

HOW DO DIFFERENT COUNTRIES USE MULTIPLE LABELING STANDARDS: CASE
STUDIES COMPARING WISCONSIN REAL CHEESE TO PARMIGIANO-REGGIANO
AND INDIAN RIVER CITRUS TO CITRINOS DO ALGARVE

By

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To both my moms

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Abstract of Thesis Presented to the Graduate School
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Protected Geographic Indicators (PGI) and Product Differentiation of Origination (PDO) are products that are linked to certain regions or countries that define them based on where they are produced, prepared and/or packaged before they are sold. However, the interpretation of what PGI/PDOs are is not synonymous around the world, leading to disputes over trade barriers between nations.

The main difference in treatment of the labeling by the United States and the European Union is that the U.S. uses trademarks as a means of protecting property rights, where the EU uses PGI/PDOs to protect quality, and indirectly to support rural development and farmer incomes. PGI/PDO labeling in the EU informs consumers on product origin, which in turn describes their quality and production features. The U.S. trademark lacks the same regulations as a PGI/PDO in terms of production, processing and preparation of a product in a geographic area, not even considering the characteristics that are included in the product from that region. If the EU is able to accomplish its goal to use only PGI/PDOs, many existing product names that were protected by the trademark system could lose rights to names already used.

The goal of this thesis is to identify the quality and safety control issues that go into the production of PGI/PDOs as well as trade regulations that are currently being discussed at the World Trade Organization's Doha multilateral trade agreements meetings. A comparison of how countries mark PGI/PDO products is made by comparing two case studies, cheese and citrus.

CHAPTER 1 TRIPS AND LABELING REGULATIONS

TRIPs History and Goals

Trade-related aspects of intellectual property rights (TRIPs 2008), is the driving factor determining trade regulations regarding labeling for the U.S. and EU. TRIPs negotiation began in the 1986-1994 Uruguay Round negotiations where a broad agreement was reached regarding trade and property rights. The goal of TRIPs regulation is to “avoid misleading the public and [to] prevent unfair competition” by maintaining a “standard level of protection” that covers all traded products (TRIPs 2008). The three main components of the Agreement are to create minimum standards of protection, enforce intellectual property rights and settle disputes regarding trade and property rights among WTO members.

Three Articles in the TRIPs Agreement pertain to Geographical Indications and its protection of which Article 22 defines GI or Geographical Indications by the following:

Geographical indications are, for the purposes of the Agreement, indications which identify a good as originating in the territory or a Member, or a region or locality in that territory, where a give quality, reputation, or other characteristic of the good is essentially attributable to its geographical origin. (TRIPs 2008)

Article 23 discusses how wines and spirits are labeled and traded among countries.

Each member shall provide the legal means for interested parties to prevent use of a geographical indication identifying wines [sprints] for wines [spirits] not originating in the place indicated by the geographical indication in questions, even where the true origin of the goods is indicated or the geographical indication is used in translation or accompanied by expressions such as ‘kind’, ‘type’, ‘style’, ‘imitation’ or the like. (TRIPs 2008)

Article 24, which has exceptions to Article 22, states that, “a Member shall not diminish the protection of geographical indications that existed in that Member immediately prior

to the date of entry into force of the WTO Agreement” (TRIPs 2008). The goals of these articles are to prevent misleading use of labeling that might prevent the consumer from determining product origin as well as to reduce competition regarding a misinterpretation as such (Babcock and Clemens 2004). As of November 2001 in the Doha round of trade agreements, TRIPs is undergoing many revisions, one of those including a higher level of geographic indication and protection.

TRIPs in Use

To create labels under the TRIPs agreement, countries are required to have domestic laws and a method of enforcing those laws. There is no standard plan identified in TRIPs for countries to follow, instead, each nation can create their own process to label as long as the regulations promulgated by TRIPs are followed. As a result, most countries have their own labeling procedures. The U.S. uses certification marks and trademarks to satisfy TRIPs, while the EU uses distinct PDO/PGI labels. Certification mark and trademark laws provide a legal means of protecting the name of a product, such as 100% Pure Kona Coffee from Hawaii or Vidalia Onions from Georgia, applying to any product, including but not limited to those produced in certain regions (Babcock and Clemens 2004). The EU, on the other hand, carries out its PDO/PGI laws to provide rural farmers an opportunity to sell their commodity in the market, thus increasing their income, an example being Mirabelle de Lorraine, plums from the region of Lorraine, France.

The result of having two different approaches has created a trade dispute over the labeling of these products. In this dispute, the U.S. holds the position that their existing system of certification mark/trademark laws protects these products. On the other side, the EU, whose regulations are stricter as they take into account quality and

safety controls, feels this is not adequate (Marette, Clemens and Babcock January 2007). As a concession to the current dispute, the EU has requested for TRIPs to protect 41 products (Table 1-1) that have product names associated with a generic name in the U.S.

United States Certification Marks and Trademarks

The U.S. holds the position that its certification mark and trademark laws are sufficient enough to allow trade including the EU's PDO/PGI products. A certification mark is defined as:

any word, name, symbol, device, or any combination, used or intended for use in commerce with the owner's permission by someone other than its owner, to certify regional or other geographic origin, material, mode of manufacture, quality, accuracy, or other characteristics of someone's goods or services, or that the work or labor on the goods or services was performed by members of a union or other organization. (USPTO 2003)

Therefore, certification mark laws in the U.S. protect the product based on its origin or region of production. There are cases in which a single certification mark encompasses various agricultural products that are promoted by a state department within the U.S. (Babcock and Clemens 2004). An example of this is Go Texan, a certification mark owned by the Texas Department of Agriculture, encompassing products that are produced with plants and animals from the state of Texas or products that are processed within the state.

In addition to certification marks, there are trademarks. The difference between the two is a fine line. A trademark is characterized as:

any word, name, symbol, device, or any combination, used or intended for use in commerce to identify and distinguish the goods of one manufacturer or seller from goods manufacturer sold by others, and to indicate the source of goods. In short, a trademark is a brand name. (USPTO 2003)

Trademarks are not as common with the agricultural industry as certification marks are, but there are other cases with food products labeled as a trademark. A familiar trademark is the Cuties California Clementine, or commonly known as California Cuties. This is a brand name for Clementine oranges from farms in California owned by Sun Pacific producers. There is no exceptional value claimed by these oranges, just the marketing power of a catchy brand name that can draw consumers to their product (Sun Pacific 2006).

Certification marks and trademarks are owned individually or by a company. The Wisconsin Milk Marketing Board and the Indian River Citrus League own certification marks for Wisconsin Real Cheese and Indian River Fruit, respectively. The owner of the mark can disallow a producer to join up to a certain degree, based on the Board's or the League's rules of production practices (USPTO 2003). Producers must receive the approval of the trademark/certification mark owners before using the label designated on their product (Babcock and Clemens 2004). In the case of Wisconsin Cheddar, the Wisconsin Milk Marketing Board is the certification mark owner, and will only allow the mark to be used on cheese that is produced in the state of Wisconsin.

The process of obtaining a trademark/certification mark involves applying for a label from the United States Patent and Trademark Office. When the label is approved, only the product that is obtained from a specific region can use that sign or label. As stated before, only if a producer is not in compliance with owners' rules and regulations are they turned down, otherwise, they are allowed to use the certification mark. In the case of Go Texan, if a producer is in conformity with the Texas Department of Agriculture's policies regarding products produced or prepared in Texas, then they

cannot be refused a right to use the label. In essence, it follows the example of a PDO/PGI, but the U.S. has created its own system to reduce costs and manpower because it is regulated by the owner. Thus, the certification mark (e.g. Go Texan) now describes the region of origin as well as the region of production and/or manufacturing. The certification mark/trademark system does conform to the TRIPs, a ruling by the WTO requiring “same or better treatment of foreign nationals regarding intellectual property rights as provided to domestic nationals” (USPTO 2003).

European Union PDO/PGI Labeling System

In 1992, the EU created a PDO/PGI labeling program with the goal of preventing agricultural products from being imitated under the Regulation No. 2081/92 of the council of the European Commission (EC 2009). The regulation created two types of Geographic Indications: Protection of Designations of Origin (PDO) and Protection of Geographical Indications (PGI). If certain production practices are taken into account and if the product is at least produced, processed and/or prepared in that region, it is known as a PDO. The product never leaves the area for any aspect of production or processing. PGI adds to the PDO labeling, including the same provision, but also indicating that there are other factors that make the product unique to that geographic region, contributing to the quality and status of that product (Babcock and Clemens 2004). Characteristics or “reputation” that is derived from that particular region can include factors such as climate, land, air, raw materials, etc. (Sanchez 2008).

The PDO/PGI represents the reputation of a product which in turn determines the quality of a product (Loureiro and McCluskey 2000). For instance, a traceable name determines that a product is high quality because of the high standards that are used to create the product. If the reputation is bad, then the product is not worth buying.

Therefore, those producers with good reputations should create a PDO/PGI label to represent their quality and demand a premium on it. If the reputation of a product is bad, then there is no worth in creating a PDO/PGI label, due to the fact that no premium could be generated on the product to offset the cost associated in creating the label. Certification marks and trademarks do not use this theory, but instead strive to create an image that is marketable which will in turn become popular and recognizable with consumers.

PDO/PGIs are owned regionally, by a group of producers that together make decisions regarding their products including the basic regulations from the European Commission. As a result, Babcock and Clemens (2004) believe that this ensures the “economics benefits of GI protection are spread along the supply chain, including to the producers who supply the raw materials”. A consortium is most often times created in this scenario. Parmigiano-Reggiano cheese has the Consorzio del Formaggio Parmigiano-Reggiano that ensures its quality and safety control. These consortiums are the third party inspectors of the products as per Regulation 2081/92 (EC 2009). The inspection includes a verification of origin, quality, hygiene, and may even include taste checks (Babcock and Clemens 2004).

Disputes between the Two Labeling Systems

The main difference in treatment of the labeling by the two countries is that the U.S. uses certification marks and trademarks as a means of protecting property rights, where the EU uses PDO/PGIs to protect quality, and indirectly to support rural development and farmer’s incomes. The differences between the EU and U.S. labeling may be a result of society and culture. According to Hofstede (1980, 1983) the U.S. is an individualistic country while the countries of southern Europe (Italy, France, Spain

and Portugal) are independent collectivist countries. People who live in an individualistic country look out for their self-interest, in some cases, including their immediate family. This is a loosely integrated culture that is a result of Adam Smith's capitalist theory "everybody for himself" to reach the highest common good (Hofstede 1983). The theory has been imbedded in American culture since the birth of the nation leading to the individualist society. As a result, it can be theorized that the result of the certification mark labeling is a result of self-interest, in this case, the self-interest of producers to either join or not join a board depending on individual services and profitability.

On the other hand, southern European countries are a largely independent collectivist society. A collectivist society is one that is integrated fully with individuals being tied together through family and community. It is beneficial to an individual to look after the entire group as the groups best interest is the best interest for the individual. Italy, France, Spain and Portugal are found in the middle of the scale between individualistic and collectivist cultures with Spain and Portugal being more collectivist due to their Islamic influences during the eighth century. It may be due to this independent collectivist society that the PDO/PGI labeling system is so successful in the EU. Here, working in together is lucrative, and this is accomplished successfully due to the loyalty that is ingrained in the European worker or company (Consortium). Loyalty is a major characteristic that is required to be profitable in the EU, largely as a result of the theory that being loyal requires loyalty in return. This encourages, in the case of Parmigiano-Reggiano, for the dairies to continue over generations to work with a single supplier, in addition, to allow the regulatory Consortium to make decisions regarding the

product. This supply chain, in theory, allows for a guarantee of income all along the chain, thus ensuring profitability and long existence of a company (Consortium). These society and cultural differences between the EU and U.S. theorized by Hofstede (1983) may be a part of the cause of the two very distinctive labeling systems and the reason that the two powerhouses have not yet been able to reach an agreement on single labeling system. Thus, when the EU exports to the U.S., they often must create a trademark due to the fact that the certification marks (marks depicting origin of production) have been used. The trademark is only a symbol, an icon, a brand. The product from the EU then becomes “generic” losing its PDO/PGI status (O'Connor and Company 2007)

It is becoming apparent that consumers within the EU are asking for more information regarding origin of products. Thus, the system of the PDO/PGI labeling works in the EU whereas a smaller amount of consumers in the U.S. ask for the specifics of a products origin (Marette, Clemens and Babcock January 2007). A recent study suggested that European consumers tend to prefer products that are from a recognizable region (Scarpa, Philippidis and Spalatro 2005). A similar study conducted by Roosen et al. in the EU (2003) confirmed the fact that consumers place more importance on origin than brand names or private labels.

In 1999, the U.S. filed a complaint in the WTO against the EU regulations regarding the conflict between trademarks and PDO/PGIs (Marette, Clemens and Babcock January 2007). PDO/PGI labeling in the EU informs consumers on product origin, which in turn describes their quality and production features. The U.S. trademark lacks the same regulations as a PDO/PGI in terms of production, processing and

preparation of a product in a geographic area, not even considering the characteristics that are included in the product from that region. If the EU is able to accomplish its goal to use only PDO/PGIs, many existing product names that were protected by the trademark system could lose rights to names already used (champagne, feta). This is particularly true in the cheese and wine sector (Marette, Clemens and Babcock January 2007).

A negotiation on the subject of PDO/PGIs is ongoing and the EU has presented three proposals within the Doha negotiations. The three proposals are to “establish a register of GIs protected across international boundaries”, “extend the higher level of protection already provided for wines and spirits to include other products”, and finally “to allow WTO member countries to retrieve or ‘claw back’ GIs currently being produced as unprotected products in other countries” (Babcock and Clemens 2004). A single U.S. certification mark or trademark can encompass multiple agricultural products; therefore, if the U.S. were to switch to a GI system, then the producers would have to adapt to a new marketing chain that allows more differentiation among products.

Trade negotiations will continue within TRIPs as more countries become involved in requesting their own systems and methods be approved forms of labeling. Countries, such as those within the EU, may have to begin accepting trademarks from other countries. Countries, such as the U.S., may have to accept PDO/PGIs that infringe on current trademarks within their country. Therefore, this thesis looks to further delve into these differences and relationships between the two forms of labeling. To do so, two different case studies were chosen: Cheese and Citrus.

Cheese is a product that is consumed all over the world, especially being favored in the U.S. and the EU. Parmigiano-Reggiano is a famous PDO product in the EU with tradition and strict regulations leading the way to become an exclusive label for the cheese produced in the EU. It is only fitting to do a case study on it as it is an ideal example of PDO labeling. To compare to the Parmigiano-Reggiano PDO, Wisconsin Real Cheese was chosen as it produces many types of cheeses and is widely found within the U.S. In addition, Wisconsin Real Cheese has passed many monuments regarding cheese making within the U.S. making it a good converse to Parmigiano-Reggiano.

Citrus is especially favored in Florida, where this paper originates from. Citrus fruit is most commonly defined based on the location it is produced in, thus Indian River Fruit being a well known name of citrus fruits in the U.S., mostly along the east coast of Florida. The certification mark of the Indian River Citrus succeeds due to the fact of its flavors created by the characteristics of the Indian River region which runs along the east coast of Florida. In addition, growers in the region have come together to form the Indian River Citrus League to market their citrus under one label to create a market for their oranges. Citrinos do Algarve is a PGI product from the southernmost coastal region of Portugal. Though they are not a great market power within the EU, the Citrinos do Algarve is a great example of a new PGI, just beginning to create a department with new rules and regulations. They have much to work on, such as coming together to share ideas regarding the increase of production output or increase in market demand of their citrus. These two cases show success in both the PDO/PGI

labeling and the certification mark labeling systems, thus making them ideal for comparison.

Table 1-1. 41 EU Products

The 41 EU products and origins proposed as Geographical Indications to be protected under the TRIPs Agreement of the World Trade Organization	
Wines and Spirits	Other Products
Beaujolais—Wine, France	Comté—Cheese, France
Bordeaux —Wine, France	Feta—Cheese, Greece
Bourgogne—Wine, France	Fontina—Cheese, Italy
Chablis—Wine, France	Gorgonzola—Cheese, Italy
Champagne —Wine, France	Grana Padano—Cheese, Italy
Chianti—Wine, Italy	Jijona y Turrón de Alicante—Nougat, Spain
Cognac—Wine, France	Manchego—Cheese, Spain
Grappa di Barolo, del Piemonte, di Lombardia, del	Mortadella Bologna—Meat sausage, Italy
Trentino, del Friuli, del Veneto, dell'Alto Adige	Mozzarella di Bufala Campana—Cheese, Italy
—Wine brandy, Italy)	Parmigiano Reggiano—Cheese, Italy
Graves—Wine, Italy	Pecorino Romano—Cheese, Italy
Liebfrau(en)milch—Wine, Germany	Prosciutto di Parma—Dry-cured ham, Italy
Malaga—Wine, Spain	Prosciutto di San Daniele—Dry-cured ham, Italy
Marsala—Wine, Italy	Prosciutto Toscano—Dry-cured ham, Italy
Madeira—Wine, Portugal	Queijo São Jorge—Cheese, Portugal
Médoc—Wine, France	Reblochon—Cheese, France
Moselle—Wine, Germany	Roquefort—Cheese, France
Ouzo—Wine, Greece	
Porto—Wine, Portugal	
Rhin—Wine, Germany	
Rioja—Wine, Spain	
Saint-Emilion—Wine, France	
Sauternes—Wine, France	
Jerez, Xerez—Wine, Spain	

Source: European Commission 1994.

Table 1-2. Comparison of the U.S. and EU Labeling

	Certification Mark	Trademark	PDO	PGI
Definition	To certify regional or other geographic origin, quality, or other characteristics of someone's goods or services	To identify and distinguish the goods of one manufacturer or seller from goods manufacturer sold by others	Products that are produced, processed and prepared in a certain region	Products that are produced, processed, and prepared in a certain region including characteristics that are derived from that particular region such as climate, land, air, raw materials, etc.
Example	Go Texans (Texas)	Cuties California Clementine	Bordeaux wine (France)	Kentish Ale (United Kingdom)

CHAPTER 2 CASE STUDY 1: CHEESE

A Brief Overview of Cheese

Cheese dates back more than 4,000 years; however, the exact time and original methods of production are not known. Many legends follow the first creation of cheese, but the consensus is that cheese making was brought to Europe by Asian travelers; in fact, cheese was recorded to have been made during the Roman Empire. After the fall of the Roman Empire, cheese lost its popularity, instead becoming an art created by the monks in monasteries across Europe. It was not until the 800s AD that cheese was re-introduced to history with Gorgonzola from the Po plain in Italy, and Roquefort from the Conques monastery in France. During the 1600s, when pilgrims crossed the Atlantic Ocean to the New World, cheese and the cheese making process was introduced to the U.S., created locally in the beginning with the first production plant not being created until 1851. Today, “cheese is one of the most widely consumed foods and a large category of products in the PDO/PGI data base” (Sanchez 2008).

The U.S. is the world’s largest supplier of cheese, contributing 30% to the world market with year round production, and over 600 varieties of cheeses (USDEC 2008). The U.S. consumer accounts for an average of 31.5 pounds of cheese consumed per year, of which 13 pounds are American cheeses (Cheddar, Colby, Monterey Jack and stirred curd) and 13.7 pounds are Italian cheeses (Mozzarella, Parmesan, Provolone, Ricotta, Romano and others) (USDA-ERS 2008). Wisconsin Real Cheese makes more the 600 types and varieties of cheese, being one of the largest cheese producers in the U.S. accounting for approximately 25.3% of the U.S. market in 2007 (Wisconsin Milk Marketing Board 2009). Mozzarella is Wisconsin Real Cheese’s number one cheese

produced, followed by Cheddar, and Parmesan being grouped into the Other Italian group accounting for 13.7% of their total production (Figure 2-1).

Italy produces Parmigiano-Reggiano, more specifically in the provinces of Parma, Reggio Emilia, Modena, as well as parts of Mantua and Bologna. It is one of the highest turnovers of a PDO/PGI product in the EU with approximately 1.4 billion Euros in 2002 (Folkeson 2005). Parmigiano-Reggiano is classified as a PDO due to the “soil characteristics of the area, . . . , and the climatic conditions that affect the natural flora and the particular fermentation characteristics of the product” (Babcock and Clemens 2004). Since there are multiple forms of a similar type of cheese created in the area, the reputation of geographical region (the Po plains) does not contribute to its success resulting in a PDO instead of a PGI.

Wisconsin Real Cheese

Wisconsin produces, what is titled as, “Wisconsin Real Cheese”, most commonly known for its cheddar cheese. The Wisconsin Milk Marketing Board owns the certification mark which allows only cheese produced, prepared and packaged within the state of Wisconsin to carry the Wisconsin Real Cheese logo and name. The land in the state of Wisconsin is ideal for many agricultural crops, but it is the dairy industry that has flourished in the region. In 1872, to prevent deterioration of the quality of the cheese, the Dairymen’s Association created the market for “Wisconsin Cheese.” In 1921, Wisconsin became the first state in the U.S. to give a grade to its cheese for quality (Wisconsin Milk Marketing Board 2009). Today there are approximately 15,000 dairy farms in Wisconsin, from which 90% of this milk that is produced into cheese at 115 plants.

Wisconsin Real Cheese, as stated before, is a certification mark (Figure 2-2). As a result, any cheese can have this label as long as it is produced, prepared and packaged within the state of Wisconsin. This certification mark includes more than 50 different types of cheeses that are made in the state. Wisconsin Cheddar has the distinction of being the first graded cheese in the U.S. and now has a grade of USDA Grade AA. USDA Grade AA cheese has the highest quality, with a uniformity of flavor, texture and color among different packages. Grade A has a slight variation of flavor and texture between packages. USDA "Quality Approved" cheeses are cheeses that do not have a grade but are nonetheless inspected by the USDA. This includes an inspection of the plant and equipment following USDA sanitary regulations (USDA-AMS 1971).

To produce Wisconsin Real Cheese, there are no regulations related to the feed for the dairy cattle. The only regulations are state ordinances for healthy and adulteration free milk as well as regulations required by the USDA to make the processing facility sanitary. However, Wisconsin Real Cheese does require licensed cheese makers to oversee the production of the cheese using the certification mark. Usually there are higher authorities on cheese, such as the Master cheese maker, who specializes in a single type of cheese produced in Wisconsin. A Master cheese maker is a Wisconsin licensed cheese maker with ten years of prior experience, as well as five years in a specialized type of cheese. Courses must be completed in a three year training program regarding cheese technology, artisanship, grading and quality assurance. In addition, four of the following five electives must be completed as well: (1) dairy chemistry, (2) business and marketing, (3) process cheese and whey utilization, (4) water and waste management and (5) milk pasteurization and process

control. An apprenticeship is completed with cheese samples submitted regularly to ensure quality and consistency of their cheeses (Wisconsin Milk Marketing Board 2009). Master cheese makers ensure the consistency of the cheese resulting in a higher quality, separating Wisconsin Real Cheese from other cheeses in the U.S.

The process to make Wisconsin Real Cheese begins with milk from cows that are raised in the state of Wisconsin. The milk is pasteurized to create the uniformity of a Grade AA cheese. Calf rennet, the same enzyme added to Parmigiano-Reggiano, is added to the milk to create the cheese curds. The curds are then separated from the liquid and cooked at slower temperatures to produce “softer cheeses”, while the liquids cooked at higher temperatures create “harder cheeses.” Depending upon the type of cheese being made, the curds are handled differently, sometimes including the addition of salt. The cheese is then pressed by a weight for three to 12 hours and cured in a temperature controlled room. This process varies based on the type of cheese that is made (Wisconsin Milk Marketing Board 2009).

As demand for cheese increases world wide, Wisconsin Real Cheese is more than ready to meet the demand. Production practices have been created with the forecast of growth in mind, thus resulting in products that are made of quality produced efficiently. The real test will come if the WTO decides to support the EU’s list of 41, of which 12 are cheeses. If the regulation is passed, then Wisconsin Real Cheese may have to market many of its “generic” titled cheeses (gorgonzola, feta, fontina, and parmesan) under different names, thus, leading to a re-learning of Wisconsin Real Cheese varieties (Wisconsin Food Products and Services Resources 2008).

Parmigiano-Reggiano

Parmigiano-Reggiano is a typical example of the EU's use of PDO/PGIs to increase rural development. The success of Parmigiano-Reggiano is due to the fact that the manufacturers of the milk and cheese have come to an understanding regarding the specific production regulations which they are all required to follow. The beginning of Parmigiano-Reggiano is traced to 900 years ago when monks near the Po River used milk to produce cheese after a long maturation (Consorzio del Formaggio Parmigiano-Reggiano 2008). Today there are approximately 450 small dairies and 9,000 milk producers that follow the standards from previous centuries: no additives and slow maturation. It is said that the cheese derives its distinct flavor from the soil that surrounds the Po plain.

The premier organization for the regulations regarding Parmigiano-Reggiano production is the Consorzio del Formaggio Parmigiano-Reggiano. Created in 1901, they have been working to ensure the quality of the milk and cheese does not dip below standards. The responsibilities of the consortium are “the defense and protection of the Designation of Origin, the facilitation of trade and consumption by promoting every initiative aimed at safeguarding the typicality and unique features of the product” (Consorzio del Formaggio Parmigiano-Reggiano 2008). The unique feature referred to is the pin dot writing introduced in 1964 that identifies a cheese wheel of being a Parmigiano-Reggiano PDO.

Strict standards are maintained for production of Parmigiano-Reggiano, including special feeding regulations for cattle and rules for marking the cheese. There are 11 regulations that must be followed for dairy cows, with all except one regarding the feed

for the cows (Appendix A). For the production of the cheese, there are production standards, marking standards, and standards for grated Parmigiano-Reggiano cheeses.

Milk from the dairy cows must be delivered within two hours of milking. Milk from the evening is left to settle overnight, resulting in the separation of milk from the fat. The fat is turned into butter and the skim milk is added to the full fat cheese from the morning milking. To this mixture, calf rennet and fermented whey is added and cooked over a fire. After cooking, the cheese is ready to be cut and placed in the distinctive wheels that are seen in the maturation rooms. The wheel is labeled with a progressive number, the production month and year, as well as the pin dot inscriptions that surround the circumference of the wheel. A few days later, the wheel is immersed in a salt solution that starts the maturation process.

There are special rooms for the maturation of the cheese; the temperature of the room must not be less than 16°C. The wheels are set in rows on wood tables where the outside of the cheese will naturally harden. After the 12 month minimum of maturation, a quality check is conducted on every single wheel to determine if the cheese is PDO label material or not.

The inspection by a member of the Consortium includes a check for the labeling. If the wheel is not labeled correctly, the pin-dot writing having “oblique” lines, then it cannot be classified as a PDO since it does not have the correct characteristics to follow the PDO regulation. There are eight areas of inspection that is covered when determining the quality of a single wheel of cheese: (1) age which is the year of production that must be labeled on the wheel; (2) degree of ageing by the aroma and consistency of the cheese; (3) organoleptic characteristics that create the distinct aroma

and flavor of the Parmigiano-Reggiano cheese; (4) internal structure of the center of the cheese, if the cheese is cut, then it splits open as is characteristic; (5) the color of the cheese is a “straw hue” which is pale to deep yellow; (6) the consistency which depends on the time of maturation; (7) the crust is the “old gold shade” and is approximately 6mm thick; and (8) the weight of an average of 33 to 40 kgs. As a result, there are grades of Parmigiano-Reggiano. First grade is basically a perfect wheel that passes all eight inspection points. The second grade wheel has some holes, slits and splits horizontally, but does not have any aroma or flavor defects. Third grade wheels are downgraded, having many defects, or are rejected since there are too many defects leading to inferior quality. It is only after all of these inspection points are passed that the cheese can be labeled as Parmigiano-Reggiano.

Additionally, there are 16 regulations regarding the use of the Parmigiano-Reggiano mark on the cheese (Appendix B). The mark is fire-branded onto the wheel with a label that fits the requirements of a PDO label. All extra marks are removed, such as the pin wheel dots. The Parmigiano-Reggiano that is matured for a 12 months and has a few defects, second category, is known as mezzano where parallel lines are carved into the wheels so that consumers are able to distinguish its age (Figure 2-3). After 18 months, a label with “Extra” or “Export” is added along with a seal that determines its maturity (Figure 2-4). There are three levels of maturity with the “Extra” or “Export” labeling. These labels are a wax stamp distinguished by color (Figure 2-5). The red stamp has an 18 month or more maturation with a milky flavor and an aroma of herbs, flowers, and fruits. Ideally, this cheese is served as a snack. The silver stamp, or a maturity of 22 or more months, has a fresh fruit with citrus and nuts flavor that is

most often served in salads. The last stamp is the gold stamp imprinted on the cheese wheels that has been matured over 30 months. This cheese has very strong flavors and aromas and is said to have a higher nutritional element.

Since the production of the cheese is highly labor intensive, there are higher levels of employment in the region thus indicating that the PDO does in fact protect small farmers and increases rural development (Roest and Menghi 2000). Dairy farmers are considered the most important part of the supply chain due the dairy cows eating the natural grass available in the Po plain. As a result of the intense need for milk, 80% of the milk is directed towards production of the cheese and a majority of the land is dedicated to dairy cattle. The raw milk is delivered twice a day to dairies located throughout the region; therefore, there is no break in production.

According to Folkesson (2005), as a result of Parmigiano-Reggiano becoming more commercialized, the ageing companies, or the companies that mature the cheese, are becoming similar to a monopoly in the industry. This comes about as dairies heavily rely upon the ageing companies to buy their cheese for maturity; however, the ageing companies are in a spot that allows them to buy cheese at their own time and from different dairies. This goes against the PDO/PGI's goals to keep the supply chain equally balanced.

Roest and Menghi (2000) argue against this monopolistic power, and assert that in fact the PDO/PGI goals are being carried out. Since 85% of the dairies are small co-operatives, there is a long-term trust between the dairies and ageing companies that leads to loyalty and competitive prices. In addition, this loyalty is a security for dairy

farmers and ageing companies by creating “a high level of reliability in commercial relationships and payment conditions are respected” (Roest and Menghi 2000).

As a result of increased demand worldwide of Parmigiano-Reggiano cheese, the regulations of dairy cows may change. Milk yields will have to increase which can only be done by increasing the amount of dairy cows in the region. To do so, feed regulations will have to change to accommodate the ratio of the amount of forage per cow. It will in turn increase the amount of forage bought, leading to an increase in costs, which is an outcome that will have to be taken into consideration by the Consortium.

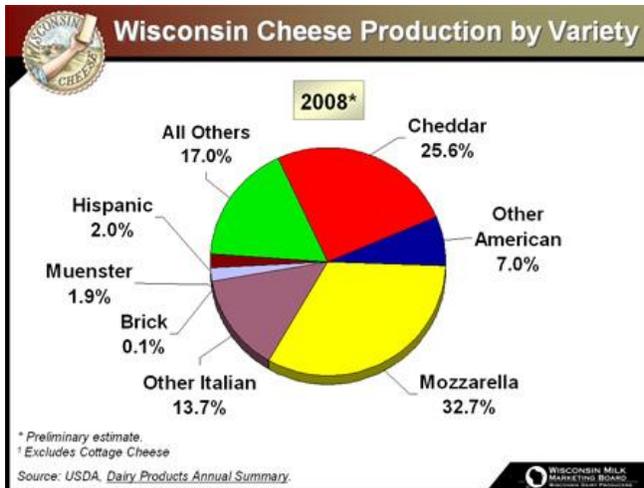


Figure 2-1. Wisconsin Cheese Production Varieties in 2008 (Source: USDA)



Figure 2-2. Wisconsin Real Cheese Certification Mark (Source: Wisconsin Milk Marketing Board)



Figure 2-3. Parmigiano-Reggiano label of cheese with a few defects (Source: Consorzio del Formaggio Parmigiano-Reggiano)



Figure 2-4. Parmigiano-Reggiano label after 18 months of maturity (Source: Consorzio del Formaggio Parmigiano-Reggiano)



Figure 2-5. Parmigiano-Reggiano wax seal included after 18 months, 22 months, and 30 months of maturity (Source: Consorzio del Formaggio Parmigiano-Reggiano)

CHAPTER 3 CASE STUDY 2: CITRUS

A Brief Overview of Citrus

In India, prior to 800 B.C., the Yahir Vedas described the citron and lemon. In China, mandarins were in reference to Emperor Yu, the god of irrigation, a god who lived before 700 B.C. Citrus has a long history in the orient, thriving in its tropical climates and providing a luxurious fruit to only those who were worthy. Confucius was the first person to verify two types of citrus; it took Han Yen-Chih to describe 27 varieties and mandarins in his monograph of Chü-Lu in 1179 A.D. Jews began to use oranges in the Tabernacle event, thus leading to the spread of the citrus to the west. This was the first successful transplant of a fruit, from east to west. At this time, the west only had access to citrons or sour oranges. After the Crusades, and the Turks blockade on the Mediterranean, the Portuguese began to transplant sweet citrus from India to Portugal via the African continent. By the 1600s, citrus was a well established fruit in Europe, one hundred years after the integration of citrus to the U.S. (Scora 1975).

Today, the U.S. provides approximately 30% of the world citrus, following Brazil who produces more than 50% of the worlds citrus (FAO 2006). The U.S. citrus industry is split between juice production (accounting for approximately 22% of production) and fruit sent to the fresh market. Florida, the number one citrus producing state in the U.S., approximately 87% of the citrus is processed into orange or grapefruit juice (FDOC 2008). The production of citrus and citrus juices from Florida results in a \$9.3 billion industry, followed by other citrus producing states of California, Arizona and Texas (FDOC 2008).

The U.S. exports approximately 342 thousand metric tons of oranges, with a corresponding value of \$271,151,000. The EU, on the other hand, exports approximately 305 thousand metric tons. It is somewhat similar to the U.S., however, most of the EU's citrus is traded within its countries (USDA-FAS 2009). Within the EU, Portugal does not rank as a major citrus producer as its crops are currently sold primarily in local markets.

Europe is a leader in labeling regional distinctive products with a PGI label. An example of this is the Citrinos do Algarve or citrus from the Algarve region of Portugal. It is said that the coastal region, soil and sun accounts for the unique qualities of the Citrinos do Algarve. The citrus produced here only accounts for two percent of the total Portuguese PDO/PGI fruits (Folkesson 2005). Out of this two percent of citrus, 93% of it is sold fresh to local markets and the other seven percent processed into juice. Citrinos do Algarve is a good case that demonstrates the new beginnings of a PGI label.

Indian River Citrus

Citrus in Florida dates back to the mid-1500s when the first citrus trees were brought from the Old World and planted in St. Augustine, along the east coast of Florida. This sandy terrain and sub-tropical climate provided the citrus perfect conditions to thrive during their harvest season, beginning in October and continuing thru June (FDOC 2008). There are five production areas within Florida: Northern, Central, Western, Southern, and most notably, the Indian River District, which runs along the eastern coast of Florida. Indian River Fruit is known mainly for its grapefruit; however, a substantial amount of land is used for the growing of oranges. The Indian River District is the region famous for the "Indian River Citrus" sticker (Figure 3-1) on its oranges and grapefruits. The certification mark is owned by Indian River Citrus League,

but the League does not regulate the production of citrus. Instead, they have registered their certification mark with the Florida Department of Agriculture who in turn regulates the citrus including growing and shipping practices. Producers that violate the shipping and growing regulations are fined and their license to use the certification mark may be taken away (Bournique, personal communication, 2009).

Citrus in this region is traced back to 1807 when Captain Douglas Dummitt planted orange trees at his home, on the north end of Merritt Island. Due to the prosperity of his citrus trees, the popularity of growing citrus in the region increased and by the turn of the century the region was established as Indian River Fruit, transported by boat to northern Florida and parts of southern Georgia. During the 1920s, the Indian River title was being used by citrus producers not from the region. Citrus growers in the northern part of Florida, for instance, began using the Indian River name to market their citrus to obtain the higher prices that Indian River Fruit was receiving. As a counteract, the growers in the Indian River region joined to create an action in 1930, leading to the Federal Trade Commission to “prohibit the use of the term ‘Indian River’ on citrus not grown in the Indian River Citrus District.” As a result, the Indian River Citrus League was created the following year. Originally, the league was comprised mainly of one man, Will Fee, the activist who went to the Federal Trade Commission in 1930. There was disorder among the growers as no laws were created to standardize Indian River Citrus and the marketing, but by 1948, the League had re-organized, creating By-Laws to protect growers and their citrus. Today, the league has over 1,000 growers on 150,000 acres of land of which one third is grapefruit and the remaining two thirds are oranges (Indian River Citrus League 2008).

The Indian River region of Florida extends 200 miles north to south from Daytona Beach in the north to West Palm Beach in the south (Figure 3-2). This region is made up of six counties, of which only one is wholly immersed in this strip of land, comprising 21 packing houses and three processing plants. The production of citrus here is considered different from other regions due to its “built-in freeze protection” that spares the citrus from freeze damage unlike other regions of Florida (Indian River Citrus League 2008). There are three characteristics of the district that leads to this protection: (1) proximity to Gulf Stream resulting in the region jutting out of the Florida coast as compared to the rest of the coast, (2) cold front is buffered by rivers, swamps, and lakes from central Florida, and (3) the flat region allows for the flooding of the groves when there is a freeze reported. Flooding is a process when the grower floods the groves up until the tree trunks of the trees, resulting in an increase of temperatures of the tree by two to four degrees Fahrenheit. Flat land is required for the flooding process which is abundant in this region.

The land of the Indian River region also provides nutrients and minerals which is created and supported by the limestone soil and the salt water from the Atlantic Ocean. The soil is a mixture of sand, clay and silt which assists in the flooding process, as well as creating a natural fertilizer for the trees (Obreza and Collins 2002). Roots of the trees reach the limestone which is rich in essential nutrients and minerals, especially calcium (Indian River Citrus League 2008). The salinity in the air due to the nearness of the Atlantic Ocean also contributes to the distinctive taste of the citrus. However, a constant discussion among growers is how to regulate of the levels of salinity in the

plant as well as within the fruit, as too much salt can decrease the production yields or produce an inferior crop (Boman and Stover 2002).

Citrus is harvested when it is ripe and ripeness is generally determined by the time on the tree as well as a taste test. Color is dependent upon the temperatures of the day and night. Oranges have their namesake orange tint when the days are warm, and nights are cool, as in the tropical climate of Florida. A greenish tinge remains if the days and nights are warm (FDOC 2008). Currently there is discussion on hand-picking versus machine picked citrus, but traditionally citrus is picked by hand. A concern about the long-term impact of mechanical harvesting on the trees has kept widespread adoption of this process from being implemented rapidly. Crews work together to hand pick the citrus put into picking bags made of canvas. These bags are emptied into field containers assigned to each crew member. When this container is filled, the citrus is then transferred to a trailer and is then moved to a packing house for labeling or a processing plant to be juiced (Schueller, et al. 1999).

The Indian River Citrus label allows growers in that region to ask for a premium on their citrus. Fresh citrus is sold directly to the market, mostly along the eastern coast of the U.S. Oranges slated for juice, approximately 95% of the orange yield, are either sent to an Indian River processing plants or sold to individual companies for processing (Indian River Citrus League 2008). If an orange is sold to a company for juice, then they are unable to use the Indian River certification mark or to ask for a premium due to the fact that oranges from all over the U.S. are mixed together to create one standard product. However, the orange juice that comes directly from Indian River processing plants, does obtain a price premium as the citrus is from the famous Indian River District

plus the added cost of processing the orange and the Indian River certification mark that consumers look for.

Before the 2004 hurricanes that hit the east coast of Florida, Indian River red seedless grapefruit was receiving a price per bushel carton of \$7.20 over central Florida's SunRidge producers at \$6.55 during the 2000/2001 season. This shows that the Indian River label did allow for a price premium over other Florida labels. In fact, the 2003/2004 season had a price premium of \$8.24 to \$7.36 of Indian River red seedless grapefruit to Florida SunRidge red seedless grapefruit respectively (Citrus Administrative Committee 2009). However, due to the four major hurricanes that hit the coast consecutively before harvest, most of the grapefruit groves lost its fruit to the rain, wind and flooding. It was believed that due to the size and weight of grapefruit it was more susceptible to the hurricanes than oranges and at the end of the hurricane season, approximately 70% of Indian River's fresh citrus was lost due to these hurricanes (Albrigo et al. 2005). As a result of external factors such as the hurricanes, a decrease in publicity and a decrease in demand, Indian River red grapefruit and Florida SunRidge are currently at a level price of \$10.49 per bushel carton during the 2007/2008 season (Citrus Administrative Committee 2009). Regarding grapefruit, there may be no price premium forecasts because of the unpopularity of the fruit resulting the low consumer demand of the fruit.

Citricos do Algarve

Citrus was introduced to Portugal in the 1600s; however, it was not until the 1960s that production in the Algarve region flourished. Today approximately 70% of the Algarve land (Figure 3-3) is used to produce citrus: oranges, lemon and tangerines (DRAP-Algarve 2009). Citrus from this region does not have a significant impact on

world supply. This is mainly due to the fact that the Algarve does not have a high level of production as well as the inflated prices of the citrus from this region. Instead, the citrus is sold fresh to the domestic market and the surplus is exported to Spain and Angola, the largest importers (EuroMedCitrusNet 2007). Fresh fruit is sold directly to the markets and only seven percent of the fruit is sold to be processed into juice. Ten major production agencies make up the Algarve region; however, a de-synchronization exists among them. All growers follow the EC regulations that states quality norms, the minimum characteristics of the orange as well as packaging regulations. Beyond that, productions agencies have free reign over the fruit.

Citrus in the Algarve region was considered different from the rest of Europe due to the location along the southern coast of Portugal. The area is also the point in the continental Europe that was believed to receive the most sun. The climate here is similar to that of Florida, warm days and cool nights, thus resulting in a nicely colored orange. The land in this area is ideal in nutrients and minerals for tree growth, allowing for a sweet variety of oranges. This is what led to the initiation of the PGI labeling. However the Algarve region has noticed a few problems that are hindering yields. Water supply is the main problem. Irrigation techniques are being researched and put into place; however, the lack of communication between growers has slowed this process of sharing information. Another major problem is the depletion of nutrients in the soil leading to erosion. With this issue, the quality of the fruit is inferior and the cost of production increases to create a better fruit (EuroMedCitrusNet 2007). A side issue is tourism in the Algarve region. This coastal area of Portugal has become very popular in the recent decade for its beaches and climate, in essence, a booming region.

Development, in turn, has increased, destroying the natural balance of the coasts ecology, and in some cases, pushing out many agricultural produces in the area (Eurostat 2004). Nevertheless, citrus growers have been attempting to increase production by use of technology and marketing.

To attempt to find a solution to these problems, drip irrigation techniques are in use along with the use of a soluble fertilizer to restore the nutrients in the soil. This particular soluble fertilizer has caught the interest of the growers, urging them to look into organic production techniques to capture a specialized market of consumers. In spite of the increase in production practices, the PGI Citrinos do Algarve is not a common request for oranges in markets other than Portugal. Moreover, it is only due to the PGI label that consumers are aware of the “commercial citrus area”, thus leading them to buy a local product since they are assured for their safety and the authenticity of the product (DRAP-Algarve 2009). In reality, only major growers are certified with PGI labeling due to costs, the rest instead choosing to follow only the basic EC regulations and not using the Citrinos do Algarve label. This leads to a decrease market power for the producers using the PGI label, in turn increasing their costs of production.

In order to become a household name, the Direccao regional de Agricultura e Pescas do Algarve (regional Agriculture and Fisheries of the Algarve) has suggested that the growers need to combine their production agencies and use that power to create recognition for the name of “Citrinos do Algarve”, Citrus of the Algarve. They must communicate with each other to increase the use of technology to boost production levels to supply a bigger market and only together can they create an

effective marketing strategy that is beneficial to all growers in the region. The current divide among the growers has separated the origin of the fruit to different producers making the citrus uncompetitive in the market place.



Figure 3-1. Indian River Citrus Certification Mark (Source: Indian River Citrus League)

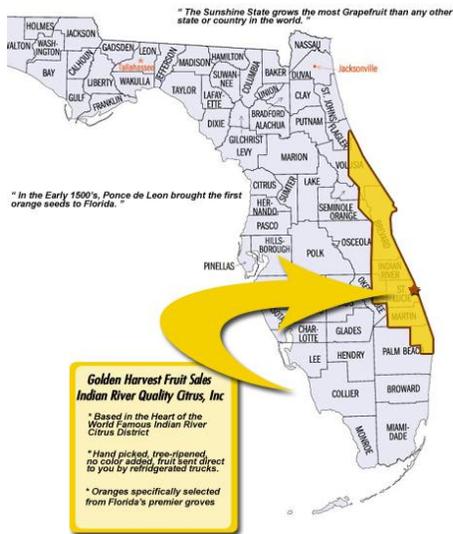


Figure 3-2. Indian River Citrus District (Source: Gold Harvest Fruit Sales, Inc.)



Figure 3-3. Algarve Region in Portugal (Source: Lonely Planet)

CHAPTER 5 DISCUSSION AND CONCLUSIONS

Case Studies

As we see from the two case studies, there is a vast difference in production practices that lead to labels and label information. With cheese, the Parmigiano-Reggiano label informs consumers know that this product is of a certain quality as well as upholding a tradition that is centuries old. The citrus labels are associated geographically, providing a product that is unique due to the region it is grown. In both case studies; however, the certification mark and PGI/PDO labels strive to provide consumers a proof of authenticity for the product ensuring quality and safety.

The certification mark of the Wisconsin Real Cheese pertains only to location, like a geographic indicator, only displaying the country, or in this case, state it is from. They do not specialize in any single cheese, but instead, strive to provide consumers a variety of cheeses and cheese products. In fact, their goal is likely to increase the amount of cheese types they produce, to create a larger market. As long as the milk is from Wisconsin cows, the cheese created and packaged in the state, the producer can use the certification mark. As a result, the mark or label of the Wisconsin Real Cheese does not instigate a single taste, flavor or aroma, but in its place, an assault of multiple varieties covering various mixes.

Parmigiano-Reggiano, on the other hand, specialized in one product and one product only: its namesake, Parmigiano-Reggiano cheese. Its belief is that with a concentration on one product can they then excel in their products; quality is the number one factor for the producers from the region. With their PDO label, producers must follow certain regulations and procedures such as the 11 regulations (Appendix A)

for feed and the 16 regulations (Appendix B) for marking the product, or labeling. It is through these practices that producers believe creates the exclusive qualities of genuine Parmigiano-Reggiano cheese. Another factor that makes Parmigiano-Reggiano stand out from Wisconsin Real Cheese is the factor of time. Parmigiano-Reggiano producers invest much time in a single wheel of cheese. If the cheese does not pass consortium evaluations at the end of the maturation period (12, 18, 22, or 30 months) then the producer not only loses the cost of the producing the cheese, but also loses more than a year of their time which could have been used to start quality cheese. It is for this reason the Parmigiano-Reggiano cheese can ask for a premium price on their product. Regulations, processing, storage and evaluation all costs the producer while holding off on a breaking even, or making a profit immediately. These four costs obviously distinguish the PDO Parmigiano-Reggiano from the certification mark of the Wisconsin Real Cheese.

One way costs can be neutralized is by requiring fees to join the Consortium or Board. Parmigiano-Reggiano requires a fee to join the Consortium. The amount of the fee is determined by the “number of production units owned” by the dairy. The income generated by the fees and other services offered by the Consortium are in turn invested back into the Consortium making it a non-profit organization, a sort of cooperative. Wisconsin Real Cheese also requires a fee to join the Wisconsin Milk Marketing Board. In both cases, by joining the Consortium or the Board, dairies are paying for the regulatory and marketing services offered by them. The dairies produce and prepare the product; the marketing is done by the Consortium and the Board. By selling

products in this fashion, there is a guarantee of a buyer for their product, thus insuring a constant flow of income.

The second case compares a certification mark, Indian River Citrus, and a PGI, Citrinos do Algarve. Both are notable from their geographic locations. The certification mark here, for the Indian River Citrus, is similar to the Wisconsin Real Cheese mark, the only difference being Wisconsin Real Cheese is from the state of Wisconsin, while Indian River Citrus is from a region within the state of Florida. The PGI labeling does the same as the certification mark, identifying a product by region, as in the case of Citrinos do Algarve. This product is from the southernmost region of Portugal, identified by the unique characteristics of the coastal region.

The citrus from Indian River, the easternmost part of the state of Florida, is marked by the Indian River Citrus League. They have created an association where growers come together to discuss new technologies and techniques, season expectancies, and any problems or diseases threatening the plants. The main goal of the Indian River Citrus League is to create a combined marketing power for the growers of the region. The region has long claimed that the characteristics of the soil and climate, maintained by the geographic location, have created a fruit unique to the rest of the market. As a result, growers market competitively by using the Indian River Citrus certification mark. This mark has now become a household name in the U.S., even contributing a significant percentage to the entire citrus output from Florida.

Citrinos do Algarve has recently become a PGI, the Algarve oranges not becoming popular until the 1960s. The Direcção Regional de Agricultura e Pescas do Algarve, or Regional Agriculture and Fisheries of the Algarve, is the main regulating

agency; however, the joining of growers is optional, thus only a handful of growers have joined the agency. Only if the grower is a part of the agency, can they use the PGI label Citrinos do Algarve.

The label indicates that the citrus has been produced in compliance with EC regulations, as well as including new techniques and fertilization that has now started to be used by growers in the region. Those who are not using the PGI label, usually just follow the EC regulations, and may or may not use some of the same techniques as other growers from the area. The growers from the agency may have corroborated to increase output; however, they do not have enough market power to be competitive in the EU. This marketing issue is what distinguishes Indian River Citrus from Citrinos do Algarve. The latter is sold mainly in Portugal, not even being a household name. In order to become a competitive product, the growers from the Algarve region must work together to market their product within Portugal and the rest of the EU.

This leads to the question, “which form of labeling is best?” It is probably best answered case by case. In the case of cheese, it is obvious that the Parmigiano-Reggiano PDO label is a better option because it protects a quality product with the assumption that all consumers are knowledgeable for the regulations of the production and labeling, thus ensuring its authenticity. The time spent on one specialty has allowed them to create a price premium on their product as well as creating a demand so high, that sometimes it is hard to keep up. The Wisconsin Real Cheese certification mark, can identify a cheese, but not by type, only generically. A type of cheese may become popular, such as Wisconsin Cheddar; however, it can be easily substituted for

another brand. It is from this information that we realized the PDO has better benefits than a certification mark.

The Citrus case, on the other hand, has opposite results. The Indian River Citrus certification mark has worked hard to create a name for itself, leading to an increase in market power. By working together, growers now have a guarantee of sales, providing the fruit is of export quality. The Citrinos do Algarve, a PGI, should learn from the Indian River Citrus League to market their product in a manner that will increase their output as well as the demand for their product. So the assumption made here is that the certification mark worked better than the PGI.

But we must also take into account the fact that these companies are created voluntarily, and, if for some reason, that Wisconsin Real Cheese decides to specialize, then the certification mark might work as well as in the case of Parmigiano-Reggiano cheese. And, if the Citrinos do Algarve combine their efforts in marketing, they then could be as successful as the Indian River Citrus. This observation leads straight back to the fact that it must be a case by case decision. Any one label is not perfect and any one label can be manipulated to encompass any amount of regulations and rules to determine the image the consortium wishes to convey. Therefore, a decision to decide which form of labeling is better can only be made when costs are determined, as well as consumer knowledge on the products they currently and in the future will buy.

Negotiations in the WTO

If the WTO accepts the EUs three proposals, to “establish a register of GIs protected across international boundaries”, “extend the higher level of protection already provided for wines and spirits to include other products”, and “to allow WTO member countries to retrieve or ‘claw back’ GIs currently being produced as unprotected

products in other countries”, then the U.S. companies would lose many rights to names that have been generically used for many years. The main problem with the list of 41 products the EU wants to protect would be the loss of brand recognition that a trademark creates, a form of brand recognition that is prevalent for U.S. consumers. The list of 41 EU products could be interpreted differently under different Articles.

If the WTO agrees to this list, under Article 22, it would be reasonable to title a product “Parmesan cheese: Made in the USA” due to the fact that the product clearly states origin. In other words, the label must not be misleading as to where it is produced to protect the origin of the original product. However, Addor and Grazioli (2002) state that this would allow “free riders” to use the PDO/PGIs high reputation to sell inferior products that are not derived from the appropriate origin, thus preventing premiums to be created for a higher quality product. If Article 24 exceptions are put into place, then the acceptance of this list could allow that Parmesan could be deemed as a “generic” term and allowed use in other countries as a type of cheese. However, since it is a PDO in Europe as Parmigiano-Reggiano, it would prevent other imitations to use the Parmesan name within the EU (Marette, Clemens and Babcock January 2007). The exceptions in Article 24 are determined by national courts that may differentiate labeling in different countries. For example, Chablis is from the French region Burgundy; however, in the U.S., vintners producing wine with grapes from the Chablis region can use Chablis in the label to market within the U.S. In addition to these two articles, Article 23 is currently under debate that would allow for an expansion of wine and spirits to include food and agricultural products. This would result in a higher level of protection for all items, including the items in the GI list.

On the other hand, Babcock and Clemens (2004) suggest that should the U.S. and the EU work together to create a joint international labeling program, then many agricultural based companies will want to label their products based on geographic location and origin. This would support rural producers by allowing them to promote their products internationally, thus reducing the amount of risk of being pushed out of the market. As we have seen from all four producers in the case studies, working together creates a strong force in the market which in turn increases financial prosperity of the product; therefore, the creation of a geographical origin label would only benefit the producers. In the EU, the addition of geographic location has created price premiums for products and this premium may offset the increased cost for labeling.

Trade negotiations will continue within TRIPS as more countries become involved in requesting their own systems and methods be approved forms of labeling. Instead of bilateral trade agreements, countries of the WTO seem to be moving on the multilateral trade agreements to make labeling easier for producers. We may see the countries of the EU accepting trademarks from other countries. Countries, such as the U.S., may have to accept PDO/PGIs that infringe on current trademarks within their country. In either case, the EU and the U.S. need to work together to set an example for the rest of the world by educating their consumers on the content and meaning of labels as well as working together to solve the “generic” term discrepancies.

APPENDIX A
PARMIGIANO-REGGIANO RULES AND REGULATION OF DAIRY COW FEED

Article	Article Summary
1: Field of Application	Feeding programs for cows that produce milk for the production of Parmigiano-Reggiano cheese
2: General Principles in Feed Rationing	Based on use of local forage; 50% of forage must be hay; forage to pellet ration must not be below 1; cows cannot be fed with feed that will change the aroma or flavor of milk
3: Origin of Forage	<ul style="list-style-type: none"> • 35% from forage produced on farm • 75% from forage produced in region of PDO
4: Permitted Forage	<ul style="list-style-type: none"> • fresh forage obtained from natural meadows, mixed permanent meadows and lucern and clover crops • crops of ryegrass, rye, oat, barley, wheat, maize, aftermath sorghum, Italian millet, cocksfoot, fescue, timothy, French honeysuckle, sainfoin, provided singularly or mixed together • crops of pea, vetch and field bean combined with at least one of the forage essences specified in the previous point • hay obtained by drying the above specified forage in fields or by forced ventilation (air drying) • freshly cut forage obtained from the whole milk-wax ripened or wax ripened corn plant, supplied immediately after harvesting and up to a maximum quantity of 15 kg/head/day • cereal straw, exception of rice straw • dehydrated forage obtained at temperatures exceeding 100°C up to a maximum amount of 2 kg/head/day
5: Forbidden Forage and By-products	<ul style="list-style-type: none"> • any type of silage • forage heated by fermentation, treated with additives, moldy or contaminated forage • rape, cole seed, mustard, fenugreek, fruit tree leaves and other leaves, wild garlic and coriander • maize and sorghum rapiers, maize bracts, straw from soy, rice, as well as lucern and seed clover • vegetables in general, including fresh and preserved rejects, waste and by-products • fresh and preserved fruit, as well as all fresh by-products derived from fruit processing • sugar and forage beets, including leaves and collets • spent hops, distiller, marc, grape stalks and other by-products deriving from the processing of beer, wine and sugar industries, distilleries, excluding molasses when used as a binder for pellets and dried beet pulp • all slaughtering by-products, including the rumen content • all by-products from the dairy industry
6: Pellets	<p>The following can be used:</p> <ul style="list-style-type: none"> • cereals: maize, barley, oat, wheat, triticale, rye and sorghum • seed from oleaginous crops: soy, flax, sunflower • seed from legumes: broad beans, field bean and protein pea • forage: flours of permitted forage essences • dried beet pulp • carob-bean, up to a maximum of 3% • molasses, up to a maximum of 3%

7: Use of Pellets	Must comply with daily amounts specified in annex; must have tags regarding the raw material ingredients; must be used in dry form
8: Forbidden Raw Materials and Products	<ul style="list-style-type: none"> • feed of animal origin (fish flour, meat, blood, plasma, feathers, by-products of the slaughtering industry, as well as any dried by-products from milk and egg processing) • cotton seeds, vetch (including scourings), fenugreek, lupine, rye, cole seeds and grape seeds • by-products of rice processing: chaff, tailings, thin chaff, flour middling, buds and green grain • extraction flours, cake and expeller of peanut, rye and cole seeds, seeds of tomatoes, sunflower with less than 30% protein, babassu, common mallow, Niger seed, baobab, cardoon Mary thistle, coconut, tobacco, poppy, palmisto, olives, almonds and walnuts • manioc, potato and derivatives • dehydrated feed obtained from vegetables and fruit and by-products from their processing; • molasses in liquid form, wet yeasts and all by-products from the sugar industry, with the exception of molasses used as a binders for pellets and dry beet pulp, of breweries (spent hops, including dried) and baking industries • fermentation soils • urea and derivatives, ammonium salts, beet protein concentrate (BPC), still slops and distillers of any type and origin • fats and soaps of animal or vegetable origin. Lipids of vegetable origin can be used only as support and protection of micronutrients, up to a maximum of 100 g/head/day. • additives belonging to the group of antibiotics • anti-oxidants
9: Silage-Fed Cattle	Only heifers 6 months pregnant, bred in stalls, separated from dairy cows can eat maize silage; manure cannot be used in fields of dairy cows; can be reintroduced to dairy cows 3 months after silage feed has ended; milk can be used for Parmigiano-Reggiano 6 months after feed has ended
10: Unifeed Ration	Preparation of homogenous mix of dry forage and simple pellets; mix must be conducted on the farm; no fresh forage; if mix is humidified, must be mixed twice a day and used immediately
11: New Products and Technologies	New products are tested by the Consortium and only then can they be used

Source: Consorzio del Formaggio Parmigiano-Reggiano

APPENDIX B
PARMIGIANO-REGGIANO MARKING REGULATIONS

Article	Regulation
1: Marks	Mark of origin and grade of mark; code to identify the wheel with pin dot writing of Parmigiano-Reggiano around the wheel
2: Tasks of Parmigiano-Reggiano Consortium	Identification number of the dairy; marking on the wheel must be approved by the Consortium
3: Obligation of Dairies	Must submit application 4 months prior to production; liable for improper use of labeling; must keep a journal daily on the production of the cheese
4: Definition of Production Lots and Quality Inspection	<ul style="list-style-type: none"> • 1st lot: cheese produced January to April • 2nd lot: cheese produced May to August • 3rd lot: cheese produced September to December Quality inspection carried out by two Consortium members within the region of origin
5: Quality Inspection	<ul style="list-style-type: none"> • 1st lot inspected starting December 1 of same year • 2nd lot inspected starting April 1 of following year • 3rd lot inspected starting September 1 of following year
6: Cheese Classification	Based on external appearance, texture and aroma; Consortium must cut one wheel
7: Application of Ink Stamp	At quality inspection, three categories are used to classify cheeses: <ul style="list-style-type: none"> • first category, indicating the wheels classified as "first grade", "zero" and "one" Parmigiano-Reggiano cheese • second category, indicating the wheels classified as "medium grade" Parmigiano-Reggiano cheese • third category, indicating the wheels classified as "downgraded" and "reject"
8: Application of Hot Iron Marks	On first and second category wheels, mark with "Parmigiano-Reggiano Consorzio Tutela" with production year is burnt; second category also has mark applied all around wheel
9: Invalidation of Marks of Origin	Remove marks on wheels of third category and those wheels with structural defects; these wheels are sold by processing companies under a different name
10: Drawing up of Inspection Reports	Record all operations of quality inspection, hot iron labeling, marking of categories, and invalidation of marks of origin
11: Claims Appeal	Must be sent by dairies within four days of inspection
12: Request for Rectification of the Marks of Origin	Wheels that develop rind defect can be marked as third category by permission of Consortium
13: Request for Invalidation of the Marks of Origin	For those wheels that cannot continue maturation, the progressive number must be invalidated by Consortium
14: Assignment of Wheels before the 12 th Month of Maturation	All documents and notices shall carry the following statement: "Cheese cannot be put on the market for consumption under the Parmigiano-Reggiano protected designation before having reached the 12 th month of maturation."
15: "Export" and "Extra" Marks	Starts after the 18 th month of maturation; wheel must be first category
16: Costs	Dairies pay for all costs of labeling

Source: Consorzio del Formaggio Parmigiano-Reggiano

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BIOGRAPHICAL SKETCH

Payal Kamlesh Patel was born and raised in the Carolinas where she lived until ninth grade. After moving to Florida, she completed high school at F.W. Springstead High School in 2003 with a Bright Futures scholarship. University of Florida was her number one choice of colleges, and after some debate, chose the field of Food and Resource Economics, specializing in Agribusiness. After completing her bachelor's degree in 2008, she went on with the combined degree program to graduate with a master of science in Food and Resource Economics in 2009.