The following articles were written by Bill Stephenson, DPI’s import cheese buyer, for DPI's monthly newsletter. They are included here to educate as well as entertain.

60 Days  A holding period of 60 days for any cheese sold in the U.S. made with raw milk was established by the FDA in 1949. According to Kosikowski \(^1\), the 60-day determination was made after scientists incubated cheese samples purposely inoculated with typhoid, undulant fever, and tuberculosis, three important pathogens of that day that could potentially have found their way into the raw milk supply. The scientists found that all three pathogens lost their virulence in the cheese samples by 60 days, and thus a federal regulation was born.

Along with being a culinary delight unto itself, cheese also still serves its natural function of providing us with a way to preserve excess milk supply. The naturally lower acidity, moisture content and concentration of natural sugars make cheese a relatively safe food insofar as it is inhospitable to most pathogenic bacteria and molds. Nevertheless, some of the more virulent pathogens can turn up in the milk supply and tolerate these inhospitable conditions to wind up in our guts with potentially harmful effects. Thus, along with the 60-day holding period on any cheese made with raw milk in the U.S., many cheese makers opt for producing their cheese with pasteurized milk. This process of heating milk to a defined temperature for a defined length of time is typically sufficient to cause the destruction of any harmful bacteria that may be present in the fluid milk at the expense of any other non-harmful bacteria in the milk that would contribute to flavor development in cheese. In particular, this is a potentially critical step for cheese produced from milk that is supplied by herds of a relatively large size. As Kindstedt \(^2\) reports, the recovery rate of certain pathogenic bacteria from milk supplied by herds of greater than 100 cows averaged 8.8% whereas recovery of the same bacteria from milk supplied by herds of less than 100 cows was 0.6%.

In the European Union, regulations for raw milk cheese, indeed for all cheese focus on the quality of the raw milk supply. A milk supply that tests above a certain upper limit for the presence of pathogenic bacteria is considered “dirty.” This places the burden for producing quality raw milk cheese, or again all cheese squarely in the hands of the dairy farmer (in much the same way as a winemaker will work closely with a viticulturist (grape farmer) to strive for a perfect grape harvest so that less manipulation is required in the production of the wine). Thus cheesemakers in any country have a greater likelihood of producing a “clean” cheese when they begin with clean milk and, similarly, dairy farmers have a greater likelihood of producing clean milk when they are able to keep the size of their herds down.

While other medical advances have been made that address the epidemics of typhoid, undulant fever and tuberculosis which would seem to negate the necessity of the U.S. federal government’s 60-day rule for raw milk cheese, it is clearly in our best interest to regulate for “clean cheese.” In the U.S., the 60-day rule continues to be deemed as adequate for this purpose whereas the E.U. continues to focus on milk supply quality. Perhaps neither is fully adequate to prevent foodborne illness from emerging pathogens but, which is the truly better approach may really just depend on our individual preference for flavor in our cheese!

A Cheese For All Seasons  Blue is a cheese for all seasons but it has a special preeminence in the month of December. All of the major cheese-producing nations have a signature blue. France has Roquefort, Italy has Gorgonzola, Spain has Valdeon and England has Stilton. Down under they make the “Roaring 40’s” and just down valley from DPI they make Rogue River Gold. Some are more storied than others but any will do when winter encroaches on this most festive of months.

The common denominator of blue cheese is the mold *Penicillium roqueforti* and its cousin *Penicillium glaucum* which seems sometimes to be referred to as *Penicillium gorgonzola*. Roquefort and Gorgonzola are among the oldest of the blue cheeses, each tracing their lineage to around 100 A.D. Roquefort was more heavily produced and, therefore, enjoyed more widespread acclaim. This is perhaps one reason why the mold that is most widely used in blue cheese production today bears the name *roqueforti* relative to the less ubiquitous *gorgonzola* (*glaucum*). Either way, blue cheese makers around the world typically use one or the other of these mold cultures to produce their particular brand of blue.

In production it is typical for the blue mold to be mixed in with the curds just prior to shaping and pressing the wheels. The mold will grow throughout the wheel but it will grow most vigorously wherever there is more air. A blue cheese with a loose curd structure affords many nooks and crannies in which the mold will thrive giving a patchwork appearance to the cheese when cut. To ensure sufficient access to air, many cheesemakers push long, thin spikes into the newly formed wheels resulting in the appearance of distinctive lines of blue mold growth when the cheese is cut. In mature blue cheeses the blue mold typically appears as a blue to deep blue color. The green-blue of Gorgonzola Dolce is simply a corroborative result of the characteristic yellow patina of the cheese paste combined with the blue of the mold (yellow and blue make green!). The distinctive appearance of blue cheese is matched by its distinctive flavor which is a result of enzymes released by the mold that break down milk fat into the characteristic rich, meaty, peppery and sometimes tangy flavor-active compounds.

It is the rich quality of flavors that make blue cheese such an exceptional complement to the rest of this season’s flavors as, the chill that arrives with December evokes the soul-warming richness of roast meats and vegetables, cream sauces and puddings to which blue cheeses lend themselves so adroitly. And, beyond flavor our blue cheese awareness is heightened in December by the Dickensian leanings of Christmas revelers who embrace many elements of the English culinary ethic during the holidays including, of course, the venerable Stilton. And it is just a short step from Christmas and Stilton to all of the season’s holidays and blue cheese, in general. A step worth taking, to be sure!

Enjoy blue cheese all year round but embrace it in December. Stuffed into duck breast, crumbled over a savory bread pudding or, paired simply with your favorite Sauternes, Port or Barley Wine, there’s no better time of the year for the flavors of blue.
Is Mascarpone Really A Cheese? One of the components of milk that is crucial to its ability to transform into cheese is a relatively high concentration of a family of proteins known as caseins. It is this family of proteins that largely dictates the ability of milk to coagulate and form a curd. And, it is the quality of the curd that in many ways dictates the type of cheese you have.

Revisiting grade school chemistry Like all proteins, caseins are made up of amino acids. The amino acids that comprise caseins are particularly rich in phosphates. These phosphates carry a negative charge. Calcium, another important component of milk, carries a positive charge. In the largely water base that makes up milk, these opposites attract to form calcium phosphate via an electrical bond. Consequently, milk is rich in calcium phosphate, a fact that is critical to young, nursing calves that require a diet that is high in calcium phosphate for growth and proper bone development. But cheesemakers also benefit from the calcium phosphate in casein.

When a cheese maker adds a starter culture to milk, the bacteria of the culture begin to consume the lactose (sugar) in the milk. A by-product of their metabolism of lactose is lactic acid. More lactic acid means a lower pH in the milk. The increased concentration of acid as measured by the solution’s pH is actually a measure of the number of free hydrogen ions or, protons in solution. More acid means more protons and a decrease in the pH of the milk. Caseins readily attract protons and as they do so their calcium phosphate is released. How the cheese maker manages this interaction between absorption of protons and release of calcium phosphate by caseins produces two major classes of cheese.

Acid coagulated cheese The cheese maker may continue to allow the starter culture to produce lactic acid from lactose, thus decreasing the milk pH and, on a chemical level introducing more protons into the casein and releasing more calcium phosphate into solution. Soon a tipping point is reached whereafter the caseins begin to stick to one another forming a visible curd. The “glue” holding the curd together is weak and results from the caseins’ loss of calcium phosphate. To achieve the same ends without adding a starter culture, the cheese maker may instead add acid (typically lactic or citric) directly to the milk.

Rennet coagulated cheese Alternatively, the cheese maker may add rennet, an enzyme to the milk. Rennet functions at its optimum after the milk pH has decreased some due to the work of the starter culture, but long before the milk pH has decreased to the point of curd formation due solely to low pH. The fast-acting rennet works like a scissors, carefully but quickly snipping off an element of the caseins that allow them to stay suspended in solution. Once again, the resulting curd forms due to the caseins sticking together, but this time there is far more calcium phosphate associated with the casein proteins. It is this remaining calcium phosphate that acts as the “glue” that holds the caseins together in a rennet-coagulated curd.

A tale of two curds The acid coagulated curd is not as firm as the rennet coagulated curd. This lack of firmness may translate better to the consumer as a high degree of “spreadability.” Examples of cheeses produced from the firm, rennet-coagulated curd include fetas, goudas, cheddars, Parmigianos, bries, taleggios, and stiltons. Examples of cheeses produced from the weak, acid-coagulated curd include cream cheeses, crème fraiches, Chèvres and, yes, mascarpones.

Clear as mud Understanding the basic, different ways to produce a curd does not require conformation to one or the other method of production. The myriad of traditional and sometimes proprietary ways in which cheesemakers navigate the chemistry of milk produces a corresponding myriad of different results. As a result, it is sometimes difficult to classify certain cheeses much less to qualify them as cheese in the first place. So Mascarpone really is a cheese, but it is often referred to as a “dairy product” instead due to its lack of rennet and distinct character of thick, sweet cream. And acid-coagulated curds are formed without the assistance of rennet – except when a cheese maker adds rennet to the production of an acid-coagulated cheese to nuance the flavor and texture. And cheeses made from acid-coagulated curds are more spreadable than those made from rennet-coagulated curds – unless of course it is a well-aged soft-ripened or washed rind cheese which is also highly spreadable but which is, nevertheless, a subject for future discussions!
rBGH and Milk  Recombinant Bovine Growth Hormone (rBGH) entered the American lexicon just 13 years ago in 1994 when the FDA approved the use of this genetically engineered hormone. rBGH is also referred to as rBST, an acronym which gets closer to its scientific name and stands for “recombinant bovine somatotropin.” rBGH has been marketed to the dairy industry by its sole producer, Monsanto for years under the name “Posilac,” a not-so-subtle reference to the synthetic hormone’s idealized function in promoting lactation, a result that comes in addition to promoting growth of the overall cattle due to stimulation of somatic (body tissue) cell production.

In principle, a dairy farmer who uses Posilac administers injections of the synthetic hormone to their cattle every two weeks for advertised increases in lactation or, milk yield per cattle of anywhere from 10 to 25%. Thus, Posilac is marketed to dairy farmers as a potential way to increase their revenue over production. A 2003 review in the Canadian Journal of Veterinary Research actually gives a slightly more modest improvement in lactation of between 11 and 15%. But the same study then goes on to report that dairy cattle given rBGH have a 40% increased risk of failing to conceive, a 55% increased risk of developing clinical signs associated with or leading to “lameness” and a 25% increased risk of developing an infection known as “mastitis.”

Mastitis is an inflammation that impacts a cows’ udder and raises the typical “somatic cell count” in milk, thus cheesemakers perform somatic cell counts in milk before accepting or rejecting a shipment of the milk into their dairy. The increase in somatic cells in milk is largely the result of an increase in white blood cells that the cows’ body manufactures to ward off the mastitis infection. Tissue damage from the infection causes release of compounds into the fluid milk, some that impart a bitter taste and others that destroy casein molecules, vital to the cheese making process. Thus, while rBGH can positively impact milk yield, it can negatively impact both milk and cheese taste as well as cheese yield. A farmstead cheese maker wishing to make cheese using milk from cows given rBGH is, therefore engaged in a numbers game; on the one hand attempting to increase fluid milk revenue and on the other hand balancing the negative costs relative to overall health of the herd and decreased cheese yield.

While mastitis can be combated with the appropriate antibiotics, non-farmstead dairies that wish to purchase rBGH free milk will stringently test for antibiotics (along with somatic cells) as evidence of possible rBGH use. In addition to controlling for rBGH use, there is a general concern that excessive antibiotic use in animals is corresponding to an increase in antibiotic resistance among microorganisms that plague humans. Such demands are increasingly being voiced from consumers, particularly among consumers of organic goods.

Cheesemakers from the Tillamook County Creamery Association here in Oregon found consumers to be the prime factor to consider when weighing the cost/benefit of using rBGH. Responding to strong consumer demand asking that Tillamook products be free from rBGH, its use was banned among cooperative members. The Tillamook cooperative is contractually obligated to purchase/utilize all the milk their members can produce. Given this guaranteed market, rBGH would seem a boon to cooperative members and there was, not surprisingly some resistance to the ban. Tillamook’s Board of Directors took the position that the consumer demand was tantamount and when forced to take the issue to a general vote of the membership, the cooperative agreed with the board and the ban was upheld. Tillamook is now rBGH free.

Research into adverse consumer health effects associated with rBGH use in cows is ongoing. As yet, claims that rBGH use in cows correlates to increased risk of breast, prostate and colorectal cancer are unproven. Other research seeks to answer whether rBGH use leads to premature development among children and increased incidence of twin births. rBGH use is currently banned in Canada, Japan, Australia and New Zealand. Whether it will ever be banned in the U.S. may just end up a non sequitur; as consumer demand for organic products increase, dairies will be forced by consumers to stop using it.
When it comes to cheese, what is the difference between distribution and affinage?

In the simplest of terms, an affineur manages the aging of a cheese while a distributor seeks to suspend the aging.

“Cheese is a living thing.” You’ve probably heard this before. To be more precise, cheese is a food source for living things before it is a food source for us. Whether the character of a cheese predominates from a mold such as *Penicillium gorgonzola* to produce a classic Gorgonzola or from bacteria such as the infamous *Brevibacterium Linens* to produce the wonderfully stinky Epoisse, the nutrients from milk are nourishment for more than just you and me! Like all living things, the bacteria and molds that age cheese are affected by temperature such that their activity can be slowed by lowering the temperature. In addition, any unwanted, pathogenic organisms such as *E. Coli* or *Lysteria* can be entirely inhibited by lowering the temperature to less than 40°F. In order then to both successfully suspend the growth of the good bacteria and mold on cheese and inhibit the growth of unwanted pathogens, we hold your cheese through the distribution chain at 36°F, a temperature that assures inhibition of pathogens as well as assuring prevention from freezing.

But temperature is just one component in the effort to assure that a cheese is put into suspended animation through the distribution channels. During affinage, most cheeses live in a controlled atmosphere where the relative humidity is maintained above 80%. At these high levels of relative humidity the ripening process can progress steadily without excessive drying of the cheese. The colder temperatures used in distribution, particularly when combined with the evaporative effect of the cooling units used to distribute cold air would quickly dry out any cheese. At DPI Specialty Foods, we target a relative humidity level of 80% in all areas of our coolers to prevent moisture loss by the cheeses we carry and to provide our customers with a cheese that tastes the same as it would at the creamery.

In addition to all that goes into holding a cheese in suspended animation to assure quality and freshness, the staff at DPI Specialty Foods, a company that forged the way for importation of delicate cheeses from abroad to the Northwest more than 25 years ago, is committed to fostering strong relationships with existing and new vendors who may not understand as well as we do what it takes to successfully move a cheese from their facility to our customers. In some instances these relationships have resulted in packaging improvements that have allowed our vendors to add value to their products by creating packaging that is uniquely suited to their individual type of cheese by allowing for more or less contact with air while providing added strength to avoid damage and transparency to better observe the cheese quality and entice our customers!

It is no accident that we refer to distribution as a “chain.” At DPI Specialty Foods we strive to ensure that every link is as strong as the next to better connect our vendors and customers. And remember, if you’re not picking up cheese from a manufacturer or an affineur yourself, the cheese had to navigate a distribution channel before reaching you!
Mozzarella is a stretched curd or “pasta filata” cheese. Traditional mozzarella production begins in a typical fashion; a curd is formed and then cut into moderately sized pieces. The curds may be stirred a bit which will release more whey and firm them up before the whey is drained off. But the process then takes a unique turn as the curd is immersed in nearly scalding water and then gently worked with a paddle, stretching the now melted curd. At precisely the right moment as determined by the skill and artistry of the cheese maker, handfuls of the stretched curd are torn from the melted mass and formed into any of the traditional shapes that fresh mozzarella would take (most typically the egg-shaped “ovaline”). Working the curd or stretching it too much will turn a fresh mozzarella from a soft, creamy delicacy into a firm and rubbery cheese, so tender mozzarella is a sign of real skill.

Fresh mozzarella is consumed throughout the year but takes on special meaning in the late summer months when it’s tomato time. Tomatoes are on America’s menu every day, but there are just a few months out of the year when tomatoes are more than the pale (literally), flavorless reflection of the late-summer beauties that brighten our local markets and, in some instances inspire annual festivals. Yes, it is time for tomatoes and, in the cheese world there is no combination that pairs better with a fresh tomato than fresh mozzarella. Like many summer meals, the caprese salad is a simple combination. Tomato, fresh mozzarella and basil are presented with a splash of olive oil and salt and pepper to taste. Nothing else is required because the basil and tomatoes are at their seasonal peak for ripeness and flavor so simplicity translates into an absolute delicacy.

Pairing fresh mozzarella with tomato and basil is an inspired combination in several ways. Flavor: The fresh-milk character of the mozzarella compliments the tomato and basil without overpowering the delicate, fresh sweet and tart flavors of the tomato and basil. Balance: The mozzarella makes the salad more of a complete meal by adding additional caloric components, vitamins and minerals that the tomato and basil alone will not provide. Aesthetic: The colors of the dish are striking and evoke their Italian heritage.
Probiotic Cheese  Probiotic cheese is headed your way. Different brands and different types are being produced by cheesemakers across the globe. A market for probiotic cheese exists wherever there is a population of consumers concerned with their health.

Probiotic, literally translating to “for life” is a play on the word antibiotic. The term came to the fore mid last century, well after the original work by Russian-born scientist and Nobel laureate Eli Metchnikoff first characterized the potential health benefits of ingesting specific bacteria to counter other, naturally occurring bacterial flora in our gut that he deemed as unhealthful. Nearly a century later, the 2001 report by the Food and Agriculture Organization (FAO) of the United Nations that studied the health and nutritional properties of probiotics in certain foods defined probiotics as “live microorganisms which when administered in adequate amounts confer a health benefit on the host.”

How do they work? Numbers. If regular cheese contains a platoon of bacteria as remnants of the cultures used to ripen the cheese, probiotic cheese has that same platoon and throws on a couple of brigades for good measure (metaphorically speaking because the numbers are far greater than mere platoons and brigades). Once ingested, the Darwinian struggle begins. There may be numerous types of bacteria present, both beneficial and harmful, but there is only a fixed amount of resources in our guts upon which to thrive. The extra brigades of probiotic bacteria have an overwhelming numerical advantage when it comes to competing for those finite resources. As such, the probiotic bacteria can have a two-fold positive health effect for the consumer by 1) inhibiting the successful growth and activity of other bacteria through their sheer numbers and 2) the careful selection of specific types of probiotic bacteria that are targeted to promote human health in much the same way as milk is fortified with Vitamin D. While research is ongoing to confirm all of the ways in which certain probiotics are thought to confer certain benefits, the aforementioned report by the FAO acknowledged that “health benefits for which probiotics can be applied include conditions such as gastrointestinal infections, certain bowel disorders, allergy, and urogenital infections, which afflict a large portion of the world’s population.”

Cheese is not the first food vehicle for probiotics, but it may be among the best to date. Probiotics are only capable of performing their intended functions if they can survive the harsh conditions of the human stomach, which is otherwise designed to break down and begin the digestion of any foreign visitors. Numerous studies have shown the protein-fat matrix of cheese better allows for survival of the probiotic bacteria through the stomach and into the intestine where the probiotic bacteria are intended to flourish.

There is at least one downside to the addition of these extra bacteria to cheese. Cheese, like all fermented foods is naturally rife with bacteria and/or yeasts that are necessary to the production of the fermented food. The cultures used to ripen various cheeses are carefully selected for the particular flavor active compounds that they produce as a by-product of their metabolism. Probiotic bacteria are not intended to influence the flavor of the cheese but, to broadly generalize among the different families of bacteria used as probiotics, they are good acid producers. In essence then, a probiotic cheese can get sour in a hurry if not well cared for or if left to mature to the same extent that a cheese without the addition of probiotics would. Thus, addition of the extra bacteria (a lot of extra bacteria) to cheese effectively accelerates the aging process which, looked at from a consumer’s perspective, decreases the shelf life.

While probiotic cheese has the ability to confer positive health benefits it should not be considered as uniformly healthful. Casting aside other calories from fruits and vegetables in favor of probiotic cheese could lead to a spike in cholesterol, among other things. Similarly, increasing one’s consumption of total calories in the form of extra probiotic cheese in an effort to obtain extra health benefits will inherently lead to weight gain if those extra calories are not expended. While it is true enough that some foods are more healthful than others, the old adage still applies: “everything in moderation.”
cheese articles

Giving Thanks for Cheese  Let us pause this November as we are giving thanks for the bounty of the harvest to give thanks to cheese. So I give thanks this November for rennet. Through whatever serendipitous happenstance whereby someone once decided to use a calf’s stomach as a storage vessel for milk and then, perhaps most miraculously didn’t balk at the coagulated lump that appeared where once there was milk, we now understand what it is that gives us curds and whey.

I also give thanks for microorganisms; the good ones, of course! Ubiquitous in ancient times as they are now, the beneficial ones such as those in cheese are making a name for themselves in our food lexicon as “probiotics.” Whether bacterial cultures, molds or yeasts, these probiotic microorganisms ripen cheese both inside and out. Their very ubiquity drove the world of cheese forward on the heels of the “discovery” of curds and whey as cheese is a smorgasbord for many such microorganisms. And it is along these lines that I wish to give thanks to the first brave souls who decided when looking at a blue cheese or after smelling the “angel’s feet” of a washed rind cheese that to eat the thing was preferable to hurling it at one’s nearest enemy.

Thanks too for some of the other oddities of the cheese world such as vegetable ash and leaves. When cheese made from morning milk needed to be held through the day before evening milk could complete the wheel, ash was sprinkled on the young cheese to preserve and protect it until the wheel could be finished. And thus a functional process that gave us the AOC cheese, Morbier also gives way to form in beautiful American artisan cheeses such as Humboldt Fog and Mobay. And the same is true of leaves. The inspiration that drove someone to use leaves to preserve cheese and that gave us the AOC cheese Banon now, too gives us the world-beating upstart, Rogue River Gold.

So don’t forget the cheese when it comes to this season’s bounty. Beyond giving thanks for the basic miracle that is cheese and beyond giving thanks to the brave souls who actually ate the first cheeses (even though it appeared that things with their fresh milk had gone horribly wrong), the staggering variety of cheeses available to us today makes it so that one can be thankful for finding your favorite new cheese with each and every trip to the store.

Cheese Protection  Every year, it seems we see another European cheese receive the honor of “protected designation of origin.” In France it is “Appellation d’Origine Contrôlée” (AOC), in Italy it is “Denominazione di Origine Protetta” (DOP), and in Spain it is simply “Denominacion de Origen” (DO). Most recently, Morbier was granted such protected status. The controls are typically specific to the cheese and are in recognition of a well-established product, iconic on the marketplace that has been produced using the same standard methods over time. The controls can and often do apply to a broad range of defining criteria such as what animals can be fed, how much milk can be drawn per animal, what region the milk and cheese must come from and specifics of how the cheese itself must be made.

But is it better? Ahhh, and now we enter a philosophical zone governed by the subjectivity of taste. Any product that has received protected status is likely to have previously received enough historic consumer support to warrant its recognition in the marketplace at all, a feat unto itself. But, in my opinion to declare whether it tastes better than a like product made outside of the protected region or guidelines goes too far in diminishing the efforts of a cheese maker who by luck of geography or by choice cannot or does not conform to the protected guidelines, but still applies all skill and good manufacturing practices to produce a different cheese. On the other hand, based on the consumer acceptance that has won the cheesemakers a protected status for their cheese, one can reasonably have a high expectation that a protected cheese will be enjoyable. So, “better” just comes down to we, the individuals.

Manchego, a sheep's milk cheese made in the La Mancha region of Spain
Ew, That Smell  If “Cartoonland” has a favorite cheese, it is surely Limburger. This soft-ripened, washed rind beauty is a classic symbol of pungent cheese. Typically depicted with a murky yellow-green wavy aroma, Limburger has been the inspiration for practical jokes both intended and accidental. I recently brought some Limburger back from Wisconsin in a carry-on which garnered me more than a few accusing glances from those in my general vicinity as those wonderfully distinctive aromas came wafting up from my backpack!

While Limburger’s roots lie in Belgium, it has long been produced in the U.S. and is, therefore, a washed rind cheese that Americans readily identify with. As a washed rind cheese, however, it is merely one among a family of “bathing beauties” whose pungency is described by aficionados as “Angel’s feet.” Though little such record exists, the origin of washed rind cheese is thought to be Ireland where Ardrahan, Gubbeen and Durrus are among the best known of the style produced there today. There is little dispute, however that it was the Trappist Monasteries of Belgium that championed the style centuries ago and moved it into the cheese mainstream.

Both the aroma and outward orange color of washed rind cheeses are by-products of the specific surface ripening bacteria Brevibacterium Linens (B Linens) present on all washed rind cheeses. The specific growing conditions required by B Linens on the surface of cheese are high moisture and high pH. Indeed, for brie or other soft-ripened cheeses in which B Linens are not wanted, the cheese maker must labor to “sour” the milk, or bring the pH of the milk down quickly in order to inhibit their growth. This effect may have been achieved naturally in the origins of the style when cheese was made with fresh milk that had not yet had time to sour as opposed to cheese made from multiple milkings throughout the day. In the latter instance, the additional time needed by the farmer to acquire enough milk to make the cheese would naturally give Lactic spoilage bacteria the necessary time to begin a fermentation of the milk causing a drop in the pH, and thus naturally inhibiting B Linens.

Once the curd is made into the desired shape, the bacteria are typically introduced onto the surface of the cheese in conjunction with a brine that typically consists of salt and water and may include additional ingredients such as spirits, wine or beer. Additional washings during the affinage of the cheese are designed to control the growth of B Linens on the cheese surface, and thus the overall ripening of the cheese.

The low, flat profile of Epoisse, Taleggio, Muenster, Brescianella, Livarot and many of the best-well known washed rind cheeses is designed to maximize the characteristic effects of the surface ripening. Because B Linens is only capable of growing on the cheese surface (due to necessary conditions of oxygen), it would have little impact on, for example, a tall and thick 8 kg wheel of Cheddar. Thus most of the best known washed rind cheeses have a high relative surface area. They are also of a high relative moisture content, yet another factor that promotes B Linens growth. Nevertheless, there are many examples of larger format, firm cheeses that are ripened using B Linens cultures. Raclette, St. Nectaire and Tilsit all have a lower relative surface area and moisture content than the aforementioned examples. The suppressed growth of the bacteria in conjunction with the lower relative surface-ripened rind produces beautiful cheese that, while pungent, does not typically approach the massive pungency of the more infamous washed rind cheeses where B Linens takes center stage.

The survival of Limburger in the U.S. can largely be attributed to its local consumption around Monroe, Wisconsin where all of the Limburger made in the U.S. is produced. Perhaps my hubris at carrying Limburger in my backpack can be attributed to the relative laissez-faire attitude with which the Wisconsin locals consider Limburger. It certainly was not the reaction that I received outside of Wisconsin but, this too will likely change. Thanks to artisan cheesemakers, we are seeing a resurgence of the style here in the States with bathing beauties such as Caldwell Crick from Estrella Creamery in Washington and Hooligan from Cato Corner Farm in Connecticut. Do you smell what I smell? It’s the pitter patter of little Angel’s feet!
The Original Cheese Wrap  Ahh September. As summer draws to a close the sky turns a grey pallor and there’s a chill to the wind that hints at the ice to come. The leaves begin to turn color and fall from the trees, one-by-one at first and then en masse in giant, windy releases… Well, ok. That may be stretching things a bit. Fall in much of the Pacific Northwest doesn’t seem to start until October, and it may be late October at that. But nevertheless, September signals fall as the kids go back to school, apples and pears are ready to harvest, and the mushroom foragers can once again be seen wandering the forest. And, what about those leaves? They’ll be falling soon enough which brings to mind, of course, cheese!

Both tree and vine leaves have long been used as “cheese wrap” and their continued use is a testament to the validity of the technique. Any 13-year old around leaf-raking season can assure you that there is no short supply of leaves for such a purpose. Leaves must typically be prepared before use as a cheese wrap. A quick blanching in water and vinegar or a long soak in an eau de vie, brandy or other spirit will help to clean the leaves of most unwanted microbes and will lend the necessary pliability, allowing the leaves to be wrapped around the cheese without tearing. In addition, the “soak” one chooses can contribute to the overall character of the cheese that the leaf will cover.

Once cleaned up, leaves will afford the cheese many of the characteristics of an artificial cheese wrap, but also some characteristics that are unique to the leaf. Like an artificial wrap, leaves will prevent moisture loss from the cheese, protect against airborne microbes and dust, and provide a certain aesthetic appeal. Unlike cheese wrap, the leaf can add color to the cheese and impart flavor (cheese wrap may also impart flavor, just not the desirable kind!).

The tradition of wrapping chestnut leaves around Capriole de Banon produced such a unique cheese that the leaf-wrap was specifically written into the production methodology defined by the Appellation d’Origine Controlee (AOC) when Capriole de Banon was granted protected status in 2003. And, while the old tradition of leaf wrapping cheese is secured by the likes of the recently protected Banon, a new generation of cheesemakers such as those at the Rogue Creamery have found great success with the technique when, also in 2003 their Rogue River Gold, a blue cheese wrapped in grape leaves from area vineyards that are macerated in pear brandy from the Hood River Valley won world-wide acclaim as best blue cheese and best American cheese at the World Cheese Awards in London, England. And there are still other cheeses such as the luxurious Italian Burrata that, while opting for an artificial cheese wrap have designed the wrap to give the impression of leaves in recognition of the tradition and the visual aesthetic.

To our modern day supermarket sensibility, wrapping cheese in leaves may at first see a bit too “au naturale.” However, a quick taste of any of these leaf-wrapped beauties is all that is needed to understand why the technique survives to this day.

About the author
A seasoned professional in the world of food and beer, Bill Stephenson contributes to the Northwest Division’s monthly newsletter articles pertaining to cheese. With a MS in Food Science from the University of California, Davis, Bill’s articles provide basic information and an expanded knowledge pertaining to the world of cheese. Bill attended the short-course in cheese making offered by Washington State University. Bill is a buyer at DPI Specialty Foods and specializes in the procurement of imported and artisan cheeses. In addition to purchasing for DPI, Bill conducts cheese trainings and is instrumental in the production of this cheese manual and other DPI training materials.