 2010. Considering the case of Italy, where the number of organic farms has increased from 1 300 in 1990 to 51 120 in 2001, the plans seem to be feasible.

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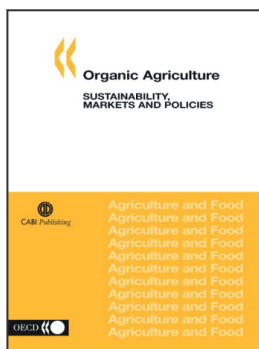
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