

South Dakota State University
**Open PRAIRIE: Open Public Research Access Institutional
Repository and Information Exchange**

Department of Economics Staff Paper Series

Economics

11-15-2002

'Quality' and 'Eco-labeling' of Food Products in France and the United States

Sherry Bertramsen
South Dakota State University

Genevieve Nquyen

Thomas Dobbs
South Dakota State University

Follow this and additional works at: http://openprairie.sdstate.edu/econ_staffpaper

 Part of the [Agricultural and Resource Economics Commons](#)

Recommended Citation

Bertramsen, Sherry; Nquyen, Genevieve; and Dobbs, Thomas, "'Quality' and 'Eco-labeling' of Food Products in France and the United States" (2002). *Department of Economics Staff Paper Series*. Paper 165.
http://openprairie.sdstate.edu/econ_staffpaper/165

This Article is brought to you for free and open access by the Economics at Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. It has been accepted for inclusion in Department of Economics Staff Paper Series by an authorized administrator of Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. For more information, please contact michael.biondo@sdstate.edu.

'Quality' and 'Eco-labeling' of Food Products

in France and the United States

by

Sherry K. Bertramsen, Geneviève Nguyen, and Thomas L. Dobbs*

Economics Staff Paper 2002-7

November 2002

Economics Department
South Dakota State University
Brookings, South Dakota 57007-0895

*Sherry Bertramsen, a former Graduate Research Assistant at South Dakota State University (SDSU), is presently an Agricultural Statistician with the US Department of Agriculture's National Agricultural Statistics Service, Cheyenne, Wyoming. Geneviève Nguyen is an Economist in the Laboratoire Dynamiques Rurales, Institut National Polytechnique, Ecole Nationale Supérieure Agronomique de Toulouse (ENSAT), Toulouse, France. Thomas Dobbs is a Professor of Agricultural Economics at SDSU, Brookings, South Dakota.

Papers in this series are reproduced and distributed to encourage discussion of research, extension, teaching, and public policy issues. Although available to anyone on request, the papers are intended primarily for peers and policy makers. Papers are normally critiqued by some colleagues prior to publication in this series. However, they are not subject to the formal review requirements of South Dakota State University's Agricultural Experiment Station and Extension Service publications.

This paper draws in part on Sherry Bertramsen's Master of Science Thesis at SDSU. Her research was supported by the SDSU Agricultural Experiment Station and by the Laboratoire Dynamiques Rurales in Toulouse, France. Valuable advice on Bertramsen's thesis research was provided by Bruno Legagneux at ENSAT and by Larry Janssen and Joe Santos at SDSU.

'QUALITY' AND 'ECO-LABELING' OF FOOD PRODUCTS IN FRANCE AND THE UNITED STATES

Agricultural and food products have undergone major changes in France and the United States (US) in the last few decades. Farmers in both countries are under increased pressure from society and the government agencies representing society to more aggressively deal with environmental problems. Also, American consumers are beginning to emulate the long-standing French preoccupation with the taste of food products. As a result of these concerns, farmers, grocers, and government agencies overseeing food production and distribution have developed new ways to demonstrate the positive aspects of their products to consumers. 'Quality' and 'eco-labeling' of food products is one way for these groups to advertise their products' qualities.

'Quality' can mean many different things to consumers, and meanings vary with individual countries' social values. In France, according to Gilg and Battershill (1998), quality can be evaluated in terms of: 1) the intrinsic value of the food in terms of taste; 2) its wholesomeness; 3) whether or not it is healthy to eat; and 4) its conditions of production. Consumers may be concerned with one or a combination of these attributes. In the US, however, consumers have less developed definitions of what a 'quality' product entails, as this concept is newer to US consumers. In both the US and France, however, labeling schemes have been, or are being, developed to inform consumers about products' qualities.

'Eco-labeling', on the other hand, has developed at approximately the same time on both sides of the Atlantic. Eco-labels provide consumers with information about a

product's environmental impact. Sometimes these labels contain information about the production of the product, as does the organic label, while other times it contains information about the disposal of a product, such as plastic products carrying recycling symbols.

Both types of labeling schemes are gaining in importance and being implemented for food products, in part because of the potential impact that they can have on the environment. Agriculture can be a source of both positive and negative environmental externalities. Policymakers and farmers have begun to realize the value of informing consumers about the environmental impact of agriculture. Those farmers that are implementing farming practices that are less harmful to the environment, or that are benefiting the environment, may be able to realize premium prices for their products with the appropriate label attached and a sufficient amount of consumer education. Taxpayers may also be willing to pay farmers to implement better farming practices that benefit the whole of society, through farm programs that remunerate farmers for environmental practices or outcomes.

In this paper, we explain the history of French and US quality and eco-labeling schemes, the current status and issues facing these schemes in agriculture, and the relevance of the French experience to the US.

French Quality and Eco-labeling Schemes

In this section, we present the history of French quality labels and eco-labels and a discussion of the current status of, and issues associated with, French schemes. French farmers have long shown strong interest in producing 'quality' labeled food products

because of the real economic gains attached to them. There is question, however, as to whether French 'quality' products also provide environmental benefits. The problem for government agencies is how to reward those farmers who are already engaged in beneficial environmental practices and to create incentives for other farmers to become engaged. One solution is to rely on direct government interventions through agri-environmental payment programs. Another is to use market mechanisms by promoting differentiated products, that is, labeled products. This second solution seems to have worked in France for 'quality' labeled food. Now, the question is, could this also work for goods produced with environmentally safe practices?

In differentiating food products with 'eco-labels', there are two possible approaches. One is to combine eco-labeling and quality food labeling—one single *cahier des charges* (standards document or business plan) with one single corresponding label—and the other is to create 'eco-labels' which indicate only environmental aspects. The first approach corresponds to the notion of "global quality" (Dron and Pujol, 1998), which includes all dimensions of quality. The second is to create 'eco-labels' which give indications only of environmental dimensions. Although French consumers have shown willingness to pay more for food carrying labels representing such dimensions as taste and origin, it is not yet clear that they are willing to do the same for 'eco-labeled' products.

History of quality labels

French quality labels have been in existence for a number of years. The earliest label, described immediately below, was established in 1919.

L'Appellation d'Origine Contrôlée (controlled origin label, or AOC). The French controlled origin label was established in 1919 for the wine sector. It then spread to milk products and, in 1990, to all other agricultural food products. The AOC label implies more than horizontal product differentiation; it also testifies that the product has been produced from local raw inputs in a place-specific mode, and that its high quality characteristics are the result of substantial long-term collective and individual investments (Kilkenny and Daniel, 2001).

Label Rouge (red label). The Label Rouge was created in 1960 for products that possess specific characteristics and enjoy a superior level of quality that distinguish it from other similar products (Ministère de l'Agriculture et de la Pêche, 2001). It guarantees a better taste and high standards of production, while the AOC guarantees primarily the origin of the product. The Label Rouge system is a nationwide structure that ties highly localized groups of producers and their upstream and downstream affiliates together in a complex and effective network for delivering to consumers products that are distinguishable from industrial products. The differences supposedly are distinguishable with regard to intrinsic quality, food safety, environmentally sound production practices, and product image (Westgren, 1999).

To obtain the Label Rouge, an organization called a quality group must request the label from the French National Commission for Labels and Certifications. The quality group must then present a formal document called the cahiers des charges, which is an

elaborate business plan that provides the full details of the supply chain, from genetic selection through transport to retailers. It is built around the principles of Hazard Analysis Critical Control Point (HACCP) (Westgren, 1999).

Certification de Conformité (certification of conformity, or CCP). The certification of conformity label system is not an official label like the AOC or the Label Rouge. It was established in 1990 by a private organization and guarantees that a product is made to specific characteristics according to production, transformation, conditioning, and—since January 3, 1994—origin (Ministère de l'Agriculture et de la Pêche, 2001). In fact, the CCP only certifies that the product is different from a standard product according to at least two characteristics; it does not give any indications about the “quality” of the product.

Vin Délémité de Qualité Supérieure (high quality wine, or VDQS). This label is specific to the wine sector and guarantees that a wine is produced according to a strict *cahier des charges*, which determines the area of production, the type of vine, and the quantity produced. The VDQS standard is inferior to the AOC, however. Associations of wine producers demand to be qualified with the VDQS label whenever they cannot achieve the very high standard required by the AOC or whenever they wish to occupy some specific market niche.

Use of these four principal labels is widespread throughout France and among many different products. The AOC is the most important one, with more than 300 qualified products (the majority in the wine sector), followed by the Label Rouge and the CCP. However, these are not the only labels available to producers. Numerous

and created public standards to regulate the organic industry (Ministère de l'Agriculture et de la Pêche, 2001). The standards for organic agriculture in France are very similar to those used in the US.

It may be questionable to classify the French AB among ‘eco-labels’. In reality, it has always been considered a regular ‘quality’ label like the AOC or Label Rouge. This confuses most French consumers, who think that the AB label guarantees not only the

non-use of chemical inputs, but also the taste and health nature of the food product; only the Label Rouge is meant to guarantee good taste. Moreover, it has not yet been proven that French AB practices have only positive impacts on the environment and on people's health.

The idea of explicit 'eco-labels' is beginning to emerge in France, however. Such eco-labels are supposed to provide environmental guarantees regarding such concerns as waste management, preservation of remarkable and fragile landscapes, and well-being of animals. One *eco-produit* (eco-product) label example is the "Banyuls Parfeu" wine, which puts forward the claim that wine trees are planted so as to preserve Mediterranean forests from fires. Another example is the "Tomme Prés du Ried", a cheese produced with agricultural practices preserving the ecosystem of a protected bird. In citing these examples, Thiébaud (1995) argued that the strategy here is to raise individual awareness and to comfort it by a market or an industrial system.

Other eco-labels exist in French agriculture that are linked more closely to the disposal of a product than to the production of a product. Furthermore, numerous European Union (EU) eco-labels exist and are being implemented throughout the EU.

Current status and issues

In spite of the considerable experience in France with quality and eco-labeling schemes, the impacts of these schemes on environmental quality are not well known. Recent research has indicated that some environmental improvement results from farmers being engaged in quality labeling schemes (Bertramsen, 2002). Farmers following certain quality schemes have some of the best environmental results, scoring even higher than organic farmers in a number of areas—such as preservation of soil and fertility. However,

organic farmers may perform better in some areas, such as waste disposal and biodiversity. Results indicate that some environmental benefit is gained by encouraging farmers to engage in quality and eco-labeling schemes. (Bertramsen, 2002) This happens when an agricultural practice leads to joint-production of “quality food” and “quality environment”—for example, when planting of trees to protect Label Rouge chickens against the sun also adds to biodiversity.

One of the major issues facing policymakers in France is how to explicitly link quality labeling schemes to environmental stewardship. Based on the notion of *multifunctional agriculture* (Dobbs and Pretty, 2001, pp. 9-10) now beginning to shape EU agricultural policies, one proposal is to offer agri-environmental programs that complement quality labeling schemes. The most recent major, voluntary agricultural program being implemented in France is the Contrat Territorial d'Exploitation (farm management agreements, or CTEs). The CTEs go beyond existing agri-environmental programs by trying to reach as many farmers as possible and by combining socio-economic (e.g., new jobs and increased local value-added by producing high quality products) and environmental objectives. Research has recently begun to analyze the benefits of the CTEs in France.

US Quality and Eco-labeling Schemes

Eco-labeling schemes are further along in development in the US than are quality schemes, so we will begin with a brief history of these schemes.

History of eco-labels

The most widely-known US eco-label is the Certified Organic label. However, some other labels also are used in the US for products that are not necessarily organically grown, but that indicate environmental stewardship of some kind.

Organic. The US Congress passed the Organic Foods Production Act, Title XXI of the Food, Agriculture, Conservation, and Trade Act of 1990, in order to establish national standards for organically produced commodities. The USDA published the final rule for this legislation on December 21, 2000 (Greene, 2001), and full implementation of the rule took effect on October 21, 2002. The rule establishes the National Organic Program (NOP) under the direction of the Agricultural Marketing Service (AMS), an arm of the USDA (Agricultural Marketing Service, 2000). The law requires that growers grossing over \$5,000 annually be certified by a USDA-accredited certifying agent. Approximately 30 States have laws regulating organic agriculture, while 13 States and 30 private agencies actively conduct certification services in the US. The Organic Crop Improvement Association certifies both nationally (23 States, more than any other certifier) and internationally (Klonsky et al., 1998). To be certified organic, a farm or processing facility must be inspected by a credible third party State or private organization to verify that all requirements of the certifying body are met (Lohr, 2001). Forty organic certification organizations, 12 State and 28 private, conducted third-party certification of organic production in 1997. Most of these certifiers have been expected to seek accreditation by the USDA (Greene, 2001).

Certification of organic products serves three functions: 1) certification assures consumers that a product that is not observably different from non-organic food was

grown, processed, and packaged according to rules that limit or ban synthetic inputs and protect the environment; 2) certification assures producers that unscrupulous use of the term 'organic' does not defraud them of price premiums and market share that can be earned from certified foods; and 3) certification makes the market more efficient by reducing information asymmetry along the marketing channel from producer to consumer (Klonsky et al., 1998).

Currently, there is no single international organic production regulation, but generally all accepted organic rules prohibit the use of synthetic fertilizers, pesticides, growth regulators, and livestock feed additives, and require long-term soil management, emphasis on animal welfare, and extensive record keeping and planning (Lohr, 2001). The new Federal rule specifies the practices and inputs that must be excluded (or included) in organic farming systems in order to be certified, ways in which to appeal a ruling, and fees to be charged by certifiers for certification. It establishes a national accreditation program to be administered by the AMS for State officials and private persons who want to be accredited as certifying agents. Requirements for labeling products as organic and containing organic ingredients are specified. Provision is made for importation of organic agricultural products from foreign countries that have comparable organic program requirements (Agricultural Marketing Service, 2000).

Other. Various other eco-labels are found in US markets, including the ECO-O.K. label from the Rainforest Alliance, which is placed on coffee beans that are grown in the shade to preserve the habitat of migratory birds. The Environmental Quality Initiatives label is found on some milk, and the California Clean label is placed on produce grown with limited pesticides (*Good Housekeeping*, 2000).

The CORE Values label is used on apples grown in the northeastern US using natural pest reduction methods to reduce the use of agricultural chemicals. This system, which takes a whole-farm ecology approach, was developed by Mothers & Others as a way to raise consumer awareness about locally grown food and build a market for sustainable produce. The CORE Values system is knowledge-based. Growers must submit a farm plan, outlining such practices as good pruning and nutrition, the best use of water resources, and the most efficient method of fertilization. The apples are inspected and certified by an independent third party, which includes other orchard owners, members of the Federal Land Grant university system, and integrated pest management specialists (Anonymous, 1999). An example of the success of this program is that all 160 public schools in Manhattan are serving only apples grown with the CORE Values label attached (*The Environmental Magazine*, 1999).

The Food Alliance, based in Portland, Oregon, began operation in March 1998. In July 2000, the Food Alliance and the Midwest Food Alliance (MWFA) forged an alliance to work together in promoting sustainably produced foods in the Midwest (Midwest Food Alliance, 2001). The primary purpose of the MWFA is to support local or regional food systems (Midwest Food Alliance, 2001). The system is not limited to organic, but organic foods are included. The MWFA is a coalition of farmers, consumers, scientists, grocers, processors, distributors, farm worker representatives, and environmentalists working together under the slogan “Good Food for a Healthy Future” (Midwest Food Alliance, 2001). MWFA promoted sustainably grown apples, squash, and meat products as of October 2000, and planned to add sweet corn, potatoes, berries, cucumbers, carrots, radishes, broccoli, cauliflower, and dairy products in 2001 (Midwest Food Alliance,

2001). The MWFA is a non-profit project dedicated to promoting expanded use of sustainable agricultural practices. It defines sustainable agriculture as "...a system that emphasizes protecting and enhancing natural resources, using alternatives to pesticides, and caring for [the] health and well-being of farm workers and rural communities" (Midwest Food Alliance, 2001, p. 7).

Farmers qualify for the MWFA seal after a third party evaluation of their farms in three different areas. The farmers are evaluated on their practices concerning pest and disease management, soil and water conservation, and human resource development. The environmental indicators that the MWFA suggests farmers use for evaluating their farms consist of: 1) the Revised Universal Soil Loss Equation to estimate annual soil loss on a per ton per acre basis; 2) a nutrient management yardstick that accounts for the movement of nutrients onto a farm, the nutrients that leave the farm in the form of agricultural products, and the estimates of nutrients that are not accounted for and that could potentially be entering ground and surface water or volatilizing into the atmosphere; 3) comparisons of MWFA-approved farms to regional averages using Minnesota Farm Business Management Association data; and 4) documentation of changes in the amounts and toxicity of chemicals used (from farm records). The MWFA-approved farmers are also required to submit farm improvement plans to increase the probability that farmers will continue along the path to sustainability—with small, realistic steps laid out in this plan.

In October 2000, the MWFA introduced its seal of approval in two retail partner grocery store chains, Kowalski's Markets in the Minneapolis/St. Paul, Minnesota area and Coborn's supermarkets in St. Cloud, Minnesota (Midwest Food Alliance, 2001).

History of quality labels

The US has much less experience with quality labels for agricultural products than does France. However, many of the brand labels on agricultural products in the US might be considered 'quality' labels. One major difference between US quality labels and French quality labels, however, is that the standards, or guidelines, for production are less developed in the US, and may not even exist in many cases.

An example of a US quality label is the 'Washington Apple' label. The 'Washington Apple' logo is aimed at increasing consumer awareness of Washington apples and is intended to serve as a signal of quality. The current 'Washington Apple' logo has been used on all fresh Washington apples since 1982, as a label of guaranteed quality. However, the label only signals origin and does not reflect specific quality or production standards. There are no rules of quality control for Washington producers other than that the apples must be grown in the State of Washington. Producers, therefore, have incentives to produce low quality products and still benefit from the collective reputation that the State of Washington has built up over time. This is a major disadvantage for apple producers who produce high quality apples, as their reputation may suffer from low quality products produced under the same label (Quagraine et al., 2001).

Current status and issues

Currently, there are various attempts in the US to develop labels that endeavor to simultaneously convey the existence of environmental benefits, regional identity, food quality, and safety for agricultural products. The Food Alliance and the MWFA are good examples of attempts in States and regions to develop products that accomplish multiple

goals. However, there are few other labeling schemes as systematic as these. Some farmers or consumers might like to see a national eco-labeling program that includes other categories in addition to organic. To be credible, such a program would need to have a certification process that includes explicit and verifiable criteria. Kane et al. (2000, pp. 62-63), after reviewing a number of eco-labeling schemes in the US and Europe, concluded that responsible and successful eco-labeling should include the following:

1. **Honest messages**—Messages must be honest and “standards must make a sustainable difference in such areas as the environment”
2. **Meaningful standards**—“Standards must be meaningful, measurable, and continuously evolving.”
3. **Transparency**—“Verification of compliance must be transparent”, and credibility is best accomplished by third-party verification.
4. **Accreditation and independence**—An independent organization should be responsible for program administration.
5. **Reciprocity**—For products to be marketed nationally and internationally, eco-labeling programs must have reciprocity and equivalency with one another and international standards.
6. **Market differentiation**—Labeling programs that provide differentiation not only on the basis of environmental quality standards, but also on the basis of such characteristics as taste and place, may have the greatest chance of success in the market place.
7. **Marketing and communications**—Sophisticated marketing and communications techniques are needed to “improve product viability, distribution, and appeal”.
8. **Consumer research**—Consumer “research, debate, and testing should be conducted even before launching a label.”
9. **Financial sustainability**—“Most labeling programs need assistance in attaining organizational and financial self-sufficiency.”
10. **Farmer premiums**—“Labels that have a goal of providing farmer incentives should integrate this goal into the labeling standards”

US policymakers have not given the same support for environmental objectives as for other farm program objectives focused on commodity prices and income. Furthermore, agricultural commodity and environmental policies frequently are inconsistent with one another. The reason for this lies primarily in the fact that each set of policies has evolved separately (Day, 2001). Policies that incorporate all relevant agricultural objectives in an integrated way would help to reduce this problem.

Relevance of the French Experience to the US

Since the early 1920s, French consumers have placed much emphasis on the origin and traditional methods of production of agricultural products. This passion is seen in the many origin labels that have developed in French agriculture, starting with the AOC labels for wine. North American urban consumers may have little knowledge about how food is actually produced, compared to rural or Mediterranean consumers who have remained closer to farming and the realities of food production (Gilg and Battershill, 1998).

Origin labeling, such as use of the AOC label, is widely believed to be a driver of rural development. It is also presumed that origin labeling of food will earn rural citizens a larger share of national income (Kilkenny and Daniel, 2001). This is very important to policymakers and citizens because of the progressive decline of rural communities and small family farms, vital parts of a country's landscape and history. The French government has tried to slow rural decline with quality labeling schemes, and it may have prevented some farmers from leaving the agricultural business.

One way in which urban North American consumers can be brought closer to farming is for the agricultural and food system to take the lessons learned from the French labeling experience and develop comparable labels for regional or traditionally-made products that hold a special place in a particular society. In order for these labels to be successful, however, farmers must be induced to adopt practices leading to certification of the farm for a particular label. How did the French achieve a high level of adoption for origin labels and quality approaches?

The premium prices farmers receive for products bearing origin labels under French quality approaches constitute one of the greatest motivators for adoption of practices. However, price premiums cannot be the only reason that farmers convert their farming practices. Another reason may be that French consumers (especially urban consumers) do not view farmers simply as commodity producers, but also as stewards of the tradition of the land who can provide many different ecosystem services. Environmental protection is the second most important promotional argument presented by retailers in Europe (Lohr, 2001). French consumers are willing to pay for these extra services in the form of price premiums for labeled goods, while farmers provide the product that is specific to consumer wants and needs. A change in societal norms was needed to encourage farmers to produce goods with regional attachments, but the psychological bonds between the environment, healthy food, and risk are not new (Dron and Pujol, 1998). French consumers have come to understand the interrelationships between these three important aspects of agricultural production sooner than consumers in many other countries.

French quality labeling schemes may not be providing the level of environmental quality that consumers are expecting, however. Environmental benefits from these programs have been achieved, but they tend to be fragmented, securing extensification in some areas while allowing intensification elsewhere (Dwyer, 1999). French researchers point out that even some AOC products are sources of pollution (Dron and Pujol, 1998). A farmer who is under a wheat quality approach resulting in an AOC label indicated to us that the amount of fertilizer needed to increase the protein content of the wheat negated some of the environmental benefits of other environmentally-friendly practices, such as less irrigation and the incorporation of larger amounts of organic matter into the soil (Bertramsen, 2002). French consumers, however, may not realize what is needed to increase the protein content of wheat and they may be less concerned than they might otherwise be about the environmental impact of its production because of the presence of a quality label.

Guidelines are available on government websites in France to all consumers who are inclined to check the specifics of a label's production practices. However, if the government's intention was to introduce labels for these quality schemes in order to capture some of the environmental benefits of farming and remunerate producers, they may be sending the wrong message to consumers by labeling a product that actually increases fertilizer use as a 'quality' product. This is an especially important lesson for those countries just beginning to develop similar quality labeling schemes. Governmental or other organizations developing quality food schemes may need to look more closely at the specific guidelines to make sure that they are accomplishing what they originally set out to do.

Some French farmers do not see the benefits of engaging in quality schemes or choose not to engage for personal reasons. Farmers not following quality schemes constitute a large portion of French agriculture. Why would farmers not take advantage of price premiums under these quality-labeling schemes? One of the reasons may be that the farmers do not feel that the guidelines for producing under particular quality approaches represent the kind of environmental protection that the farmer prefers to provide. Farmers may also feel that the guidelines and production standards require a degree of oversight by government entities that is inconsistent with their desired independence. Furthermore, the price premiums may not be the only incentive the farmer needs to switch to a quality-labeling scheme. Other factors may be more important in their production decision making, such as risk reduction or stewardship concerns. Quality labeling schemes may not address these factors to the satisfaction of non-participating farmers. If governmental or other entities wish to encourage more farmers to engage in quality approaches, they will need to address these other factors in the near future.

Improving the guidelines for quality schemes probably constitutes the first step in increasing adoption by farmers and increasing the environmental quality expected to result from the programs. Second, paying farmers for providing those environmental services is a very big step in signaling to farmers that environmental quality is important to the government. Finally, French consumers need to become more aware of what quality really means and that they may not be obtaining enhanced environmental quality in return for the premium price they pay for some quality products.

There also are a number of lessons from the French experience for US organic and other eco-labeling schemes. One lesson is that eco-labeling schemes in the US need

to be very clear about what the expectations are and what guidelines must be followed in order for producers to qualify for a particular label. This will prevent consumers and producers from suffering the consequences of misinformation, such as distrust in the agricultural sector and in the government to provide accurate information about a product's environmental impacts. A second lesson is that producers often need more than financial incentives to convert cropland from conventional to more sustainable practices. Farmers and ranchers also need the moral support of the government and the education and training to back up that support. US eco-labeling schemes also need to include methods for monitoring farmers' practices, to guarantee that procedures are being carried out in accordance with the standards. Finally, eco-labeling schemes should include the flexibility to change as the US continues to develop programs that embrace the environment, but they also must continue to provide some income stability for farmers.

REFERENCES

- Agricultural Marketing Service. "National Organic Program: Final Rule with Request for Comments." Washington, DC: United States Department of Agriculture, December 2000.
- Bertramsen, Sherry K. "Recent Policy and Market Incentives for Organic and Other Ecologically-Based Farming Systems in the US Upper Midwest and the Southwest of France," Master of Science Thesis in Economics. Brookings, SD: South Dakota State University, 2002.
- Day, Esther. "Targeting and the Environmental Quality Incentives Program," Center for Agriculture in the Environment Working Paper No. 01-1. Dekalb, IL: American Farmland Trust, March 2001.
- Dobbs, Thomas, and Pretty, Jules. "Future Directions for Joint Agricultural-Environmental Policies: Implications of the United Kingdom Experience for Europe and the United States," South Dakota State University Economics Research Report 2001-1 and University of Essex Centre for Environment and Society Occasional Paper 2001-5. Brookings, SD and Colchester, United Kingdom: August 2001.
- Dron, Dominique, and Pujol, Jean-Luc. "L'expression du choix qualitatif et environnementaux vers les produits: La retourne contre le consommateur les choix certains de processus" (The expression of qualitative and environmental choice through products: Giving consumers their own choice of processes), Agriculture, monde rural et environnement: qualité oblige (Agriculture, the rural world and the environment: obliging quality), Report to the French Minister of Territory and Environmental Management at the National Institute of Agricultural Research (INRA). Toulouse, France: 1998, pp. 424-441.
- Dwyer, Janet. Unpublished summary of *Seminar on the French Approach to Rural Development*. Senate House, London University, United Kingdom: December 14, 1999.
- Gilg, Andrew W., and Battershill, Martin. "Quality farm food in Europe: a possible alternative to the industrialized food market and to current agri-environmental policies: lessons from France," *Food Policy*, 23 (1), 1998, pp. 25-40.
- Good Housekeeping*. "Eco what? Environmental labeling for food products," 23 (1), January 2000, p. 58.
- Greene, Catherine R. "U.S. Organic Farming Emerges in the 1990s: Adoption of Certified Systems," Agriculture Information Bulletin No. 770. Washington, DC: Resource Economics Division, Economic Research Service, United States Department of Agriculture, June 2001.

- Kane, Deborah, Lydon, Betsy, Richards, Keith, and Sligh, Michael. "Greener Fields: Signposts for Successful Eco-labels." Pittsboro, NC: Rural Advancement Foundation International – USA, 2000.
- Kilkenny, Maureen, and Daniel, Karine. "Quality Versus Quantity: Idle Resource and Scale Effects," Paper presented at the Commissariat Général du Plan (France) Workshop: *Barriers to Trade, Agriculture, and Public Procurement: Three Sensitive Issues*, in Moliets, France: June 7-10, 2001.
- Klonsky, Karen, Tourte, Laura, Thompson, Gary D., Lohr, Luanne, and Krissoff, Barry. "Emergence of U.S. Organic Agriculture: Can We Compete?" University of Georgia Faculty Series No. 98-12. Athens, GA: July 1998.
- Lohr, Luanne. "Factors Affecting International Demand and Trade in Organic Food Products," University of Georgia Faculty Series No. 00-20. Athens, GA: February 2001.
- Midwest Food Alliance. "Farmer Marketing Handbook." St. Paul, MN: 2001.
- Ministère de l'Agriculture et de la Pêche (French Ministry of Agriculture and Fishing), <http://www.agriculture.gouv.fr>. Paris, France: March 27, 2001.
- Quagraine, Kwamena K., McCluskey, Jill J., and Loureiro, Maria L. "Reputation and State Commodity Promotion: The Case of Washington Apples," Selected Paper at the American Agricultural Economics Association Annual Meeting in Chicago, IL: August 5-8, 2001.
- The Environmental Magazine*. "In brief: An apple a day..." 10 (6), November/December 1999, pp. 18-19.
- Thiébaud, L. "Environnement, agro-alimentaire et qualité", in *Agro-alimentaire: une économie de qualité*, F. Nicolas and E. Valceschini (eds.). Paris, France: Ed. INRA, 1995, pp. 125-138.
- Westgren, Randall E. "Delivering Food Safety, Food Quality, and Sustainable Production Practices: The Label Rouge Poultry System in France," *American Journal of Agricultural Economics*, 81 (5), 1999, pp. 1107-1111.