



# COMTÉ NEWS



Summer 2015

## Comté's PDO— Preserving the Land and Culture of a Region

The French AOC (Appellation d'Origine Contrôlée) and the European Union PDO (Protected Designation of Origin) classifications regulate where a traditional cheese can be produced and the methods by which it's crafted (the AOC logo was replaced by the PDO logo on Comté wheels in 2009). The PDO specifications provide a guarantee to consumers that Comté must be made within a delimited area in the Jura Mountain region of France, using specific farming, cheesemaking and aging methods that reflect a long established tradition and custom. This system not only protects quality and authenticity, but it also has important environmental, economic and social implications.

Through regulating farming practices, Comté's PDO helps to preserve the environment of the Massif du Jura. Each Comté cow must have at least two and a half acres of natural grassland to graze in the warmer months,

and they are fed locally harvested hay in the winter (ensilage and GMOs are prohibited). Comté farmers practice non-intensive agriculture, which focuses on quality and soil characteristics as opposed to yields. As a result of this sustainable land management, the bio-diversity and the open landscapes of the region have been maintained, with a permanent grazing area that is large enough to cover Paris and its surrounding suburbs.

The biodiversity of the region is critical for the development and diversity of flavors in Comté. Native lactic microflora, found on plants and in the soil, is transmitted into the raw milk for Comté and directly influences the specific flavors and aromas that develop in the cheese during the aging process. Microflora differ



from terroir to terroir, and this is reflected in the taste of the cheese. Comté produced at one *fruitière* (a *fruitière* is a Comté cheesemaking facility—there are approximately 150 in the region, and they can only collect milk from farms located within an eight-mile radius maximum) will have a different flavor profile from Comté produced at another *fruitière*. The expression of flavor in Comté is therefore linked to the farm environment and the farming practices.

The PDO system also influences the economy and culture of the Comté region. In general, PDO cheeses generate more employment than regular milk chains. Studies show that a production of 100,000 liters of milk generates 2.8 jobs in the PDO sector as opposed to 1 job in the regular milk sector. In addition, the number of young farmers entering milk production is higher for PDO products than for the rest of the dairy sector. Comté

provides about 8,000 jobs in its region. Producers pool their resources to grow and promote the cheese, and growth remains rooted in the local economy as opposed to being obtained in other regions. Higher prices paid to the dairy farmers preserve the farmland, and thus agriculture in the Massif du Jura has remained alive and vibrant with some 2600 farms. The "Routes of Comté" program also promotes tourism to the region, which has seen over a million visitors to farms, *fruitières* and *affinage* cellars since 2002. Through this economic viability, the cheesemaking culture of the Massif du Jura has been preserved for over a thousand years, and Comté remains an important part of the regional patrimony.

### Comté ("con - TAY") cheese ID

#### General information:

**Origin:** Jura Mountains  
(Massif du Jura), France

**Milk Type:** Raw cow's milk

**Cheese Style:** Artisanal, pressed,  
cooked, with natural brushed rind.

**French AOC (Appellation d'Origine  
Contrôlée) since 1958 and European  
Union Protected Designation of  
Origin (PDO) Certification.**

- Delimited area of production: Doubs, Jura, Ain, elevation 650-5000 ft.
- Milk must be produced by local cows of the Montbéliarde (95%) and Simmental (5%) breeds. There are approximately 130,000 Comté cows.
- Minimum of 2.5 acres of natural pasture for each animal.
- Cattle feed must be natural and free of fermented products and GMOs.
- Each *fruitière* must collect milk from dairy farms within a 16-mile diameter maximum.
- Milk must be made into cheese within 24 hours maximum of the earliest milking.
- Only natural starters must be used to transform the milk into curds.
- Wheels must be aged on spruce boards. Minimum aging is 4 months, generally 6-18 months and sometimes even longer.



### Comté Cheese Association

will be at the 2015

American Cheese Society Conference  
in Providence, RI, July 29-August 1

# Interview with Microbiologist Catherine Donnelly



*Dr. Catherine W. Donnelly, Professor of Nutrition and Food Science at the University of Vermont, is one of the world's leading researchers into the microbiology of cheese. Her new book, Cheese and Microbes (ASM Press, 2014), explores the role of microbes in cheesemaking. Chapters, contributed by Donnelly and other leading scientists from around the world, explore topics such as: how microbial communities affect cheese production and cheese classification; the role of microbes in the expression of sensory properties of cheese; the role of wooden equipment in cheesemaking; the ever-changing landscape of cheese regulations and pathogens; and the role of molecular biology in the future understanding of cheesemaking and microbes. The book is a fantastic resource for cheese lovers and educators who want to delve into the science behind cheese. It also provides scientific groundwork for topics of interest in the face of current regulatory pressures in the US.*

## First of all, what exactly are microbes?

Microbes are organisms which are not visible to the naked eye—they are only visible microscopically. They comprise bacteria, yeasts and fungi, all of which have important roles in cheese making.

## Why is the study of the microbiology of cheese important?

Cheese is a living food. Many of the microbiology studies that have been conducted on cheese have narrowly focused on starter culture behavior. These studies, however, oversimplified the extremely complex microbial diversity in cheeses, as they ignored non-starter microbes, which comprise the majority of the cheese microbial community. New scientific tools are allowing us to understand the complexity of the interactions of microbial communities in cheese, yet the roles of many of the microbial genera in cheesemaking are not yet clear. Understanding the microbial diversity associated with cheese will help us to preserve the microbial biodiversity of traditional cheeses, and will assist our understanding of the microbiological basis of the great cheeses of the world.

## Why is the time right for Cheese and Microbes?

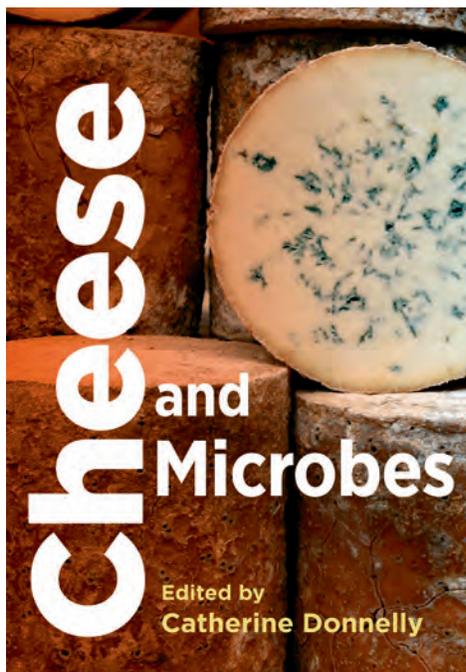
The book is relevant because it is primarily focused on artisan and traditional cheesemaking as opposed to industrial cheesemaking. Given the growth of U.S. artisan cheesemaking, coupled with the growing consumer demand for PDO European cheeses, along with a highly inquisitive cheesemaking and consumer sector who wish to develop a deep knowledge base about food, the timing seemed right for a book of this nature.

## In general terms, how do microbes affect the cheesemaking process?

We utilize bacterial starter cultures to begin the process of fermentation of lactose, the principal carbohydrate in milk, as well as to assist with flavor development, which occurs during ripening. Although we add millions of starter culture bacteria to milk initially during cheesemaking to initiate lactic acid development, it is the management of conditions during cheesemaking and ripening by the cheesemaker which selects for specific microorganisms that characterize certain types of cheese. Despite the fact that all cheeses are made from the same starting material, milk, the great diversity of cheeses that we enjoy is the result of the vast microbial diversity [as well as cheesemaking technologies] which characterizes the distinctive cheese families.

## How do microbes affect cheese flavor?

Cheese flavor results from a diversity of compounds, principally lactic acid, peptides, amino acids, ammonia and fatty acids which result from microbial metabolism of milk. One



only need to look at the Comté wheel to obtain an understanding of the complexity of the flavors which result from further breakdown of milk components during cheese ripening. In general, the microbial community is more diverse and complex in cheeses manufactured from raw versus pasteurized milk.

## As you mentioned, there is growing demand around the world for artisan cheeses. How do the scientific studies presented in the book reflect on the safety of artisan cheeses?

Cheese safety is a topic that is greatly misunderstood. There is an assumption that consuming raw milk is unsafe, and that consuming raw milk cheese should [therefore] also be unsafe. At its essence, cheesemaking came about as a way to safely preserve milk for later consumption. In Cheese and Microbes, we explore cheese families and present the science which shows that in general, cheeses are microbiologically safe products which have enjoyed a long history of safety. The principle route of cheese contamination results from post-process environmental contamination of cheeses as opposed to the use of raw milk in cheesemaking. Cheesemaking generally establishes microbial hurdles, whereby heat, acidity, moisture loss and salt interact to create an environment which is hostile to most microbial pathogens.

The safety of some traditional cheesemaking practices, such as the use of wooden tools, has been challenged as being unsafe. We devoted

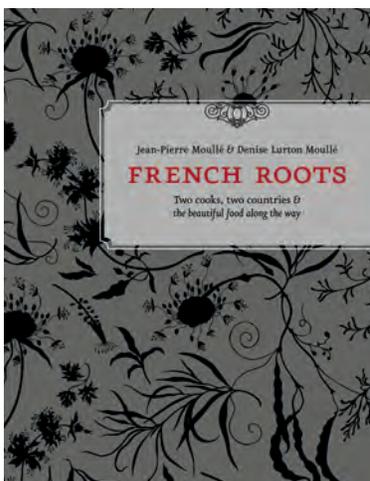
a chapter in Cheese and Microbes to wooden tools as reservoirs of microbial diversity in cheese making. Studies conducted by Dr. Sylvie Lortal of the INRA and her colleagues have shown that use of wooden vats in the manufacture of Ragusano cheese (a PDO cheese) actually enhances the development of acidity during cheese making compared with use of stainless steel vats. Dr. Lortal also notes that wood has never been documented to be involved in any foodborne disease outbreak. Annually, over 500,000 tons of cheeses in Europe are ripened on wooden shelves, and use of wooden tools in cheesemaking is mandatory for some PDO cheeses.

## Is this in line with the current regulatory landscape in the US, where certain artisan cheesemaking techniques (such as the use of raw milk and wooden boards) are under investigation?

Science provides us with data which should inform U.S. regulatory decisions. The international scientific community relies on sound scientific analysis and evidence as the basis of regulatory decisions. This is why scientific risk assessments are valuable. They are comprehensive, and they offer transparency. Comprehensive risk assessments conducted and published by Food Safety Australian/New Zealand (FSANZ) concluded that monitoring procedures which accompany the aging of Roquefort cheese on wooden boards in caves, for instance, provides assurance that minimal risk of contamination occurs as a result of these practices. Risk assessments have also confirmed that many raw milk cheeses achieve a level of safety equivalent to the use of pasteurized milk in cheese making. These findings have been published and utilized in comprehensive risk assessments conducted by FSANZ. There is international agreement that public health policies should be based on comprehensive risk assessments. Codex Alimentarius\* recommends application of a combination of scientifically validated control measures to achieve the appropriate level of public health protection in cheeses. To have credibility, U.S. regulatory policies must be harmonized with those of the international scientific community and based upon sound science.

\* The Codex Alimentarius, or the food code, sets international food standards, guidelines and codes of practice to contribute to the safety, quality and fairness of the international food trade.





## Cooking with Jean-Pierre and Denise Lurton Moullé

In their cookbook, *French Roots: Two Cooks, Two Countries and the Beautiful Food Along the Way*, husband and wife team Jean-Pierre Moullé and Denise Lurton Moullé tell the story of their lives, from growing up in France, to meeting in Berkeley, CA, where Jean-Pierre was executive chef at Chez Panisse and Denise worked as a wine importer, to their current homes in Sonoma and Bordeaux. Jean-Pierre spent ten years of his childhood in the Comté region. He notes, “My father’s work brought us to the Jura, most famous for Comté cheese, which we ate and cooked with at every stage of its development from soft, fresh and mild to the much sharper, well-aged cheeses that are so difficult to find in this country.” He ate Comté nearly everyday, in classic French dishes such as soupe à l’oignon, gratins, quiches, fondue, gougères (cheese puffs) and braised endives with ham. He has particularly fond memories of eating Comté fondue on cold or snowy days—a dish which he still finds nurturing. During their time in Berkeley raising two children, Denise relied on Comté to add flavor and nuance to her everyday dishes for the family.

Comté is highlighted in several recipes throughout *French Roots*, including in Comté cheese puffs, in an onion tart made with puff pastry, and in a stunning Comté Soufflé, which the Moullés have shared with us (see below). The soufflé can be made with either one or two different ages of Comté. Denise recommends pairing the soufflé with white wines—she prefers Alsatian and German whites, or a Sauvignon Blanc from Bordeaux—or with a lighter style red, served cool.

## Comté Cheese Soufflé (Soufflé au Comté)

Recipe and photo from *French Roots: Two Countries and the Beautiful Food Along the Way* (Ten Speed Press, 2014) by Jean-Pierre Moullé and Denise Lurton Moullé.

“We lived in Franche-Comté for ten years when I was a child, years that have been extremely valuable to me as a chef. The quality of the



ingredients there at the time was unreal—surpassed perhaps only by their diversity. [Massif du] Jura... is the epicenter of the world for Comté cheese. We ate a great deal of cheese—on bread, in gratins and quiches, and, of course, in soufflés. My mother’s soufflé mixed three different types of Comté that had been affiné, or aged and tended, for various lengths of time: soft and creamy

Comté, aged less than six months; a young, one-year-old cheese that was firmer with a stronger flavor; and finally a fairly dry, older Comté... aged to sharp maturity for more than two-and-a-half years. If my mother had a signature dish, this cheese soufflé might just have been it.” — Jean-Pierre Moullé

Serves: 4

1 1/4 cups whole milk  
3 tablespoons butter  
3 tablespoons all-purpose flour, plus more for dusting  
Salt and black pepper  
Nutmeg  
3 eggs, separated  
6 ounces Comté cheese, grated

Preheat the oven to 425°F.

Scald the milk in a small saucepan over medium heat and set it aside.

In a sauté pan over medium heat, melt 2 tablespoons of the butter. When it’s hot, whisk in the flour and cook for 4 to 5 minutes, stirring frequently with a rubber spatula. Add the warm milk to the flour mixture slowly, whisking steadily as you pour. Season the batter with a pinch of salt, black pepper, and a few shreds of grated nutmeg. Cook over low heat for 15 minutes, stirring occasionally. Transfer to a mixing bowl and let the batter cool for 10 to 15 minutes before whisking in the egg yolks and cheese.

Use the remaining 1 tablespoon of butter to coat the insides of 4 individual (6 ounce) ramekins and then dust them with flour.

Beat the egg whites until soft peaks form and fold them gently into the mixture. Fill the ramekins about two-thirds full with the soufflé mixture. Bake for 12 to 15 minutes, until the soufflés are well browned on top. You may also bake the soufflé in one large, 5-cup soufflé dish. Cook the soufflé longer, 18 to 20 minutes, until it rises measurably above the rim of the baking dish and is nicely browned on top. Serve immediately.



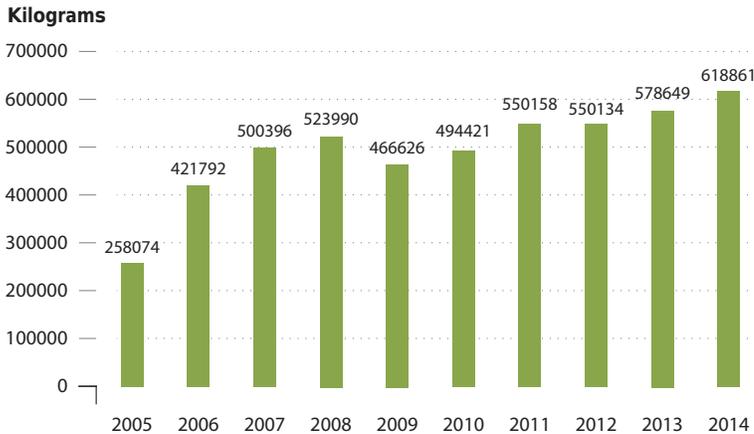
## Comté Scholarship for ACS CCPs

The Comté Cheese Association is thrilled to announce that it will be offering its fourth annual **Comté Scholarship for American Cheese Society Certified Cheese Professionals™ (ACS CCP™s)**! ACS CCPs have the unique opportunity to win an all-expenses-paid trip to the Comté region of France to learn first-hand about the cheese's history and production, as well as to explore the region and its culture. Scholarship applications will be available online following the American Cheese Society Conference in August. For more information, or to join our mailing list for news and updates, please email us at [trade@comte-usa.com](mailto:trade@comte-usa.com). Stay tuned!

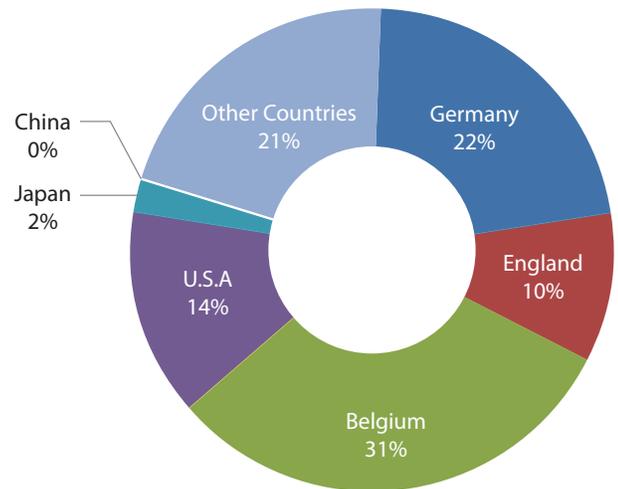


**Comté Cheese Association at the Next ACS Conference** The Comté Cheese Association will be sponsoring a Networking Salon Table at the **2015 American Cheese Society Conference** in Providence, RI (July 29-August 1). Stop by anytime during the day on July 30th to meet with Comté representatives, taste Comté cheese and learn about how the Comté Cheese Association can provide support for promotions, events, classes and trainings. We hope to see you there!

## Comté Exports to the USA



## 2014 Comté Exports



## Comté Imitations

Have you ever come across a cheese that tried to capitalize on Comté's name or reputation? As a PDO product, the name Comté is protected by law in a number of countries including the E.U. In the USA, it is protected by a Certification Mark. When people buy Comté, they know they're getting a cheese that was produced in the Jura Mountain region of France using traditional, artisanal production methods that respect the environment, culture and know-how of the region. The PDO label is therefore a guarantee of quality, generating consumer confidence. Imitators who hijack the Comté name undermine this confidence as well as create confusion within the marketplace. We'd like you to help us protect Comté from counterfeits! Please alert us if you should ever come across a cheese that trades in on the Comté name.

### The Comté Cheese Association

provides you with everything you need for a successful selling program, including: recipe booklets, brochures, aprons, demo toothpicks, training tools and more. Visit [www.comte-usa.com](http://www.comte-usa.com) for POS materials and free downloads.

### Comté Cheese Association, representing the Comté PDO in the US

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