

# A Study of Organic Food Labeling in the United States Compared to Denmark

**Abigail Vlasak**

*College Liberal Arts & Sciences, University of Florida*

Faculty mentor: Anne Donnelly, Center for Undergraduate Research

## Abstract

Organic farming practices produce foods that avoid manufactured fertilizers, pesticides, plant growth regulators (PGR), and livestock additives. The USDA definition of food labeled organic is that 95 percent of the ingredient list must be free of synthetic additives, including, but not limited to pesticides, dyes, and fertilizers, and are not processed with industrial solvents. The organic designation can apply to processed or unprocessed foods. The goal of this study was to compare organic labeling and certification between the United States and Denmark. The hypothesis is that labeling and regulation will be similar because the food economy is built on a global scale. Researching organic labeling was required in both the United States and Denmark. A study of one food item from each section of the US food pyramid was completed. Then, labeling data was collected in both Danish and American grocery stores. The work required visiting three grocery stores in both countries. The results showed that organic labeling requirements are different in the US and Denmark. Denmark has a much more stringent level of organic certification, and store labels of studied products confirm these differences. The study demonstrated that organic labeling is very complicated in both the US and Denmark, and there is not a common standard of organic labeling and certification between these two countries.

## Introduction

Organic food production has been developing in the United States for almost half a century. Since the 1990s, consumer demand for organic goods has significantly increased<sup>1</sup>. In 2002, the USDA established requirements for farms to achieve organic certification of their produce<sup>1</sup>.

It took the USDA almost a decade of debate to agree on the standards and requirements for certification. Ninety US agricultural organizations were given the training needed to help farmers gain organic certification<sup>2</sup>. The United States comprises a large share of organic agricultural land coming in 4th place worldwide, yet its overall percentage devoted to organic production is relatively low<sup>2</sup>. Europe's organic market has experienced faster growth due to greater public awareness of the environmental benefits of transitioning to organic farming<sup>2</sup>.

Since the 1980s, there has been a major global shift in farms moving away from conventional production methods to organic<sup>2</sup>. Today, the organic agriculture sector is worth over 80 billion dollars and has experienced consistent annual growth<sup>3</sup>.

Due to Denmark's small size, there has been limited literature released on the topic of organic food production and labeling within the country. In particular, one article was found on the consumers' confidence on national organic labeling between the United States, Denmark, Sweden, and the United Kingdom. The study demonstrated that, with greater state involvement and participation in the labeling, there will be more confidence and knowledge from consumers on products they are purchasing. Among the four countries evaluated, it found that that state government played the largest role in organic product regulation, and that, among the countries studied, Denmark's government was most involved due to a monopoly on certification and labels. The research was conducted through a series of surveys in each country based on demographics such as age, geography, etc. The surveys asked questions about the consumers' food choices, as well as their trust and support of the government. As one of the first studies of its kind, the authors found that the more trusted and involved the government was in the organic labeling process, the more consumers had faith in the goods they were buying.

Denmark and the United States fell on the opposite side of the spectrum of the study. Denmark was considered to be highly trusted based on the fact that they controlled most all of the flow of organic goods in and out of the country. Whereas, in the United States, there is a moderate amount of trust for the government and a moderate amount of involvement of the state in labels, so there is less trust and knowledge of the organic labels used. Due to the lack of structure in the organic certification process in the US, it might take many years before states each have their own organic labels. The authors concluded that in order for states to become more ecofriendly and knowledgeable on environmental issues, it will take great amount of involvement from the state. Similar to the issue of organic labeling, the greater the state was involvement and trust the consumers had in the government, the more confident the consumers felt about environmental issues and the foods they were receiving<sup>4</sup>.

Despite some research existing about individuals' opinions towards organic food labeling and the history of organic food labeling, there is little information and research available on the actual food labels in a central way. As a foreign exchange student coming to a new country or to any other outsider, this can be very confusing, leading a misconception about the products one is

purchasing or receiving. The research conducted through this project can lead to a greater understanding of what food labels mean in both the United States and Denmark, and possibly think of a solution on how labels can be more centralized, considering the global economy food economy that surrounds the world today. Centralizing and understanding food labeling is important because when simplified, such as in Nordic countries, it may lead to easier ways to make healthier food selections<sup>5</sup>. The hypothesis is that labeling and regulation will be similar in the United States and Denmark because the food economy is built on a global scale.

### **Materials and Methods**

An online search was conducted regarding organic certification labels found in the United States and Denmark. Keywords used to find these different types of labels were “organic labeling in United States/Denmark,” “sustainable labeling United States/Denmark.” Another search was conducted to investigate the labeling process requirements needed to adhere to different levels of “sustainable,” “wholesome,” and “organic” certification. Governmental and public service websites were consulted when conducting such research (i.e. Danish Ministry of Food and Agriculture, USDA website). A log was kept for notes of the findings and potential labels that could be seen in the stores in both the United States and Denmark.

Next, an in-store analysis was completed. For in-store analysis, an updated American food pyramid was used to select one food item from each group and then labels were explored in three grocery stores in both the United States and Denmark. The food groups included were fruit, vegetables, grain, dairy, meat, and sugars. The grocery stores chosen were categorized into discount, intermediate, and gourmet grocery stores. The stores where label pictures were gathered in Florida, United States were Walmart, Publix, and The Freshmarket. The grocery stores that were studied in Copenhagen, Denmark were Netto, Fotex, and Irma. The categorization for each one of these stores was based on their websites. For example, it is indicated on both the Walmart and Netto websites that it is possible to get more for a discount, whereas on the Freshmarket website, it states they are a gourmet grocery store chain. The foods chosen from the grocery stores to gather information on labels were iceberg lettuce, apples, cow milk, cookies, salmon, and chicken meat. Pictures were taken of one conventional and one organic food item from each category. The reason these foods were chosen was because they are

a common part of an average diet and food budget, they grow all over the world, and they are less costly than many other foods from the same categories.

After the online information was gathered and the grocery store surveys completed, pictures of the labels were collected and organized in order to best demonstrate representative labeling on each of the chosen food products. Tables were created to differentiate the American and Danish labels that were found to highlight major differences. The categories with the different labels were described to try to detect differences in organic certification and labeling in the United States vs. Denmark.

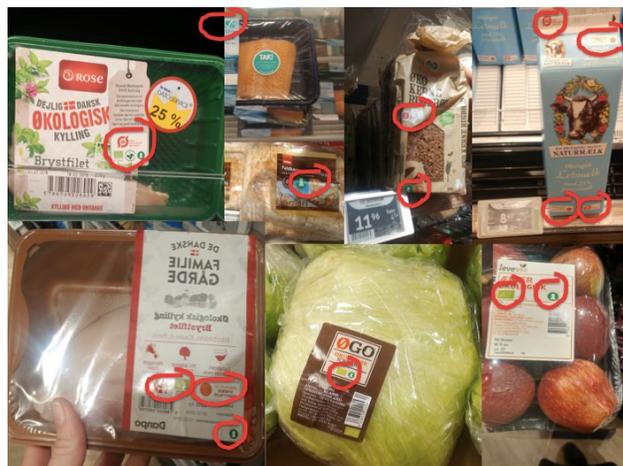


Figure 1. Danish Food Labels



Figure 2. American Food Labels

## Results

The results demonstrated that the United States has fewer types of organic certification, as well as different processes to becoming organically certified. In the United States, a farm must complete a two-year transition period where there are no additives or pesticides used on the land before it is classified as organic. Denmark has a two to three year grace period before land can be certified organic. After the farm has received organic certification, there are constant checks (daily, weekly, monthly, etc.) to make sure all products used are organic. In Denmark, not only do labels have to adhere to many of the similar EU standards of organic but also other qualifications. The Danish organic and American organic labels both imply that there was no use of chemical fertilizers, pesticides, or herbicides in the production and postproduction of the crops. Additionally, there were some discrepancies between the United States and Denmark in what were considered chemicals. For example, ethylene and chlorine are USDA-approved for postproduction of crops in the United States, whereas in Denmark they are not<sup>6</sup>. There is a list of approved synthetic substances that can be used in organic crop production in the United States listed on the E-CFR website.

Additionally, it was found that there is only one governmental standardized organic label in the United States, which is USDA Organic. The only other label that was found on many foods was a NON-GMO label, but this is not a governmentally sponsored label, but a label that companies can chose to add onto their products<sup>7</sup>. Whereas in Denmark, there are many labels which are governmentally regulated. The labels not only inform consumers of organic choices, but also healthier food options<sup>8</sup>. See Table 1 and Table 2, which demonstrate the labels, found in both the United States and Denmark and to find out what they represent.

**Table 1.** American Food Labels with Meanings

	<p>This is a voluntary label put on food products by the manufacturer to provide additional information about the product. The label tells if a food is derived from genetically modified plants. It is typically put on food products to provide more information about the product or for marketing purposes.</p>
	<p>This is a label that helps differentiate organic produces approved by the USDA. The label is standardized and there are certain requirements to receive this status as a food producer such as: oversight/ approval by the USDA produced using certified substances, and production using certain methods (i.e. no GMOs).</p>

**Table 2.** Danish Food Labels with Meanings

	This label is used to inform customers of healthier food choices. The foods have less sugars, fats, and carbs than similar choices without the label.
	Foods with whole grains get this label (i.e. cereal, bread, pasta). Whole grain is important because it has more protein and fiber and is spars in Danish Diets.
	This is a label created by an animal welfare organization to indicate if meat or eggs were produced in a "fair" environment.
	Used for sustainable and fairly caught fish and seafood that did not harm the waterways.
	Within the European Union all organic foods must be labeled with the common EU label. It is a law among the agriculture business.
	The Danish organic label seems to be the most trusted by citizens of Denmark and are taught about this label from a young age. There is a limit to the amount of artificial pesticides and additives that can be used to receive this label. Products are checked for this standard a regular basis.
	This animal welfare label indicates how good of a life the chickens and pigs had that were eaten. The greater the number of hearts on the package indicates a better life for the animal. Basically, it insures that animals had a better than average life.

### Conclusion

My study did not confirm my hypothesis that food labeling would be standardized throughout Denmark and the United States. As countries, Denmark and the United States are much different in size, with Denmark about the size of Florida. It is possible that the smaller size of Denmark allows for better government education of consumers on the meaning of food labels. Despite our global food economy, the labels created by the governments are very different. Labeling is handled by both countries in a way that would allow for selection of organic products, but the logos are not the same.

Despite both countries having the same definition for “organic”, the production and consumption levels do not compare. Denmark is a global leader in both categories, in total percent of goods sold and consumed which are organic. According to the Danish Ministry of Environment and Food of Denmark, 8 percent of foods consumed and sold are organic, whereas 7 percent of total farmland used is organic<sup>9</sup>. In comparison, in the United States, less than 1% of cropland is used for organic production<sup>10</sup>. It seems rather difficult to compare these two countries knowing the size difference, but there is still much work to be done in both to advocate for

organic. Education needs to increase in the United States on the value of organic products, what organic means, and why the produce is different and what it means to support the organic produce market. Furthermore, it is not clear yet as to what the health benefits of organic are, so more research needs to be done in this field as well to make organic produce more appealing to the average consumer<sup>11</sup>. The study demonstrated that both countries have organic food labeling.

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