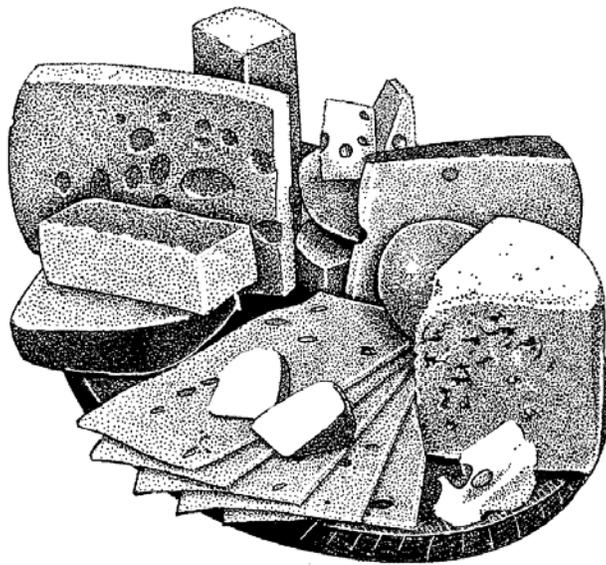


**A Value-Added Opportunity:
Market Potential for Specialty Cheeses
in Select New York Markets**



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EXECUTIVE SUMMARY

The specialty foods market is experiencing considerable growth. Within this category, value-added dairy products are estimated to generate \$6.35 (\$7.83) billion dollars in sales in 2004 (2007) (Sloan, 2004). In New York (NY), where dairy production resources are plentiful, specialty dairy food production is an attractive market development opportunity. Dairy producers interested in on-farm specialty food processing may find it a viable means of enhancing farm-level returns, particularly in the face of volatile commodity prices, and where dairy producers exhibit a complementary skill set advantage.

This project characterizes key marketing dynamics associated with providing specialty dairy products to select NY markets. This project is motivated by the notion that there are value-added food processing opportunities available to NY State dairy producers that not only compliment existing NY food and drink enterprises, but also enhance non-food stakeholder interests through benefits associated with business and rural economic development.

Despite the varied reasons for entering the specialty dairy products market, this report maintains that economic viability is necessary for long-term market involvement and that attention to marketing responsibilities is an integral part of venture sustainability. The report addresses market and product identification, distribution, and promotional activities associated with supplying value-added dairy products to NY State wineries and New York City (NYC) restaurants and specialty/gourmet shops. These three potential market outlets were surveyed to determine market potential for value-added cheeses.

Results suggest that marketing efforts are facilitated by unusually high levels of consumer interest. This translates to consumers “pulling” at the end of the supply chain for new products and information. Strong consumer interest however, can not compensate for attention to marketing fundamentals. In particular, this report finds 6 key points for would-be processors to consider.

- First, all survey respondents perceived specialty cheeses as a growth market. Specialty cheese market growth mirrors expansion observed in the broader specialty foods category, and reflects increased product offerings, and promotional and educational efforts by supply chain participants.
- Second, survey respondents welcome additional specialty cheese product offerings from local NY cheese makers. A number of survey respondents revealed that they source product nationally. Local processors presumably have a cost advantage in that their distribution expenses from within state are smaller than out-of-state competitors.
- Third, retail product price points vary by market given the different expenses to supply that market and consumer price sensitivities. Cheese buyers in NYC expressed some concern about the high cost of domestic specialty cheeses.

However, the production cost structure of farmstead and artisanal cheese does not lend itself to economies of scale, resulting in high per unit costs. Minimization of capital expenses and attention to the additional time and labor costs associated with initiating processing operations is a recommended strategy. Accurate estimates of production costs, as well as distribution and promotional costs, help establish reference points for retail price assessment.

- Fourth, both production and consumption patterns are influenced by seasonality. Milk production peaks in the spring and summer months, which coordinates well with the winery market tourist season. In contrast, NYC specialty shops experience their peak demand from September through December. For dairy producers not dedicating all of their milk to cheese production, the question of balancing arises. Ultimately, the ability to coordinate milk supplies with processed product supplies is the first step in later coordinating cheese supplies with market outlet demand.
- Fifth, while survey respondents were receptive to working with individual cheese makers, their primary concern was assuring product consistency, and to a lesser extent, establishing mutually compatible delivery formats. Both issues will be increasingly important as small-scale processors move from smaller, less formal markets, to larger ones where the cheese buyer introduces additional purchase specifications. Distribution costs were identified by several respondent groups as a limiting factor in broadening the product's marketable area.
- Finally, domestic specialty cheeses are a new enough phenomenon that market participants are still in the early stages of the learning curve. Identifying production, distribution, and marketing strategies that do not compromise product quality is an on-going, collaborative effort. Consumers especially appreciate promotional efforts which help pull them along in the education process. In-store tastings, cheese signage, and the proliferation of cheese plates at restaurants all work to increase knowledge about specialty cheeses. Many specialty product consumers are drawn to the food's production characteristics (i.e., organic) for which they will pay a premium. Processors would do well to convey as much information about their farm, their animals, and their product, as possible to consumers via the farm/cheese story.

A number of factors dovetail to make specialty cheese production particularly attractive to producers: close proximity to a large, diverse urban market (i.e., NYC), strong consumer demand, observed retail prices, and the depth of dairy resources in the Northeast region. The trade-off is that these same factors work to entice that many more dairy producers into on-farm cheese production, subsequently raising the number of competitors in the market. The level of competition is most likely distinguished though by product quality, the degree of attention to economic costs, and the level of product visibility. The more marketing savvy small-scale processor can use these points to their advantage and increase the likelihood of new product success.

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I. INTRODUCTION

The specialty foods market is experiencing significant growth, sending a strong signal to the food industry about consumer preferences. In New York (NY), where dairy production resources are plentiful, specialty dairy food production is an attractive market development opportunity. Growth of the specialty cheese market, for example, suggests that consumers recognize, and are willing to pay for, “value creation” from a commodity such as milk. Dairy producers interested in on-farm specialty food processing may find it a viable means of enhancing farm-level returns. This may be particularly true where milk production is already a viable farm enterprise and producers recognize a complementary skill set advantage.

Already, a handful of NY producers are participating in the market, producing a full spectrum of value-added dairy products. These products range from different fluid milk types, including both raw and pasteurized, to cheese, yogurt, butter, and ice cream. Their presence in the market invites the question whether other producers might also benefit from similar processing strategies. Though the market appears receptive to specialty dairy products in general, the focus of this report is on specialty cheeses.

Study Objectives

The aim of this project is to characterize the specialty dairy products market in select NY markets for the benefit of dairy producers exploring on-farm processing opportunities. Findings in this report may also be of interest to current on-farm dairy processors already in the market working to refine their marketing strategy or expand their market area to one of the target markets. This report specifically highlights supply and demand dynamics to the extent that they influence an on-farm cheese maker’s marketing decisions. Topics addressed include market identification, distribution, promotion, and price discovery. Additional production-based concerns, such as plant design and product selection are recognized though not addressed specifically.

Consideration of marketing opportunities is a necessary step for NY dairy producers contemplating cheese production. A marketing plan addresses the ways in which outlet characteristics influence product salability. While the notion of a marketing plan as a lifeboat is unrealistic, it does “set realistic expectations and mileposts of success that a company can measure (Buragas, June 2005).”

Study Motivation

Market conditions have prompted considerable interest in milk producers looking to initiate small-scale dairy processing. Understandably, higher niche product prices observed at retail are an attractive lure for local dairy producers. Retail prices convey only half of the story, however. The inclusion of on-farm processing operations also introduces new expenses, one of which is product marketing. Marketing though, may be

one area toward which producers do not naturally gravitate, relative to production issues. Subsequently, our investigation into the marketing of New York specialty cheeses is an effort to improve the information set available to New York dairy producers considering processing operations.

Certain producers may be better suited to expand into value-added operations. This may be especially true for farms wishing to expand but finding themselves land-locked (i.e., no additional land resources available for production expansion in their area). Additionally, value-added product development opportunities may be best suited to producers who have achieved a level of success in milk production and, at the same time, possess complimentary skills that prove beneficial in tasks associated with downstream production practices. These complimentary skills however, are often untapped as producers have not had to exercise them in milk production operations. Two examples of these types of skills are product marketing and distribution. It is also important to note that value-added expansion efforts are not perceived to be a panacea for dairy farms currently at risk. Where management of existing milking operations proves challenging, diversifying capital and managerial resources toward processing operations is viewed negatively.

While local dairy producers may benefit most directly from continued development of the New York specialty cheese market, benefits may also accrue to other stakeholders such as creditors and communities at large. Development of the New York specialty cheese market not only compliments existing NY food and drink enterprises, but also enhances non-food stakeholder interests. Non-food stakeholder interests speak to benefits associated with business development. Stakeholders in new dairy ventures include, at the most aggregate level, rural communities which continually seek new development opportunities. With respect to rural communities in NY, much of the emphasis centers on opportunities available to existing dairy operations. Communities home to successful value-added operations reflect positively on the area as a whole, largely through a multiplier effect.

Other stakeholders include creditors as they attempt to evaluate the financial risks associated with new processing ventures. Local agricultural lending institutions are likely to embrace efforts that refine the business planning/decision-making steps incurred by producers at start-up. A marketing analysis is one opportunity to improve all parties' information sets.

Specialty food retailers and distributors also benefit in that they continually seek novel products intended to increase consumers' choice set. In 2004, *Gourmet Retailer* identified farmstead cheeses as one of the top specialty food trends, reflecting an ever increasing interest in unique food products (*Gourmet Retailer*, September 2004). Likewise, consumers benefit from a well-coordinated supply effort. New products which better meet consumer preferences improve both producer and consumer welfare. Finally, new specialty dairy product offerings may help increase the commercial visibility of NY's dairy industry as a whole. While not all dairy producers will recognize financial

benefit from increased specialty cheese production, growing different product lines is likely to reflect well on all NY industry participants.

Study Outline

This report considers specialty cheese market potential in certain markets from the perspective of small NY on-farm cheese processors. Supply and demand dynamics are evaluated to assess current market characteristics and overall favorability for firms entering this market, including evaluation of:

- Current trends in the value-added dairy category and the drivers behind these trends,
- Demand potential in select NY markets,
- Supply considerations (i.e., product selection, distribution, promotion), and
- Key marketing tasks imperative in the cheese maker's effort to provide a specialty cheese to market.

In turn, this knowledge can be used to increase producer success at product launch. Providing on-farm dairy processors with this level of market information will allow them to more clearly define their endpoint and work backwards, toward production, more efficiently.

The market window is narrowed to three target markets in NY perceived to be highly receptive to new dairy product development including NY State wine trails, NYC specialty/gourmet stores, and upscale NYC restaurants. Promotion of NY-specific wines and specialty cheeses works to the benefit of two prominent state agricultural resource bases, dairy and viticulture. A second opportunity is the production of specialty products for retail in gourmet shops in NYC. A third target market is the upscale NYC restaurant, whose chefs are desirous of high quality, differentiated dairy products. The NYC retail consumer not only demonstrates an interest in culturally diverse food products but often has the purchasing power needed to pay higher specialty food retail prices. Moreover, the close proximity of NY dairy farmers to large East Coast markets, especially NYC, bodes well for those looking to initiate on-farm dairy processing. Proximity becomes increasingly more important in the perishable foods market given shipping/transportation issues and shelf life concerns.

The dynamic nature of specialty products dictates that supply chain participants be aware of future trends and the market signals which best help them anticipate consumer preferences. It will be especially important for NY dairy producers entering the specialty products market to learn how to identify new markets and products. Producers attuned to reading consumer demand patterns are more likely to persist in niche markets, having developed a sense of how to watch market signals and more importantly, anticipate upcoming trends. Many of the pieces from this report can be found in a traditional business marketing plan. This report however, is not intended as a

substitute or alternative, rather it is meant to serve as a starting point for producers so that they may customize their own market analysis.

Evaluation of select value-added dairy markets in NY State is best accomplished with input from the different members of the marketing channel. From existing on-farm processors to retailers, this report is an effort to capture the marketing intricacies of supplying specialty dairy products to consumers in certain NY markets. Information from processors and distributors is generated through informal discussion, questionnaires, and interviews. More formal procedures (i.e., survey methods) are used to collect data from winery managers, specialty shop cheese buyers, and restaurant chefs. Ultimately, the report highlights survey participants' receptivity to an expanded product offering by NY on-farm dairy processors. The logistical considerations of supplying specialty products to the identified markets are also considered.

This report is organized in five sections. Section one provides an overview of the specialty cheese market, with special emphasis on defining characteristics and observed market trends. Looking beyond the NY market alone, growth of Wisconsin, California, and Vermont specialty cheese markets suggest that nationally, consumers are eager for increased supplies of specialty cheeses. Section two introduces the demand side perspective with feedback from three NY-specific markets including wineries, specialty retail outlets, and white-tablecloth restaurants where novel NY specialty dairy products might be most successful. These markets have been identified as being potential growth markets for NY on-farm processed dairy products. Individual markets are profiled in terms of their characteristics and feedback provided by survey respondents. Section three addresses more supply-oriented issues. The section opens with an overview of current NY specialty cheese makers. Additional issues addressed include potential product development lines and a review of product distribution. Specialty product distributor feedback is incorporated into the discussion, as are characteristics about the cheese maker, product, and selected market outlet, all of which help frame the distribution decision. Section four is an effort to link demand and supply considerations. Coordinating these two forces leads to price point and promotional strategy discussion. Section five summarizes and presents avenues for further inquiry in this market.

This project has been funded by a United States Department of Agriculture (USDA) grant. Additional assistance has been provided by the NY Agricultural Innovation Center affiliated with Cornell University. Researchers associated with this project were charged with:

- Identification of at least four on-farm processor/market partnerships;
- Identification of at least two specialty cheeses particularly well-suited to the individual processor/market partnerships identified; and
- Establishment of production protocols for the identified cheeses per market.

Defining Specialty Cheese

Though no formal definitions are in place, many of the parameters used to discuss specialty cheeses are based on the characteristics outlined by the American Cheese Society (ACS)

(<http://www.cheesesociety.org/displaycommon.cfm?an=1&subarticlenbr=2>). The three most common terms to describe small volume, superior quality cheeses include “specialty,” “artisanal,” and “farmstead.” These terms typically refer to the type of production scenario under which they are made.

Specialty cheese is the least specific of the three terms, referring primarily to cheeses made in limited volume. Conditioning specialty cheeses on a volume threshold introduces an interesting question: How small is “small?”¹ One of the ideas behind smaller production volumes however, is the notion of heightened quality. This perceived quality often carries with it a price premium above that of a standard commodity cheese.

Other terms such as artisanal and farmstead describe some of the smaller nuances about the production process. Artisanal, for example, refers to cheeses produced by hand or in smaller batches, implying a sense of artistry in the production process. Farmstead cheeses may also be artisanal, or hand-made, but they must also be made from milk produced on the farm. Thus, both artisanal and farmstead cheeses fall under the specialty cheese umbrella though the reverse is not always true. As with the term specialty, artisanal and farmstead cheeses are also meant to convey heightened product quality and uniqueness.

Specialty cheeses may be further characterized by any number of other characteristics, though these terms will not influence their overarching type (i.e., specialty, artisanal, farmstead). It is also possible to categorize specialty cheese types by milk type, aging process, or texture (i.e., soft, semi-hard, hard). The recent proliferation of cheese types suggests on-farm processors are in no way constrained at the product development stage. In fact, feedback from supply chain participants indicates that the American consumer is particularly eager for new and unique domestic cheeses.

Overview of the Market

Market Drivers

Consumer demand is may be the most significant market signal for exploring new product development. Growth of the specialty foods market in general can be attributed to a handful of factors. First, consumers have conveyed their preference for higher

¹ The Wisconsin Specialty Cheese Institute (WSCI) currently defines specialty cheeses as those produced in volumes of 40 million pounds or less annually. This criterion however, appears to be most commonly used in Wisconsin (<http://www.wisspecialcheese.org/special.htm>) as a means of helping track a wider variety of cheese types for state agricultural statistics. In contrast, other specialty cheese resources typically use much smaller production volumes in discussion.

quality food products, in addition to the convenience and low price characteristics they traditionally desired (Sloan, 2004). This change in consumers' set of expectations establishes a new benchmark for product evaluation. Second, consumers are increasingly well-traveled, having developed a penchant for international flavors and foods on trips. International exposure to alternative culinary dishes is one explanation behind increased knowledge of cheeses and requests at retail. Third, the increased visibility and popularity of food-based media outlets and personalities may also be fueling consumers' interest in specialty foods. Finally, consumers are exhibiting greater interest in food production practices and their appreciation for certain (production) characteristics often translates to a willingness to pay higher product prices. Locally produced foodstuffs are especially attractive because they connote a sense of community with producers with whom consumers often establish a rapport. This connection provides an accessible producer resource for end-users to learn about food production efforts and dispels some of the producer anonymity associated with buying other product types.

With respect to specialty dairy product demand, specialty cheese is one of the most prominent growth categories. This growth follows on general specialty food trends, as well as increased production, promotional, and educational efforts by supply chain participants. Specialty cheese makers are now supplying to market a vast array of cheese styles and flavors welcomed by American consumers. At the same time, there has been increased promotional activity on the part of the marketing boards in dairy prominent states such as Wisconsin and California. Finally, the rising stature of U.S. specialty cheeses in national and international cheese competitions has contributed to rising consumer interest and product visibility

As with the more generalized specialty foods category, interest in specialty cheeses can also be attributed to more sophisticated consumer palates. This sophistication is reflected in the number of consumers turning to stronger and more unique flavors. Buyers of specialty cheeses often have the ability, and willingness, to pay higher prices for a cheese with certain quality characteristics. Consumer interest in quality is typically linked to their interest in learning about production processes. Nancy Fletcher, Vice President of Communications for the California Milk Advisory Board links the level of consumer intrigue with a cheese's story: how it was produced, by whom, how to use it, and the quality (Petra, 2004). (Additional discussion of the "cheese story" is provided later for its effectiveness as a marketing tool.)

To a lesser extent, the recent popularity of high-protein diets (e.g., Atkins, South Beach) may also help explain some of the growth. Consumers looking to reduce their carbohydrate intake may supplement with higher-quality protein products such as specialty cheeses. On balance, cheese is often perceived as a natural and healthful food by consumers. Some cheeses do exhibit higher-fat content though the demand for these cheeses does not seem to be slowing. One possible explanation is that consumers place a premium on taste and will overlook some of the less desirable nutritional qualities, assuming the cheese is not consumed in excess. The idea of cheese as a "treat" may also figure into consumption patterns. To some extent, cheese may be considered a "comfort food" given its use in sauces and sandwiches. Another possible explanation is that

cheese is convenient. It is easy to cook with and, in most cases, a ready-to-eat product (Van Wagner, 2004).

Specialty cheese market development does not appear to be unique to any one region. Specialty cheeses are being produced in almost all states as a niche product.² As might be expected, statistical data on specialty cheeses is quite limited. Both California's and Wisconsin's state departments of agriculture now track specialty cheese production however, the parameters used to define specialty cheeses varies considerably.³ The task is further complicated by the changing product line up of artisanal and farmstead cheese makers. The small batch sizes and ability to quickly switch to new cheese recipes make statistical record keeping that much more taxing.

Equally as challenging is the effort to identify the number of specialty cheese makers now in the market. While some data is available, there is a high degree of variability in state criteria. This is largely due to the different definitions of small-scale, or specialty cheese processors in each state. In NY, 31 small-scale processors, defined as producer-handlers, are licensed through NY Department of Agriculture and Markets. Thirty-six artisanal cheese makers, using up to 200,000-250,000 pounds of milk weekly in production, are licensed with the Vermont Agency of Agriculture, Food and Markets. In Wisconsin, the volume threshold jumps to one million pounds, but still only 34 cheese makers fall into this category as per Wisconsin's Department of Agriculture, Trade and Consumer Protection. California's Department of Food and Agriculture does not require information about volumes produced at licensing, making specialty cheese processor numbers unavailable.

Despite the lack of statistical data, there is observable growth in the numbers of on-farm dairy processors in states such as Wisconsin, California, and Vermont. Though not especially surprising given the level of dairy industry activity in these states, each has allocated some level of resources to encourage specialty cheese production and promotion. To the extent that perishable product distribution is always a concern, product promotion from these states works to temper the geographic boundaries on specialty dairy product markets.

Promotion of California and Wisconsin specialty dairy products has historically fallen under the purview of the California Milk Advisory Board (CMAB) and the Wisconsin Milk Marketing Board (WMMB), respectively. In both cases, these boards have taken the lead in nurturing specialty dairy product production and promotion. While CMAB is a marketing voice for all California cheeses, the web site www.realcaliforniachese.org offers a link for specialty store cheese buyers and chefs interested in learning more about locally available product. Information on local cheese

² Both Kansas and Nebraska have recently published reports examining the dynamics of value-added dairy processing (Kansas Department of Commerce, 2003; University of Nebraska, 2001).

³ Again, Wisconsin's Department of Agriculture, Trade and Consumer Protection defines specialty cheeses as cheeses whose total annual production volume is less than 40 million pounds. In early 2004, the California Department of Food and Agriculture (CDFA) began tracking monthly production of farmstead cheeses however estimates are not yet publicly available.

makers, production practices, cheese selection, and storage and handling, as well as other resources are made available to the wholesale customer.

The California Artisan Cheese Guild (CACG) was recently established (September 2005) to “support and encourage the Californian cheese making community” and membership is open to those with an interest in California cheeses including consumers, small-scale cheese makers, retailers, suppliers, and chefs. Funding for Guild development was provided through a gift from Gallo of Sonoma and the Clark Wolf Company, a food and restaurant consulting firm in New York (*Cheese Market News*, September 2005).

In 2004, Wisconsin established a “virtual” resource base for processors of specialty cheese and dairy products with their non-profit Dairy Business Innovation Center (DBIC). The Center is designed to support processors through a range of services including, but not limited to, business planning, product development, specialty cheese education, and product marketing. In Vermont, recent funding has made possible the development of the Vermont Institute for Artisan Cheese (VIAC) to promote education, research, and service and outreach efforts for the state’s artisan cheese community (www.uvm.edu/~vaic/). The VAIC is more closely aligned with the goals of Wisconsin’s DBIC in that it emphasizes specialty cheese production and marketing concerns.

A recent marketing report examining the Wisconsin specialty cheese market identified two areas of support that would work to improve the profitability for local specialty and artisanal cheese makers. In particular, the study recommends (1) enhancing the image of Wisconsin artisanal and specialty cheeses, and (2) buoying the technical and business development resources available to cheese makers (Greenberg, 2005). Interest in funneling business development and technical production resources toward this segment of cheese makers echoes much of what has been learned from this New York study.

In NY, state-level promotional efforts provide a different marketing landscape. Until recently, there has not been a group specifically dedicated to the task of promoting NY specialty cheeses. While a handful of promotional organizations and opportunities are available to agricultural producers in general, only one addresses the specific interests of smaller scale, local cheese makers. The NY State Farmstead and Artisan Cheese Makers Guild (<http://www.nycheese.org/>), established in 2003, is focused on meeting both production and marketing needs of local artisanal cheese makers. On the one hand, the Guild is attempting to meet a specific dairy producer resource not previously provided. At the same time, this group is confronted by the challenges of mobilizing a state-wide campaign from limited funds and resources. Presently, the NYS Farmstead and Artisan Cheese Makers Guild serves as the lone organization nurturing newcomers to farmstead and artisanal cheese production and looks to enhance both production and marketing resources available to local cheese makers.

Ultimately, value-added dairy product demand will be influenced by a combination of factors including consumer sensitivity to promotional efforts, purchasing

power, perceived product quality, producer effort to connect consumer to the production process, and product price. Moreover, consumer price sensitivity is market-specific. For example, upscale specialty gourmet shops in NYC may observe different sensitivities than retail outlets supplying immigrant and purely ethnic populations with authentic, native cheeses. The latter audience may not display the same willingness to pay price premia if they can produce similar products themselves at similar or lower cost. Thus, the allure of higher retail prices can be misleading since the degree of consumer price sensitivity varies by specific product and market.

While the range of new dairy products already available is significant, the proliferation of specialty cheeses may be one of the more commercially visible benchmarks of category growth. At the same time that traditional dairy product (i.e., fluid milk, ice cream) consumption is softening (IDFA, 2004), the explosion of specialty cheese varieties suggests that consumers are not abandoning dairy products all together. Rather, consumers are simply turning to different dairy products. Products with certain characteristics (e.g., milk type, production practices, quality perception) are increasingly valued by consumers and reflected in purchasing trends. From the perspective of the small-scale cheese maker, market signals suggest that consumers are eager to try high quality specialty cheeses. This receptivity holds true for cheeses across milk types and styles implying that product development is wide open for the discerning small-scale processor.

Market Size and Scope

The numbers behind the specialty cheese trend illustrate the degree to which this growth is occurring. The National Association for the Specialty Food Trade's (NASFT) most recent "State of the Specialty Food Industry" report indicates that 2004 specialty sales in general increased almost 30 percent relative to 2002 sales figures. In 2002, specialty cheese sales totaled \$701 million and in 2005, sales reached \$905 million. In dollar terms, specialty cheeses rank fourth in specialty food growth, falling behind beverages, condiments, and a broader dairy category (milk, eggs, yogurt, and other dairy). The NASFT report includes gourmet, ethnic, and organic natural cheeses in their specialty cheese definition (*Cheese Reporter*, June 2005).

In no way does consumer demand appear to be adversely affected by the lack of consensus on specialty cheese definition. At the most general level, 93 percent of all U.S. consumers enjoy cheese (Berry, 2004). Using U.S. per capita cheese consumption as a guide, 2003 statistics indicate U.S. consumers ate a record 30.6 pounds per person (IDFA).

Regarding consumer buying behavior, the 2003 70th Annual Report on the Grocery Industry noted that 36 percent of grocery stores were outfitted with specialty cheese counters (Van Wagner). This is particularly interesting in light of the increased competitiveness of acquiring shelf/counter space in grocery stores and suggests that management not only recognizes economic benefit through this type of resource

allocation but also anticipates growth. The report also found that 18 percent of shoppers *usually* or *frequently* stopped at the specialty cheese case, while an additional 36 percent did so *occasionally* (Van Wagner). That over half of all consumers surveyed are, at a minimum, occasional shoppers at the specialty cheese case implies an existing fundamental interest, which could be nurtured to grow demand. For those already frequenting the specialty cheese case, the opportunity exists to raise both their number of stops and length of stay.

Nationally, consumers appear to be turning to different types and styles of cheeses relative to those preferred in the past, as per 2003 supermarket sales data (Table 1) (IDFA). Cheeses are listed in Table 1 according to the magnitude of change in 2003 sales volume relative to 2002 values. Almost half of the list indicates double-digit growth in sales volume, and nearly one-quarter exhibit increases in excess of 20 percent. Of particular interest are the cheese types showing greatest volume growth: Asiago, Gorgonzola, Havarti, Gruyere, Muenster, Gouda, Provolone, Colby Jack, Edam, Blue, Feta, and goat. While these cheeses types have long been available to consumers, general consumer interest in these specialty types is growing demonstrably. A 2001 Restaurant Report queried chefs and retailers for the leading ten specialty cheeses of interest to consumers. The list includes fresh mozzarella, French Brie, Parmigiano-Reggiano, blue cheese, cheddar, feta, Swiss Emmentaler, French chevre, mascarpone, and provolone (University of Nebraska-Lincoln, 2001).

Other data of interest is that of random weight sales. Random weight sales offer consumers the ability to choose the specific quantity of cheese they wish to purchase. Random weight sales reflect sales in both the deli case, as well as cheeses cut to varying weights in the specialty cheese case (Table 2). Random weight sales data narrows the sale location for producers studying the impact of point of sale within the store. This has implications for producers seeking information about packaging and product placement for these cheese types.

The natural cheeses mentioned thus far are largely distinct from the artisanal and farmstead varieties on which this report focuses. Tables 1 and 2 are helpful in that they demonstrate a refinement of cheese tastes away from processed and commodity products. In one sense, they act as a first marker of the general population's awareness, and interest in, more specialized cheese types.

Again, the nature of small-volume, specialty cheeses does not lend itself well to statistical data. Processors of artisanal and farmstead cheeses turn out volumes so small as to make statistical tracking a genuine challenge at the state level. In addition, the number of individually unique cheeses produced further complicates data compilation. In sum, the lack of aggregate sales data prevents our ability to calculate more quantitative demand forecasts and likely growth rates. As an alternative, this report attempts to identify relevant price and volume points identified by retailers and chefs for the benefit of on-farm processors needing starting points for business and marketing plans.

Table 1. Supermarket Sales of Cheese By Type¹, 2003

Cheese	Sales Volume (Million Lbs.)	Percent Change (‘02-‘03)	Sales Value (Million \$)	Percent Change (‘02-‘03)	Unit Value (Volume/Value)
Asiago	0.9	49.0	7.6	46.2	8.4
Gorgonzola	1.2	46.1	12.8	47.7	10.7
Havarti	1.8	39.4	13.8	42.7	7.7
Gruyere	0.5	33.0	4.6	46.7	9.2
Muenster	9.7	29.5	50.9	26.7	5.2
Gouda	1.8	23.5	14.0	26.0	7.8
Provolone	12.3	18.9	70.6	19.1	5.7
Colby Jack	69.2	15.6	277.1	17.4	4.0
Edam	0.5	13.2	3.5	11.0	7.0
Blue	4.7	11.4	50.9	14.6	10.8
Feta	12.3	11.4	97.8	14.1	8.0
Goat	2.6	10.7	35.3	13.2	13.6
Swiss	56.2	9.1	291.9	9.4	5.2
Other Italian	6.8	7.9	29.6	6.6	4.4
Cheddar	530.7	6.6	2,176.5	6.4	4.1
Brie	3.7	6.2	37.8	10.5	10.2
Colby	28.0	5.8	106.1	6.3	3.8
Brick	0.2	5.6	0.8	-4.2	4.0
Monterey Jack	68.2	4.9	268.7	4.8	3.9
AOC	578.0	4.8	2,293.6	4.3	4.0
Total cheese ¹	2,224.6	3.7	8,685.3	3.9	3.9
Mozzarella	247.1	3.2	1,028.6	3.7	4.2
Camembert	0.5	0.6	5.4	4.4	10.8
Romano	2.6	-1.4	21.5	-0.6	8.3
American	584.5	-2.3	1,783.1	-4.6	3.1
Limburger	0.4	-9.1	3.0	-6.7	7.5

¹ Data compiled from supermarkets totaling more than \$2 million ACV.

Source: IDFA, 2004.

Table 2. Random Weight Cheese Sales by Type, 2003

Category	Total Sales (Million Lbs.)	Random Weight Sales (Million Lbs.)	Random Weight as Percent of Total (%)
American	693.90	91.20	13.10
Swiss	116.30	67.10	57.70
Cheddar	560.80	62.80	11.20
Provolone	37.80	27.40	72.60
AOC	265.40	21.70	8.20
Muenster	28.20	21.00	74.30
Monterey Jack	91.40	19.90	21.70
Colby	43.70	17.10	39.10
Colby Jack	72.10	11.90	16.50
Mozzarella	252.00	10.90	4.30
Brie/Camembert	10.60	6.60	62.10
Harvarti	7.40	6.10	82.20
Edam/gouda	7.60	5.70	75.30
Parmesan	56.50	5.60	9.90
Romano	8.00	5.00	63.20
Jarlsberg	5.60	5.00	90.00
Feta	15.80	4.80	30.50
Hispanic	29.00	3.40	11.90
Blue	7.30	3.10	41.60
Cream Cheese	244.60	0.40	0.20
Goat	2.30	0.10	5.20

Source: IDFA, 2004.

Production Cost Structure

The nature of specialty foods implies higher retail prices relative to bulk, commodity goods. In the case of specialty cheeses, retail price usually reflects smaller-batch size and attention to hand crafting of cheeses. These production characteristics strongly influence the cost structure of specialty cheese making operations. First, the combination of equipment purchases and the expense of establishing a production facility compatible with state regulations can invite high fixed costs of production. The ability to source equipment from secondary markets and use of an existing facility can significantly temper start-up costs. Moreover, these fixed costs are spread across small production volumes resulting in high per unit costs. The same holds true for variable costs, such as labor. The labor-intensive (i.e., hand crafted) nature of specialty cheeses is often what consumers are drawn to but at the same time, it is an economic cost that can work against the cheese maker. That specialty cheese production does not afford the cheese maker

economies of scale in production is only problematic if processors can not achieve higher prices to offset higher production costs.

New York dairy producers looking to initiate on-farm processing operations are advised to study their production cost structure carefully. Attractive retail prices do exist. The challenge lies in maximizing the production cost-retail price margin. One possible strategy is to minimize capital expenses through careful attention to plant design with scale-efficient equipment purchases in light of smaller production volumes.⁴

The Experience Curve

For their part, consumers have demonstrated their appreciation for almost any effort which brings them along the specialty cheese learning curve. Educational efforts such as product signage and cheese tastings are proven strategies at retail. One of the first means of communication with consumers is the signage on a cheese; signage shares information quickly and efficiently about product characteristics that consumers may especially value such as product uniqueness, limited distribution, quality-driven production techniques, and specific or unusual applications. In general, consumers seem increasingly interested today in connecting with their food source(s) and knowing more about production processes. This information is important enough that many of them are willing to pay premiums for products which dovetail with their food production values.

II. NEW YORK SPECIALTY CHEESE MARKET – DEMAND CONSIDERATIONS

Potential New York Growth Markets

Specific markets which on-farm dairy processors might consider when marketing their products include NY State wineries and certain NYC venues, namely specialty/gourmet shops and upscale restaurants. These markets were selected specifically for their compatibility with specialty dairy products. NY State wineries are a reasonable starting point given the age-old marriage of wine and cheese. This market opportunity would complement both the dairy and viticulture industries by creating a potentially win-win market growth scenario.

The NYC market options are attractive for a number of reasons, among them the size and diversity of consumers in the market. Second, many consumers in the NYC market have, and are willing to spend, disposable income on high-end specialty food products. This interest in unique, quality-focused foods is reflected in both retail and restaurant expenditures. A third attractive feature for on-farm processors is the relative

⁴ This report invites a number of technical, production-based questions such as “What does the ideal small-scale plant design look like?” and “How does the regulatory environment change for small-scale processors relative to larger processors?” These questions are posed as starting points for future research.

proximity to NYC, as well as other large east coast metropolitan areas. This proximity has implications for product shipping/transportation which is an important consideration for processors of highly perishable dairy products.

New York State Wineries: Market Overview

The possibility of growing both the NY State grape and dairy industries, through a joint wine and cheese marketing effort behooves both commodity groups. Nationally, NY is the third leading grape production state behind California and Washington (USDA, 2005). In NY, the grape industry is the third largest agricultural industry behind dairy and apples (USDA, 2004).

Visitor numbers provide a helpful reference for estimating the potential size of the specialty cheese market in NY's wine producing regions. In 2003, slightly over four million people visited NY wineries, with all wine-producing regions observing increases over the previous year's attendance numbers (New York Winery Survey, 2004). It appears that the majority of winery visitors stop for general purpose visits, versus the 6 (9) percent who visited for winery- (wine-trail-) specific events (New York Winery Survey). Information regarding consumers' intent may be especially helpful for cheese makers looking to cater their marketing efforts.

New York is home to five wine-producing regions. Listed in west-to-east order, these regions include Western NY, the Finger Lakes, Central NY, the Hudson Valley, and Long Island. A total of 180 wine retail outlets have been identified from the list of wineries provided by the NY Wine and Grape Foundation (Table 3). These wineries may or may not belong to individual wine trail associations typically associated with each region.⁵

The Finger Lakes region constitutes the single largest block of wineries in NY (Table 3). Within the Finger Lakes region there are groups of wineries associated with each of the four lakes: Canandaigua, Keuka, Seneca, and Cayuga. With 83 wineries, the Finger Lakes region represents almost half (45.6 percent) of all wineries in the state. The two smallest regions, based on winery count, are Western and Central NY with 16 and 15 wineries, respectively. As one moves farther east, the Hudson Valley and Long Island regions are home to 30 and 36 wineries, respectively.

Historically, upstate NY wine producing regions have been recognized for their sweeter wines derived from labrusca grape varieties. More recently, vintners have experimented with other varieties so that today, there are a few prominent wine types which excel in the production area microclimates. In Long Island, the historical production scenario is quite different as vintners have grown only dry vinifera varieties.

⁵ Excluded from this group are the approximately 10 wineries having a NYC address (The NY Wine and Grape Foundation, 2004).

Table 3. NY Wine Region Profiles

Wine Production Region	Number of Wineries	Prominent Wine Varieties
Western NY	16	Seyval, Chardonnay
Finger Lakes	83	Riesling, Cabernet Franc, Chardonnay
Central NY	15	Riesling, Chardonnay
Hudson Valley	30	Riesling, Seyval, Chardonnay
Long Island	36	Merlot, Chardonnay, Cabernet Franc
Total	180	

Despite climatic and geographical differences across regions however, Chardonnay remains one variety common to all areas. For this reason, Chardonnay is selected at the outset as a targeted variety for pairing with new specialty cheeses. Help in identifying the two to three wine types particularly well-suited to the individual wine growing regions was received from the NY Wine and Grape Foundation, individual producers, and wine trail presidents. The prominent wine varieties identified are used as a reference point for later development of new specialty cheeses.

At the state level, approximately 60 percent of the annual grape yield is dedicated to juice production, with the balance of 40 percent used in wine crushings (USDA, 2005). Moreover, approximately 60 of the state's juice grape production is grown in the Western/Lake Erie region (USDA, 2005). Juice grape varieties typically grown here include Concord and Catawba. In discussion, representatives from the NY Wine and Grape Foundation expressed interest in tailoring a juice-cheese pairing for children in light of this particular region's production profile. This opportunity is one not initially anticipated but one that may be worth pursuing in Western NY. Cheese pairings geared toward children will likely focus on taste and convenience, in addition to the premium placed on visual appeal.

Upstate NY's wine producing regions tend to produce exceptional Chardonnay and Riesling wines. Western NY and the Hudson River Valley, have slightly different strengths in that they both do Seyval wines unusually well (Table 3). The geographic characteristics of Long Island make it better suited to producing high quality Merlots and Cabernet Francs (Table 3). Together, the five wines which dominate the NY grape production scene include, Cabernet Franc, Chardonnay, Merlot, Riesling, and Seyval (Table 3).

Having identified varieties that the individual wine producing regions produce particularly well, discussion turns to the food community for help with wine and cheese

pairings. Information regarding cheese and wine pairings provided here is adapted from Laura Werlin's The All American Cheese and Wine Book: Pairings, Profiles, and Recipes (2003). The goal here is not to name specific cheese recipes but rather to earmark *types* of cheeses that are especially well-suited to the identified varietals in each wine region. Discussion begins with cheeses that complement the three white wines: Chardonnay, Riesling, and Seyval (Table 4). Discussion of cheeses that are better suited to the two red wines, Cabernet Franc and Merlot, follows.

Table 4. Suggested Wine and Cheese Pairings*

Cheese Style	White Wines			Red Wines	
	Chardonnay	Riesling	Seyval	Cabernet Franc	Merlot
Fresh/Soft	x		x		
Semi-soft		x		x	
Soft-ripened	x				
Washed rind		x			
Semi-hard		x			x
Hard		x			
Blue		x			x

*Adapted from The All American Cheese and Wine Book, L. Werlin.(2003)

In general, Werlin notes that pairings are less challenging for wines possessing more fruit flavors, characteristic of many white wines. "White wines, with their less assertive (though not necessarily less complex) nature, are simply more cheese friendly" based on their higher acidity levels and the presence of buttery and/or fruit flavors (Werlin). For example, fresh or soft cheeses, as well as some goat cheeses, pair especially well with Seyval given their similar acidity levels.

The buttery flavor of many white wines pairs well with soft-ripened cheeses and certain white wines such as non-oak aged Chardonnays. Aged cheeses also typically do well with wines with a buttery background. Chardonnay, a prominent wine in the five regions, is a good complement to fresh/soft and soft-ripened cheeses typically characterized by milder flavors and creamy textures. For NY sheep milk producers, fresh/soft and hard cheeses, may be two highly attractive product types for pairing with locally produced Chardonnays. Fresh goat's milk cheese is another suggestion for pairing with Chardonnay (Werlin).

Riesling, normally very fruity in nature, pairs well with the largest number of cheese types. With the exception of fresh/soft cheeses and soft-ripened cheeses, all other cheese types tend to compliment Riesling well. Semi-hard cheeses made from all milk types are especially good with a glass of Riesling (Werlin).

Interestingly, red wines are those with which we historically think first of pairing with cheese. However, the heavier texture, and fewer fruit flavors associated with these wines make them slightly more challenging to pair with cheeses. Cabernet Franc and Merlot are nice matches for cow and sheep milk semi-soft cheeses. Merlots pair well with semi-hard cheeses of all milk types, in addition to blue cheeses with their stronger, often pungent aromas (Werlin).

In sum, both Chardonnay and Riesling pair particularly well with the most cheese types. This affords the small-scale processor a greater product range from which to customize a specialty cheese product. All seven cheese types are particularly well-suited to at least one of NY's wine producing region or another. That is, there is no one cheese type category that is without a potential home market somewhere within the five identified wine-growing regions.

New York State Wineries: Survey Results

The above information provides a useful starting point for exploring new product styles and types well-suited to New York's wine producing regions. However, to broaden the marketing assessment effort, a survey was conducted to determine additional information regarding product perceived customer price points and demand patterns, winery interest in local specialty cheeses production, and distribution issues, among others. Reported percentages reflect only the number of respondents answering each question. Survey questions were meant to address the following issues:

- Existing and anticipated refrigeration capabilities,
- Current specialty cheese offerings,
- Receptivity to selling locally produced specialty cheeses,
- Approximate price per pound estimates that respondents believe customers would be willing to pay,
- Preference for working through a cheese maker versus a distributor,
- Perceived strengths and weaknesses in working with small, on-farm cheese makers,
- Preferred delivery volumes and schedule,
- Attractiveness of producer-supplied information about cheese products, and
- Interest of restaurant chefs affiliated with a winery.

Surveys were sent to each of the 180 winery outlets associated with the NY State Wine and Grape Foundation. In three cases, wineries noted their association with another retail outlet and only one response was received for both enterprises. Thus, the total number of wineries considered totaled 177. A total of 56 responses were received, providing an overall response rate of 31.6 percent (Table 5).

Table 5. Summary Winery Survey Responses

	Count	Percent
Number of surveys mailed	177	
Number of surveys completed	56	31.6
<hr/>		
Group 1: Do not currently carry non-wine food products	10	17.9
<hr/>		
Group 2: Currently carry non-wine food products	46	82.1
Currently carry specialty cheeses		
Responses		
Yes		
No		
Refrigeration capabilities		
Responses	46	
Yes	40	87.0
No	6	13.0
Inclination to expand refrigeration capabilities		
Responses	43	
Yes	11	34.9
No	11	25.6
Uncertain	17	39.5
Perceived consumer willingness to pay per pound		
Responses	45	
Uncertain/didn't answer	14	31.1
Varies with the market	3	6.7
Providing numeric estimates	28	62.2
\$1.00-\$3.00	2	10.7
\$3.00 - \$5.00	7	25.0
\$5.01 - \$7.00	10	35.7
\$7.01 - \$9.00	5	17.9
\$9.01 - \$11.00	0	0.0
\$11.01 - \$13.00	1	3.6
\$13.01 - \$15.00	0	0.0
\$15.01 - \$17.00	0	0.0
\$17.01 - \$19.00	1	3.6
> \$19.00	1	3.6
Average price = \$6.79		

Table 5. Summary Winery Survey Responses Cont'd.

	Count	Percent
Supplier preference		
Responses	38	
Individual cheese maker	2	68.4
Distributor	26	5.3
Either	10	26.3
Preferred delivery frequency		
Uncertain/Did not answer	21	45.7
Providing frequency-specific responses	25	54.3
Weekly	13	52.0
Every 2 weeks	5	20.0
Monthly	6	24.0
As needed	1	4.0
Preferred volume per delivery		
Uncertain/Did not answer	26	56.5
Providing volume-specific answers	20	43.5
Weekly		
5 lbs	4	20.0
5-10 lbs	1	5.0
10 lbs	2	10.0
50 lbs	1	5.0
Monthly		
5 lbs	1	5.0
10 lbs	2	10.0
20 lbs	2	10.0
20-30 lbs	1	5.0
Every 2 weeks		
3 lbs	1	5.0
5 lbs	1	5.0
10 lbs	1	5.0
20 lbs	1	5.0
20-30 lbs	1	5.0
As needed		
30-40 lbs	1	5.0

The survey initially categorizes wineries into two classifications depending upon whether they currently carry non-wine food products (Table 5). Group 1, which does not currently carry food products, represented 17.9 percent of respondents. The primary reason for not carrying food products was largely based on square footage/space constraints. The survey also inquired as to whether having access to more locally produced specialty cheeses would encourage expansion of refrigeration capacity. The majority of Group 1 was not inclined to expand refrigeration capacity, citing smaller business size as a key factor.

Group 2, representing wineries already carrying non-wine food items, represented the remaining 82.1 percent of the respondent pool (Table 5). Two-thirds of Group 2 indicated they already carry specialty cheeses. Collectively, they are carrying products produced by the following cheese makers (listed in alphabetical order): Catapano Farms, Coach Farm, Cuba cheese, Heluva Good, Kutter's, Lively Run, Nettle Meadow, Old Chatham, Palatine Dairy, River Rat, Rondele, Sidehill Acres, Sprout Creek, Sunset View Creamery, and Yancey's Fancy. Though many of these cheese makers are not on-farm processors, the list reflects managers' interest in carrying differentiated cheese products.

Eighty-seven percent of Group 2 further indicated that they currently have food-based refrigeration capabilities (Table 5).⁶ (The remaining 13.0 percent are assumed to carry food products not requiring refrigeration.) When queried further, this same group expressed diverse interest in expanding refrigeration capabilities based on an increased product offering. One quarter (25.6 percent) of respondents answered that they would not consider refrigeration capital expansion versus the 34.9 percent who indicated they would. The remaining 39.5 percent were uncertain as to their future refrigeration expansion plans. Refrigeration capability was viewed as a critical logistical issue given its necessity for storing perishable dairy products. It appears that the majority of respondents are receptive to increasing storage/retail capacity in light of greater specialty cheese product choice.

When asked directly about their interest in having more locally produced specialty cheeses available to them, respondents were very positive. On a scale of 1 to 5, where 1 (5) reflects high (low) interest, a full 80.0 percent expressed strong to moderate interest (rating = 1 or 2) (Table 6). An additional 13.3 percent indicated they were indifferent (rating = 3) and a combined 6.6 percent indicated they were not interested (rating = 4 or 5). The 80.0 percent receptivity rate is encouraging for small-scale processors since retailers act as a filter for perceived potential consumer demand.

⁶ Here, refrigeration capability refers to units intended for non-wine use. It is assumed that wineries possess some refrigeration dedicated solely to wine-only use.

Table 6. Specialty Cheese Interests*

	Count	High Interest	Moderate Interest	Indifferent	Low Interest	No Interest
		Percent of Respondents				
Receptivity to local specialty cheeses Responses	45	57.8	22.2	13.3	2.2	4.4
Producer-supplied promotional materials Responses	42	47.6	31.0	21.4	0.0	0.0
Winery-affiliated restaurants Responses	43					
Have restaurant	8					
Chef interest in local cheeses		28.6	57.1	14.3	0.0	0.0
Do not have restaurant	35					

* Interest was rated on a 5-point Likert scale: 1 = High Interest, 2 = Moderate Interest, 3 = Indifferent Interest, 4 = Low Interest, 5 = No Interest.

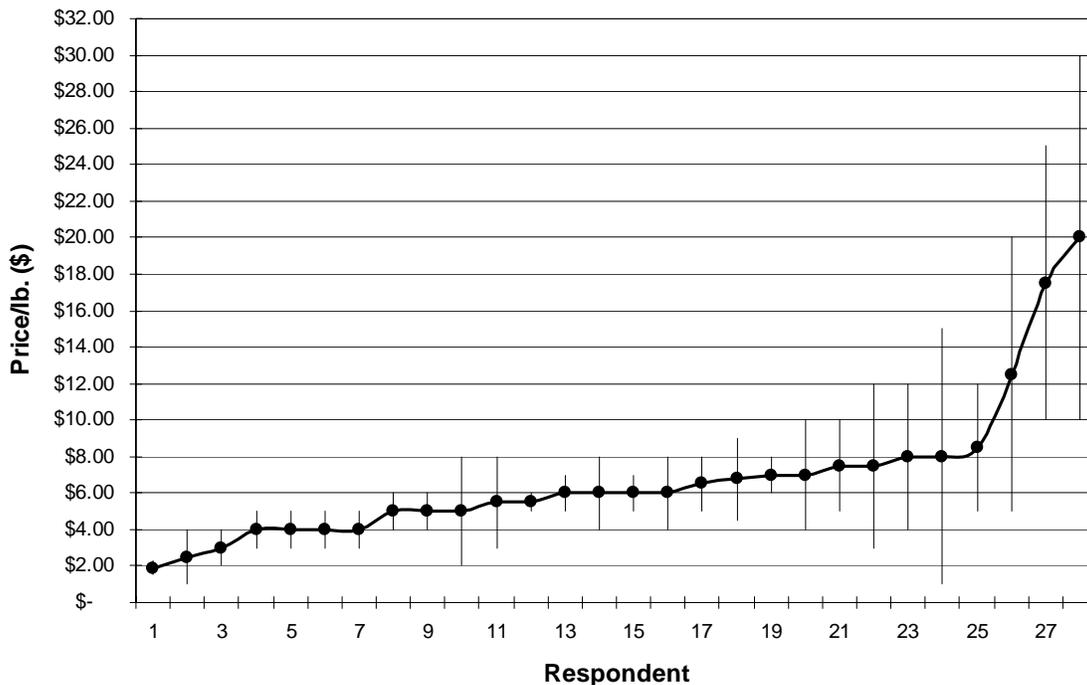
Winery respondents were then questioned about the price per pound they thought they could, or currently do, charge customers (Table 5). Almost one-third (31.1 percent) of respondents were unsure or chose not to answer. This uncertainty is likely attributed to respondents' limited experience with cheese. Moreover, of those providing price estimates (62.2 percent), there was considerable diversity in what they believed consumers would be willing to pay. This diversity of answers implies that either there is significant variation in consumer willingness to pay across wine trail markets or there is considerable uncertainty on the part of winery respondents as to what the market will bear. To illustrate, the minimum per pound price suggested that consumers would be willing to pay was \$1.50 in contrast to the maximum of \$30.

Despite the diversity of price estimates though, approximately 80 percent of estimates are concentrated in the \$3 and \$9 per pound range. The collective group average falls at \$6.79 per pound and is calculated as an average of the individual midpoints determined from price ranges provided by respondents (Table 5).⁷ This price was calculated as an average of the individual midpoints determined from respondents' price ranges illustrated in Figure 1. The smoothed horizontal line is a compilation of the individual retailer price averages. The vertical lines for each respondent illustrate the minimum and maximum each respondent believed their customers would be willing to pay, or currently observe customers paying. Though the high degree of variability surrounding these price ranges may weaken confidence, the \$6.79 per pound price is a

⁷ One respondent provided an \$8.00 per pound starting price but did not provide an endpoint.

useful starting point. An additional three respondents (6.7 percent) indicated that the prices of cheeses currently carried fluctuate with the market and did not provide numeric answers.

Figure 1. Winery Customer Willingness to Pay Estimates



Weak price point interpretation suggests that this will be an area for the winery owner/manager and cheese maker to address early in their marketing relationship. Well-defined production cost knowledge on the part of the cheese maker will work to further enhance price point interpretation. Winery respondents are likely to welcome additional information that helps them refine price points from a retail customer perspective.

Winery respondents were queried about their preference for working directly with local cheese makers versus a distributor. The vast majority, 68.4 percent, preferred to work directly with local cheese makers (Table 5). Respondents' primary reason for preferring the cheese maker was price-driven, believing that avoiding the middleman afforded them a lower purchase price. A second leading reason for respondents' cheese maker preference included a perceived non-pecuniary relationship benefit. Respondents appear to be drawn to the idea of having a personal relationship with local cheese makers, especially if it encourages improved product information and service.

Winery retailers were also asked about their perceived drawbacks of working with small cheese makers. This question generated an 81.0 percent response rate, and respondents were asked to provide all concerns, not simply their top concern. The majority of respondent concerns fall under service, delivery, and/or product quality

categories. Concern about cheese maker service, in terms of consistency and responsiveness, was the primary concern. As a counter point, two respondents commented that they found existing cheese makers with whom they work too aggressive in terms of supply checks and sales promotion. The second leading concern was delivery practices and specifically, schedule regularity and consistency, ability to accommodate minimum or late orders, and shipping costs. A third concern for respondents was product-based. Respondents expressed concern about short supply volumes, product inconsistency, and overall lack of cheese maker attention to product and process.

On the other hand, some respondents (5.3 percent) perceived a price disadvantage in working with the on-farm cheese maker, believing that their prices may not be as competitive with distributor prices. The ability to minimize administrative and logistical tasks with a single supplier, as well as the idea of one-stop shopping, was highly desirable. Respondents also commented that there are too few small-scale cheese makers, thereby increasing search and administrative costs. The remaining 26.3 percent of respondents were indifferent between working with cheese makers or distributors. Many in this last group failed to offer an explanation though one respondent was partial to whichever supplier offered a better price.

Although many respondents do not carry specialty cheeses, they were asked about their preferred delivery frequency and volume should they initiate sales. In both cases, approximately half of the group expressed uncertainty about these issues or did not answer (Table 5). Regarding preferred delivery frequency, 54.3 percent of respondents provided specific time preferences. The majority of respondents (52.0 percent) preferred weekly deliveries, though monthly (24.0 percent) and bi-weekly (20.0 percent) were also popular. One respondent (4.0 percent) indicated they would like delivery on an “as-needed” basis.

In terms of specific volume preferences per delivery, less than half (43.5 percent) provided numeric responses. Twenty percent of this group preferred 5 pound weekly deliveries, making it the top choice among respondents. There was a three-way tie for the second most popular choice among 10 pounds weekly, 10 pounds monthly, and 20 pounds weekly (10 percent each). All other volume preferences each carried one vote (5.0 percent each). Note that the disparity between top choices in delivery frequency and volume preferences is due to five respondents who noted that they prefer weekly deliveries, yet did not identify a specific volume preference per weekly delivery.

These two particular delivery questions reveal the importance of synchronizing logistical concerns between buyer and seller, as well as providing cheese makers with a sense of market size. First, frequent delivery of small volumes introduces higher distribution costs, particularly in the face of increased fuel rates. Second, while respondents appear highly interested in having greater access to locally produced specialty cheeses, they are also signaling relatively small volume demand.

More than 12.0 percent of the respondents answering the delivery questions introduce the issue of seasonality as a factor in determining their preferred delivery

volume and frequency. This concern, coupled with the fairly low volume weekly sales expectation, suggests that this may be a particularly attractive market outlet for the smaller processor with seasonal production, thus eliminating balancing concerns.

The overwhelming majority (78.6 percent) of winery respondents strongly agreed (rating = 1 or 2) that cheese maker-supplied promotional materials encouraged customer purchases (Table 6). The remaining 21.4 percent displayed some level of indifference (rating = 3) but no one indicated it was a wholly unattractive resource. For small-scale cheese makers, creation of promotional materials may be time consuming but winery respondents felt it would be positively correlated to product sales.

Because some wineries have restaurants, the survey also sought to identify chefs' interest at restaurants affiliated with wineries. While chef interest was positive, this group reflects slightly less than 20 percent of survey respondents (Table 6). Only one winery respondent indicated indifference to increased dairy product availability. The remainder expressed high or very high interest (85.7 percent, combined). None of the respondents responded negatively to having more locally produced specialty cheeses available.

When asked about the 2-3 wine varieties they believed their region produced particularly well, a disproportionate share (54.3 percent) of respondents represented the Finger Lakes region, leaving too few observations to interpret other regions' strengths. Moreover, there was great diversity amongst Finger Lakes respondents. In general, the number and variety of responses was too varied across all production regions to use as a reliable measure. One possibility is that winery survey respondents answered based on individual facility/vineyard versus regional strengths. The question was intended as an affirmation of varieties identified in Table 1 however, response characteristics did not lend themselves well to this strategy.

Finally, the survey asked for additional comments from winery respondents, offering them an opportunity to expand on certain issues or highlight ones not addressed directly in the questionnaire. Many comments dovetailed with one another. Five respondents reiterated a general interest in having increased access to specialty cheeses produced in the region, with an additional two respondents stating that they are already looking to add cheeses to their product line within the coming year.

Two respondents returned to the topic of refrigeration. One noted concern that they achieve a return within a two year period on refrigeration expansion investment. The other respondent expressed interest in leasing a small refrigeration case from a cheese maker in an effort to avoid this investment all together. And while leasing equipment may not be attractive to small-scale processors, the comment implies that winery managers/owners are looking at alternative ways to make specialty cheeses a financially feasible retail option.

Respondents returned to the issue of seasonality, believing that the nature of small sales volumes across select months of the year make wineries a more attractive secondary

outlet for smaller-sized processors instead of a primary outlet. In a similar vein, other comments addressed the desire to carry unique products which makes it challenging to place any one cheese maker's product in too many winery outlets along the same wine trail.

The idea that cheese maker's may want to geographically diversify their markets is valid, though it introduces additional delivery constraints for those self-distributing. In this market, self-distribution will work to minimize marketing expenses on an already small volume of product. To illustrate, the small-scale processor supplying 5-10 pounds of product at the average per pound price of \$6.79, yields approximately \$35.00 to \$70.00 in total weekly revenue per winery supplied. This relatively small amount encourages cheese makers to supply greater numbers of winery outlets but at the same time, is weighed against the distribution costs associated with supplying more distant markets.

Remaining comments addressed the issue of who would bear the costs associated with providing cheese samples. One winery respondent did not perceive enough economic benefit, at current margins, to assume this cost. While sampling is recognized as an important lure for consumers, respondents would prefer that the cheese maker assume this expense.

New York State Wineries: Key Findings

Overall, there appears to be strong interest from NY state wineries in having more locally produced specialty cheeses available. In part, this is motivated by respondents' interest in supporting local dairy producers and the local economy. That said, winery respondents called attention to three issues in particular. First, considerable variability exists in terms of what respondents believe consumers will pay per pound of specialty cheese. Moreover, this variability does not appear to be unique to any one wine producing region, suggesting that there is not a geographic component to this price uncertainty. This uncertainty may be attributed to several factors including a short track record for specialty cheeses, the small volumes demanded on a weekly basis, and the number of product options currently in the winery market. Working with the manager/owner to refine price estimates will be an important first step in the winery-cheese maker relationship.

Second, winery respondents showed a strong preference for working directly with the cheese maker. At the same time, respondents were simultaneously concerned with supply consistency and the degree to which cheese makers prioritized reliable delivery services. Both issues are likely to be prominent ones that should be addressed explicitly from the outset.

Third, cheese makers will need to recognize how a combination of low weekly volume demand, tourist seasonality, and the need for geographic product diversification affect the economic attractiveness of this market. Even if survey respondents have underestimated product sales volumes, the question remains whether or not there is sufficient demand in the face of marked seasonality. In addition, winery respondents

were drawn to product uniqueness, preferring not to carry cheeses that would be found in multiple other nearby outlets. This creates a bit of a balancing act for local cheese makers who seek the greatest visibility without compromising the appearance of product novelty. In general, the wine trail regions are likely to be best suited to cheese makers who are less averse to production seasonality and smaller volumes, but who place a premium on nurturing a close working relationship with winery owners/managers. Early on though, cheese makers interested in supplying this market will need to address the pricing, delivery, and product visibility concerns expressed by survey respondents.

New York City Specialty/Gourmet Shops: Market Overview

The size and population diversity of NYC makes specialty/gourmet shops a natural home for value-added dairy products. The relative proximity to such a large urban market affords on-farm NY processors additional retail and wholesale opportunities. Other artisanal cheese production regions at greater geographic distance from urban centers may find transportation costs a barrier in providing timely delivery of a perishable dairy product to market. Coupled with the relative logistical ease of supplying this market, consumers are demonstrating interest in locally produced foodstuffs, such that they would be willing to pay higher retail prices.

Surveying personnel at NYC specialty/gourmet shops provides a good base for metropolitan market evaluation. Of particular interest are the cheese buyers at these outlets who are well-positioned to observe consumer tastes and preferences. The Zagat Survey® 2004 NYC Marketplace Guide is used to identify specialty shops of interest. The Marketplace Guide is particularly helpful in that it identifies stores with cheese and dairy offerings. Specialty shops typically fall into one of two categories: general specialty shops specializing in higher-end, unique food products and shops dedicated almost solely to cheese.

A total of 53 stores carrying cheese and dairy specialty products were targeted from Zagat's Marketplace Guide® (Table 7). Zagat's Marketplace Guide® provides three pieces of information which are helpful in creating retailer profiles. One of these pieces is a cost categorization. Cost categorization is based on survey respondents' estimates of product price ranges at a particular establishment and does not correspond to any specific price ranges (Zagat Survey® 2004 NYC Marketplace). The largest (smallest) number of shops fall under the moderate (very expensive) price category representing 56.6 (5.7) percent of the total group.

The remaining two pieces of information address mail order options and whether or not the retailer maintains an internet presence. As a group, 45.0 percent provide a mail order option while 61.7 percent maintain an internet presence (Table 7).⁸ Looking at mail order and internet presence factors alone, at least one-third of retailers across cost categories offer one or the other. A mail order option is available from at least one-third of retailers in each price category and as many as two-thirds in the very expensive

⁸ Retailers providing an internet site may also offer a mail order option through the website.

Table 7. Profile of Selected NYC Specialty Shops

Cost Category	Representation	Mail Order Availability	Internet Presence	Both*	Neither**
	Percent				
Inexpensive	18.9	40.0	40.0	10.0	30.0
Moderate	56.6	43.3	36.7	26.7	46.7
Expensive	18.9	30.0	70.0	30.0	30.0
Very Expensive	5.7	66.7	100.0	66.7	0.0
Category Average		45.0	61.7	33.3	26.7

*Both refers to mail order availability and internet presence.

**Neither refers to absence of mail order availability and internet presence.

Source: Zagat Survey®, 2004 NYC Marketplace Guide

category. Percentages of those with a web presence range from approximately one-third of retailers in the moderate category to all of the retailers in the very expensive category.

The percentage of retailers offering both services increases as one moves towards more expensive cost categories. Offering both services may afford the more expensive retailers a means of broadening their customer base beyond their immediate geography. While far fewer “very expensive” retailers are represented, they do have the highest rates for both services proportionally.

Interestingly, the percentage of retailers offering neither service ranges from approximately 30 to 47 percent for all categories but the most expensive. In the very expensive category, all retailers provide at least one of these two services. This type of information is useful in determining to what extent non-brick-and-mortar commercial visibility is emphasized. Cheese makers looking to NYC outlets for their cheeses may be drawn to particular visibility profiles offered by the retailer.

Survey questions were designed to elicit feedback regarding:

- Type of service provided (e.g., retail versus retail and wholesale),
- Number and geographic origin of specialty cheeses carried,
- Observed use of specialty cheese (e.g., hors d’oeuvres, cooking, dessert),
- Perception of specialty cheeses as a growth category and receptivity to carrying more locally-produced cheeses,
- Price discovery,
- Logistical purchase preferences,
- Preference for working through distributors versus individual cheese makers,
- Leading concerns when working with individual cheese makers,
- Extent to which seasonality of demand is a factor for retailers,

- Type and level of reliance upon select promotional activities,
- Specialty cheese selection criteria,
- Type of specialty cheese information provided by retailers,
- Factors influencing in-store cheese tastings,
- Retailer interest in a holiday basket featuring NY specialty cheeses,
- References utilized by retailers regarding specialty cheeses, and
- Upcoming trends in specialty dairy products.

New York City Specialty/Gourmet Shops: Survey Results

Of the 53 specialty/gourmet shops that received surveys, 11 completed the questionnaire for a participation rate of 20.8 percent (Table 8). Again, the diversity of store profiles is reflected in survey responses and reported statistics do not necessarily distinguish among the different store types.

When asked to rank their interest in having more NY-made specialty cheeses available to them, almost three-quarters (72.7 percent) express strong interest (moderate interest plus high interest responses)(Table 9). The remaining responses reflect indifference (18.2 percent) or a lack of interest in these products all together (9.1 percent).

The percent of survey respondents who responded that they provide retail services solely was 54.5 (Table 8). The balance of respondents, 45.5 percent, offers both retail and wholesale services. No clear pattern emerges linking the number of cheeses carried, number of chef supplied specialty cheeses, and the proportion of retail to wholesale purchases. In general, it appears that specialty shop respondents and chefs are motivated to work together, taking into account a variety of factors.

In general, specialty shops providing wholesale services exhibit a larger number of specialty cheeses relative to those providing retail service solely. Some retail-wholesale operations carry as few as 20 or as many as 400. The simple average exceeds 150 specialty cheeses but one-third of all respondents indicated they carry 50 cheeses or less at one time.

All respondents (90.9 percent) save for one, perceived specialty cheeses to be a growth market (Table 8). Respondents attributed consumer interest to the increasing sophistication of the consumer via travel, media coverage, and availability of cheese classes. Consumer interest in high protein diets was also recognized as a contributing factor. Respondents were also in agreement regarding consumers' primary use of specialty cheeses. The leading use of purchased artisanal and farmstead cheeses is for hors d'œuvres, followed by dessert trays, and cooking recipes.

Table 8. Summary NYC Specialty Shop Survey Responses

	Count	Percent
Number of surveys mailed	53	
Number of surveys completed	11	20.8
<hr/>		
Services provided		
Responses	11	
Retail only	6	54.5
Retail and wholesale	5	45.5
Perception of specialty cheese as a growth market		
Responses	11	
Yes	10	90.9
No	1	9.1
Willingness to pay supplier per pound, respondent averages		
Responses	10	
\$3.00 - \$5.00	2	20.0
\$5.01 - \$7.00	3	30.0
\$7.01 - \$9.00	3	30.0
\$9.01 - \$11.00	1	10.0
\$11.01 - \$13.00	1	10.0
Average price = \$7.25		
Perceived consumer willingness to pay per pound, respondent averages		
Responses	11	
\$5.01 - \$7.00	2	18.2
\$7.01 - \$9.00	0	0.0
\$9.01 - \$11.00	3	27.3
\$11.01 - \$13.00	0	0.0
\$13.01 - \$15.00	0	0.0
\$15.01 - \$17.00	2	18.2
\$17.01 - \$19.00	1	9.1
> \$19.00	3	27.3
Average Price = \$14.34		

Table 8. Summary NYC Specialty Shop Survey Responses Cont'd.

	Count	Percent
Proportion of cheese purchased by supplier type		
Responses	10	
Majority of product supplied by		
Distributor	7	70.0
Individual cheese maker	2	20.0
Both in approximately equal volumes	1	10.0
Average percent of total product supplied by		
Distributor: 69.0		
Individual cheese makers: 31.0		
Preferred contact strategy for cheese maker		
Responses	10	
Distributor	2	20.0
Direct retailer contact	6	60.0
Either	1	10.0
Other:	1	10.0
Preferred volume per delivery		
Responses	11	
Function of cheese characteristics, distribution, etc.	3	27.3
As needed	1	9.1
Providing numeric estimates	7	
< 50 pounds	1	9.1
51 - 100 pounds	1	9.1
101 - 150 pounds	0	0.0
151- 200 pounds	2	18.2
> 500 pounds	3	27.3
Preferred delivery frequency		
Responses	11	
Unsure/Left blank	2	18.2
Function of cheese traits and distribution	3	27.3
Providing time preferences	6	
More than once a week	2	18.2
Weekly	2	18.2
Bi-weekly	1	9.1
Monthly	0	0.0
As needed	1	9.1

Table 8. Summary NYC Specialty Shop Survey Responses Cont'd.

	Count	Percent
Primary information sources provided to customers		
Responses		
Store employees	10	
Cheese display signs	7	
Recipes	3	
Other	2	
E-mails	0	
Postal mailings	0	
Primary information sources for cheese buyers		
Responses		
Suppliers/distributors	7	31.8
Individual cheese makers	6	27.3
Fancy Foods Show	4	18.2
General cooking forums	3	13.6
Customer questions/discussion	2	9.1
Specific columnists	0	0.0

Table 9. Respondent Receptivity to Locally Produced Specialty Cheeses

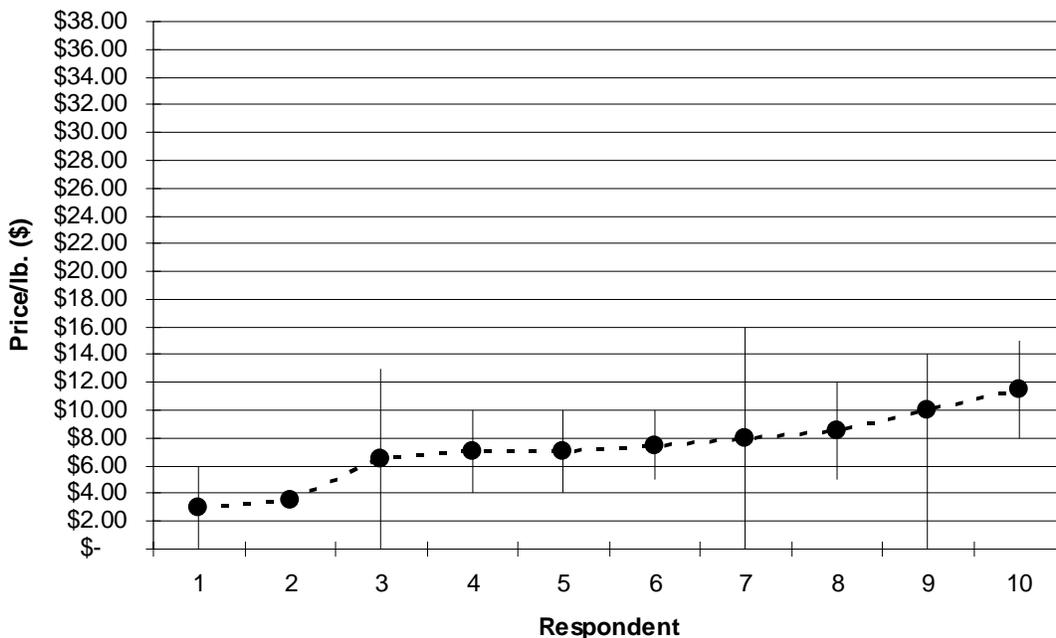
	High Interest	Moderate Interest	Indifferent	Low Interest	No Interest
Receptivity to NY specialty cheeses					
Response Count	6	2	2	0	1
Percent	54.5	18.2	18.2	0.0	9.1

One of the most important pieces of information generated by retailers is their perception of specialty cheese price points. Survey questions addressed retailers' willingness to pay suppliers, as well as retailers' perceptions of consumer willingness to pay. Information of this type helps supply-chain participants refine price points, particularly for niche products that often have fewer competitors available for price comparison.

Regarding retailers' purchase price sensitivity, respondents were asked to provide a price range across which they are willing to pay suppliers per pound of specialty cheese. As a group, retailer respondents indicated they are willing to pay suppliers between \$3 and \$11.50 per pound of specialty cheese, with the group average falling at \$7.25 per pound (Table 8)(Figure 2). Sixty percent of respondents answering the

question however, fall in the \$6.50 to \$8.50 per pound range. This latter group's average falls at \$7.42 per pound.

Figure 2. Retailer Willingness to Pay Per Pound



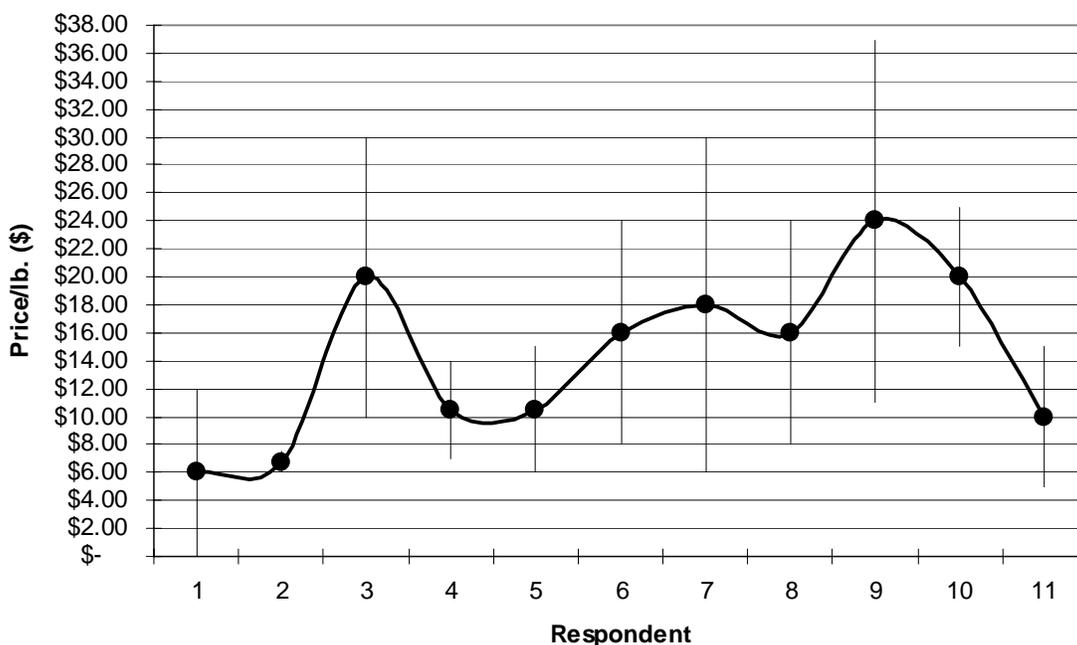
An individual respondent's price is calculated by averaging the minimum and maximum prices provided. In Figure 2, the endpoints on each vertical line represent the high and low prices associated with each respondent's price range. Respondent price ranges are provided as a show of response breadth. For example, Respondent 2 indicated they were much less inclined to vary the amount they paid suppliers than did any other respondent. Where the minimum price is \$0, respondents indicated they would be willing to pay up to a certain price per pound. The smoothed horizontal line in Figure 1 captures individual retailer midpoints. Note that these price ranges reflect retailer willingness to pay all suppliers, not necessarily distributors alone.

For cheese makers, these price ranges establish a reference point from which to compare production and distribution costs. While more observations would have been preferred, the \$7.25 group average establishes a starting point (Table 8). This value identifies a threshold below which small-scale processors will want to provide their cheese to market. Once all production expenses have been calculated, cheese makers wanting to supply NYC specialty shops could compare the sum of production expenses against the average retailer willingness to pay per pound of cheese.

The second half of the price point discussion involves retailers' perception of customers' willingness to pay (Table 8)(Figure 3). Again, the vertical lines represent price range estimates while the smoothed horizontal line connects individual respondent's

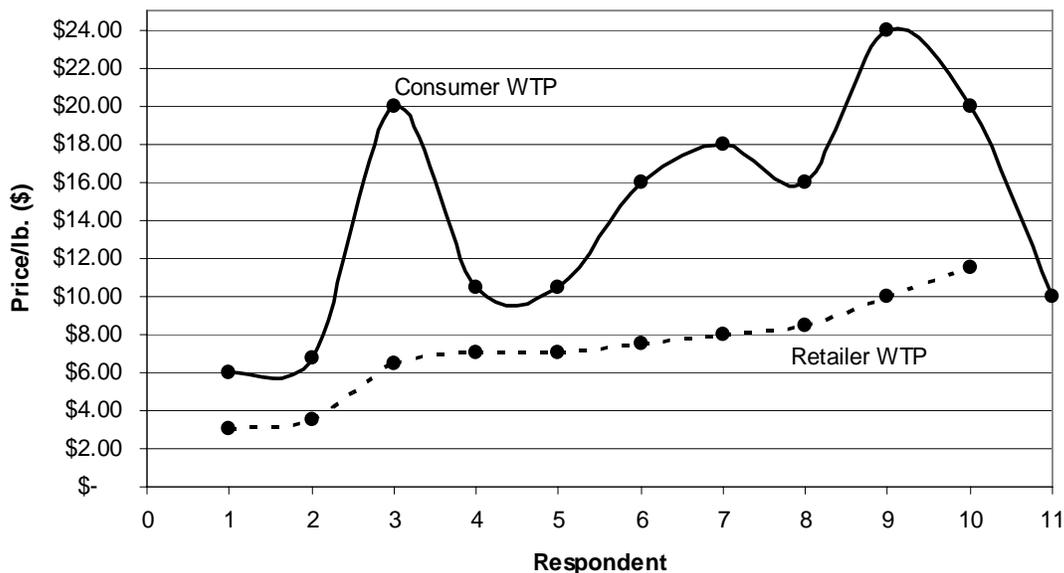
price midpoints. At first glance, the absolute values appear quite attractive, ranging from averages of \$6.00 to \$24.00 per pound. As a group, retail respondents believe consumers are willing to pay an average of \$14.34 per pound. It is interesting to note that respondent price estimates are quite polarized. Based on respondent averages, 45.5 percent the respondents believe customers are willing to pay retail prices between \$6.00 and \$10.50 per pound. The remaining 54.5 percent believe their customers are willing to pay between \$16 and \$24 per pound. Interestingly, the price disparity cuts across both types of cheese shops (large, diversified gourmet grocery store versus small, niche market store) suggesting that cheese makers will need to address pricing on a case by case basis in this market.

Figure 3. Estimated Consumer Willingness to Pay Per Pound



The average of respondent's midpoints (\$14.34) is consistent with the idea that retail prices are approximately twice the producer-received price (\$7.25). The two-to-one retailer-supplier price relationship takes into account the additional expenses associated with distribution and retail margins. That said, for many observations, it appears that the relationship between the two prices more than doubles (Figure 4).

The most striking difference between the two sets of price information generated is the degree of price range variability. Retailers indicate they are willing to pay suppliers from a much tighter price range relative to what they believed their customers would, in turn, pay them. In fact, the average breadth of retailers' willingness to pay is over one and a half times smaller than that of customers' perceived willingness to pay.

Figure 4. Consumer-Retailer Willingness to Pay Comparison

One explanation may be that retailers are better attuned to their own expenses and more closely guard their price limits. In a similar vein, retailers may be more cautious with niche market products and prefer to experiment with higher price points with consumers. Another possibility is that consumers may actually be paying a broader range of per pound prices. Consumers' curiosity and preferences may be diverse enough to knowingly justify paying across a broad price spectrum. It is also possible that consumers are cautious about waste and choose to pay higher unit prices for smaller quantities that more closely suit their needs. Finally, packaging strategies may figure into the equation. In discussion, one distributor indicated that, together with his retail customers, they observed a much broader range of prices paid by consumers when they were not provided with the price-per-pound calculation on random weight cheese pieces. In other words, consumers appeared willing to spend more per unit for smaller cheese volumes than they would if required to purchase in one pound increments.

A few additional notes regarding Figure 4. First, embedded in the (perceived) attractive retail prices are all costs associated with supplying a cheese to market, including distribution costs. Cheese makers looking to capture a greater share of the retail dollar may have to assume some of the distribution and marketing costs themselves, however. Second, price points provided serve only as starting point for small-scale processors considering artisanal or farmstead cheese production. Additional investigation into specialty cheese price points is recommended, as is processor-initiated communication with cheese buyers at NYC specialty/gourmet shops. Third, one retailer failed to provide estimates on what they would be willing to pay a supplier, accounting for one less observation in Figure 2 relative to Figure 3.

Respondents were asked about the degree to which they sourced product through distributors or individual cheese makers. The lion's share of respondents (70.0 percent)

indicated that over two-thirds (69.0 percent) of their specialty cheeses are ordered through distributors (Table 8). Two distributors in particular, Cheese Warehouse (www.cheezwhse.com) and The Cheeseworks Ltd. were cited as the most commonly used suppliers. Two respondents indicated they turn to cheese makers personally for the majority of their product, reflecting 20 percent of those responding. One other respondent noted they purchase from distributors and cheese makers in approximately equal proportions.

Only one respondent indicated they source the majority of their cheeses through individual cheese makers (Table 8). On average, respondents appear to be purchasing one-quarter of their cheeses from individual cheese makers. Vermont and Wisconsin tied for first place as the most frequently represented states, followed by New York and California. Other states mentioned included Washington, Oregon, Louisiana, Colorado, Massachusetts, Connecticut, Idaho, and Pennsylvania.

The range of states from which cheese buyers are sourcing product highlights two points. First, domestic specialty cheese buyers prioritize product quality over geographic origin. It may be surprising for specialty cheese makers in dairy-prominent states to learn that they are competing with small-scale processors in Colorado, Massachusetts, or Connecticut. Second, that cheese buyers are pulling product from western states is evidence that there is a select combination of production, promotion, and distribution characteristics which offer economic benefit. In light of this, local processors should have a distinct transportation advantage over more distant processors.

The survey inquired about retailers' preferred contact strategy by individual cheese makers, asking whether direct contact or contact through a distributor was preferred (Table 8). Sixty percent of those answering the question were interested in direct contact from the cheese maker. Twenty percent prefer that initial contact be made through a distributor. One respondent indicated they are indifferent between the two types of suppliers and one respondent indicated they prefer the most cost-effective strategy (reflects "other" response). Respondent preference for direct initial contact is interesting in light of the fact that much of their product is sourced through distributors. It may be that retailers appreciate the opportunity to sample and learn about the product directly from the cheese maker rather than through a distributor.

Respondents were asked to identify concerns they had when working with individual cheese makers. The number one concern was quality assurance, an ever-present challenge associated with processing products made with live cultures. Quality assurance is an issue with every batch of cheese produced, and one that largely falls on the shoulders of the cheese maker. Together, delivery format and scheduling issues generated the second greatest concern. Packaging and labeling were also identified as cautionary topics.

When new specialty cheeses do peak their interest, respondents noted they typically start with small volumes while they gauge customer response. The most

common initial purchase volume ranged from 15 to 20 pounds. Answers ranged from a minimum of 5 pounds to a maximum of 35 pounds.

No clear patterns emerged from the survey regarding preferred delivery volumes and frequency. Three respondents (27.3 percent) indicated that both their ideal delivery frequency and volume were a function of the cheese product itself and that they could not specify their preferences further without knowing more information about individual cheese characteristics (Table 8).

The most generalizable pattern observed is retailer preference for several hundred pounds of product per shipment (Table 8). Retailers' propensity was for larger volumes per delivery. Almost half of the respondents (45.5 percent) indicated they preferred shipments upward of 150 pounds or more. Retailers interested in volumes of 200 plus pounds of cheese source at least 70 percent of their product from distributors. Logistically, individual cheese makers may have greater difficulty in first, providing this volume and, secondly, coordinating shipment of this volume. Two respondents preferred smaller volumes, ranging from 40 to 100 pounds of cheese per shipment. An additional 9.1 percent (1 respondent) noted that they order product on an "as needed" basis.

Considerable variability also exists when evaluating cheese buyers' preferred delivery frequency. Eighteen percent of respondents left this question unanswered (Table 8). Of those providing preferred specific delivery schedules, an equal proportion (18.2 percent) chose more than once a week and weekly delivery preferences, which is not completely surprising given the highly perishable nature of these products. Ordering based on product and distribution characteristics generated the highest number of responses (27.3 percent).

Regarding volumes purchased across the year, respondents noted a strong seasonal component particularly at the end of the year. The October-December holiday season was identified as the demand pinnacle. Subsequently, specialty cheese volumes ordered during other months are adjusted in response to the smaller quantities demanded.

Response to the idea of a NY specialty cheese basket during the end-of-year holiday season was highly polarized (Table 10). A full 60 percent of the respondents answering this question expressed indifference or disinterest in the idea of a holiday basket. Many of these respondents did not believe this type of promotion would capture enough consumer appeal, given the breadth of competing gift food products. On the other hand, forty percent of specialty shop respondents indicated genuine interest. Cheese makers interested in this type of product will need to work directly with individual retailers.

Table 10. Respondent Feedback to Promotional Strategies

	High Interest	Moderate Interest	Indifferent	Low Interest	No Interest
Receptivity to holiday cheese basket					
Response Count	2	2	1	1	4
Percent	20.0	20.0	10.0	10.0	40.0
Retailer response to cheese maker-supplied product for in-store tastings					
Response Count	3	0	4	2	1
Percent	30.0	0.0	40.0	20.0	10.0
* Interest was rated on a 5-point Likert scale: 1 = High Interest, 2 = Moderate Interest, 3 = Indifferent, 4 = Low Interest, 5 = No Interest.					

To counter some of the seasonal component, the survey inquired about types of promotional activities employed by NYC specialty/gourmet shop retailers (Table 11). Respondents were asked to note all promotional activities upon which they relied. Informal in-store cheese tastings are the most heavily relied upon promotional technique employed by specialty shop retailers. Retailers indicate that often they incorporate in-store cheese maker visits into their strategy and to a lesser extent, formal cheese tastings. Cheese education classes and discount sales do not appear to be strong promotional activities at retail in the specialty cheese market. One respondent noted that they were receptive to trying other strategies beyond what they were currently using. The two respondents who rely heavily upon wine and cheese gatherings and written flyers suggest that retailers are thinking outside of the box about ways to connect with their consumers.

Regarding in-store cheese maker visits, respondents are partial to weekend and weekday afternoons for scheduling purposes and exhibit less concern that cheese makers provide the product themselves (relative to winery respondents). When cheese makers do conduct in-store visits, only about one-third of respondents prefer that cheese makers supply the product themselves, or assume the cost of the product samples. Sixty percent however, express indifference or low interest. Unlike winery market respondents, NYC retailers appear less concerned with who assumes the cost of product samples. This may be attributed to the differences in margins each respondent group believes they can capture in their respective consumer markets.

When selecting new specialty cheeses, respondents seek taste and quality first. The second-most cited criteria was price/affordability, suggesting that while retail prices may appear high, there is still a limit as to what consumers will pay. Finally, customer requests, cheese appearance, place of origin, and cheese uniqueness all tied for third as relevant selection criteria.

Table 11. Promotional Activities At Retail

Responses	10		
	Highly Relied Upon	Moderately Relied Upon	Infrequently Relied Upon
Discount sales	0	2	2
Formal tastings	2	4	1
Informal, in-store tastings	7	1	1
Classes	0	0	3
In-store cheese maker visits	3	2	2
Other: Wine & Cheese Gatherings, Written flyers	2	0	0

Note: Respondents were asked to identify all strategies employed. Subsequently, column totals are greater than the number of respondents answering the question.

Imported cheeses continue to have a strong showing in the retail specialty cheese case (Table 12). In fact, survey respondents indicated that, on average, they import approximately 75 percent of their specialty cheeses. Though not all imported cheeses are from Europe, it represents the largest geographical area from which imported cheeses are sourced by respondents. That American cheeses are out numbered three to one at retail, may be explained, in part, by Europe's long-standing presence in the cheese market and the breadth of product offering. All respondents noted that they carry imported cheeses, representing, at a minimum, 50 percent of their selection. To the benefit of small-scale American cheese makers however, the exchange rate has made imported cheeses less desirable from a cheese buyer's perspective. In addition, consumers have demonstrated significant interest in domestic, and more specifically, locally produced specialty cheeses.

Two additional information-based questions were asked, one referring to the types of information services provided to customers, and the other asking about specialty cheese resources accessed by the respondents themselves. Respondents identified their employees as the leading information source made available to customers. Other important lines of communication included cheese signage and recipes. One respondent noted that they hand out a personalized cheese basket with additional information about each of the cheeses they carry. A second noted that they offer a website and comprehensive product information on labels to help consumers.

For their part, respondents seek information about new specialty cheeses from a number of sources. Retailers most frequently turn to suppliers/distributors (31.8 percent), individual cheese makers (27.3 percent), food shows (22.2 percent), and general cooking forums (13.6 percent). Retailers also learn about specialty cheeses through discussion with customers who have encountered certain ones in their travels (9.1 percent)(Table

Table 12. Proportion of Domestic and Imported Cheeses Purchased

Percent of Total Cheese Purchases	Domestic		Imported	
	Respondent Count	Percent	Respondent Count	Percent
1 to 10	3	27.3		
11 to 20	2	18.2		
21 to 30	2	18.2		
31 to 40	2	18.2		
41 to 50	2	18.2	2	18.2
51 to 60			1	9.1
61 to 70			1	9.1
71 to 80			4	36.4
81 to 90			3	27.3
91 to 100				
Responses received	11		11	

8).⁹ This information indicates that cheese makers themselves are not being overlooked as a resource, and in fact, rival alternative supplier profiles as a leading information source. It appears specialty shop cheese buyers still value, and seek out, product information from the small-scale processor. Reliance on food shows and cooking forums, while used, are more likely a secondary or supplemental resource relative to the supplier.

In terms of written publications, specialty/gourmet shop respondents cite Steve Jenkins's Cheese Primer as the single-most helpful reference. While a number of other references were provided, two-thirds of the respondents cited Jenkins' book as one of their top three reference sources. Among a University of Wisconsin cheese makers course guide, and assorted, unspecified cheese publications, key references listed include

- The Cheese Plate by Max McCalman and David Gibbons
- World Encyclopedia of Cheese by Juliet Harbutt and Roz Denny
- A Cook's Guide to Cheese: Illustrated Encyclopedia by Juliet Harbutt,
- French Cheeses by Joel Robuchon, Kazuko Masui, and Tomoko Yamada,
- Italian Cheese: Two Hundred Traditional Types: A Guide to Their Discovery and Appreciation by Piero Sardo, Gigi Piumatti, and R. Rubino.

⁹ Retailers were asked to identify all information sources they accessed. Subsequently, the percentages do not add to 100.

New York City Specialty/Gourmet Shops: Key Findings

In sum, survey responses suggest that the specialty cheese market is poised for continued growth as per specialty/gourmet respondents. New York City specialty shop retailers estimate consumers are willing to pay, on average, over \$14 per pound for high quality, full flavored specialty cheeses. While the \$14 per pound price is attractive, embedded within it are expenses to supply the product to market and an expectation about consumer price sensitivities in the NYC market. On average, respondents indicated they were inclined to pay their suppliers in the neighborhood of \$7 per pound.

Local cheese makers are clearly outnumbered in the cheese case relative to their foreign counterparts. The disparity in imported versus domestic specialty cheeses is not wholly surprising however, and domestic specialty cheeses that can compete on taste and price should enjoy a stronger market presence as they find favor with retailers.

To find these domestic cheeses, retailers are willing to work with both individual cheese makers and distributors to source product and desire personal contact with the cheese maker regarding potential new products. Retailers are open to working with individual cheese makers to source product though they expressed concern with quality assurance and delivery format under this arrangement.

As with winery respondents, cheese buyers in this market also note a strong seasonality to specialty cheese demand. Small-scale processors will want to consider production flows against this demand schedule. For processors milking only seasonally or with significantly reduced milk volumes, this is a necessary consideration. For their part, retailers often use in-store cheese tastings to encourage off-peak sales and draw consumers into the cheese case.

Overall, the NYC specialty/gourmet shop market offers cheese makers a window to a large specialty cheese audience who are typically willing to pay attractive retail prices. Increased market visibility however comes at the expense of possibly heightened distribution costs and more complex delivery preferences.

New York City Restaurants: Market Overview

The restaurant market is a third potential market for development of specialty dairy products. The restaurant survey speaks to chefs' specialty cheese interests for use in cooking, and with cheese courses/plates. "Chefs have been a key component in driving this growing interest in cheese because they start trends by showing consumers what's available as well as new and innovative ways to use products that aren't as well known" remarks Nancy Fletcher, Communications Director with CMMB (Sander, 2001). Typically offered as a dessert, the cheese plate's popularity at upscale, white tablecloth restaurants is on the rise at American establishments.

The restaurants selected for this review are drawn from two sources. The first is Zagat's 2004 NYC Restaurant Guide®. An additional four NYC restaurants, not already identified from the Zagat's guide, were added following a January 2005 *New York Times* article alerting readers to restaurants currently offering cheese trays (New York Times, 2005). In total, 75 restaurants were targeted for the restaurant specialty cheese survey. Written survey responses were returned from 16 chefs resulting in a participation rate of 21.3 percent.

Three criteria are used to narrow the range of possible restaurants selected. Zagat's Restaurant Guide® provides a break-down of restaurants by "Most Popular," "Top 50 Food," and since 2001, "Cheese Tray" offerings. To the extent possible, the same information was sought for the NY Times-based restaurants, though completely parallel profiles were not always available. For this reason, the following cost category discussion is based only on the Zagat-generated restaurants.

Use of these criteria result in a form of price "self-selection." That is, the restaurants are categorized as either "Expensive" or "Very Expensive" as perceived by Zagat surveyors. Approximate per person expense at the "Expensive" restaurants ranges from \$31 to \$50. Approximate per person expense at the "Very Expensive" restaurants begins at \$51, with the most expensive restaurant topping \$185 per person. Higher-end restaurants were preferred for this survey in order to capture market interests at the more expensive end of the price spectrum. This preference is based on the belief that this clientele would prioritize quality and product uniqueness over price. Almost one-quarter (22.2 percent) of the restaurants are represented in the \$50 per person or less category (Table 13). With every \$25 increment, the proportion of restaurants represented increases in approximately equal quartiles until the \$100 per person threshold is reached. Only 5.6 percent of the restaurants charge in excess of \$100 per person.

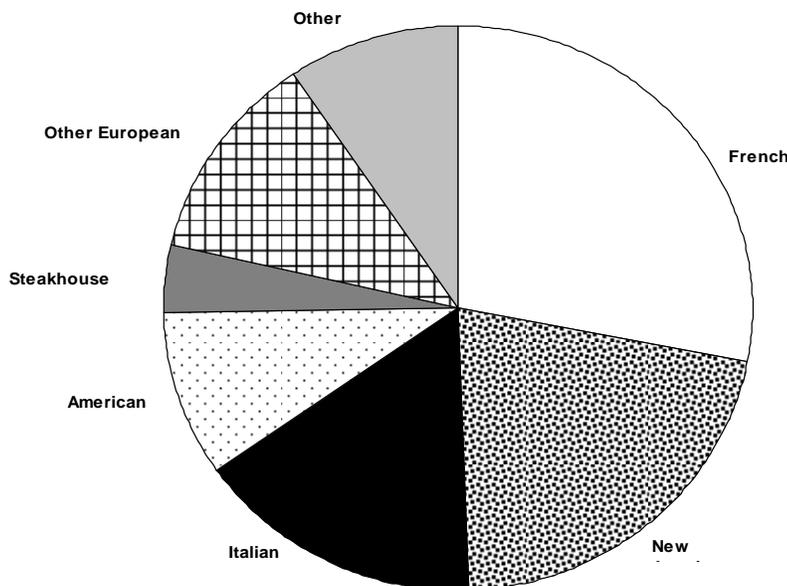
Table 13. Survey Restaurant Representation by Cost

Category	Restaurant Count	Cumulative Percent
Under \$50/person	16	22.2
Under \$75/person	55	76.4
Under \$100/person	68	94.4
Under \$125/person	69	95.8
Minimum/person expense (\$)	31	
Maximum/person expense (\$)	185	

Selected restaurants can be further divided into cuisine types. The three largest cuisine categories represented include (in descending order) French (31.1 percent), New American (23.0 percent), and Italian (16.2 percent)(Figure 5). These three categories represent 70.3 percent of the total restaurant sample. The balance of restaurants is represented by the following cuisine categories: American (8.1 percent), Steakhouse (4.1

percent), European and Mediterranean cuisines (combined, 8.1 percent) and Other (combined, 9.8 percent). Restaurants specializing in Asian and seafood cuisines were excluded since dairy products are not typically highlighted on these menus.

Figure 5. Survey Restaurant Representation by Cuisine



Restaurant survey questions were designed to address the following topics:

- Existing specialty cheese use,
- Preferred product characteristics,
- Price sensitivity,
- Purchasing patterns,
- Primary information sources, and
- Product accessibility.

Chefs not currently featuring specialty cheeses on their menu were asked to identify factors preventing them from doing so, whether they anticipated offering specialty cheeses within the coming year, and whether they would be interested in having access to additional NY specialty cheese information sources.

New York City Restaurants: Survey Results

The list of restaurants receiving surveys included those that do and do not currently feature specialty cheeses on the menu, however all respondents indicated that they already incorporate cheeses on their menu (Table 14). Thus, the survey is unable to identify reasons why chefs do not showcase specialty cheeses since this group is not represented. The average number of specialty cheeses held at any one time is approximately 7-8, reflecting restaurants with as few as 4 and as many as 25. One third of respondents indicated they typically carry a minimum of 10 specialty cheeses.

Fourteen of the 16 respondents indicated they use specialty cheeses in both cooking and in cheese courses (87.5 percent)(Table 14). On average, respondents indicated that 70 percent of cheese purchases went towards cheese plates, with the balance intended for cooking purposes. None of the respondents indicated they purchase specialty cheeses solely for cooking, however the percent that allocate some of their purchases to cooking (30 percent) is higher than expected.

More detailed characteristics of the cheese course were investigated including the number of cheeses per course, specific cheeses purchased, and the cost per cheese plate. Specific cheeses purchased are identified later in the discussion. On average, 4 cheeses are served per cheese course. The average cost per cheese course is \$15.20. On a per cheese basis, the average cost totals \$3.81.

Respondents were asked to identify a most likely per pound price range they would be willing to pay suppliers irrespective of use (Table 14). All respondents indicated they would pay at least \$10 per pound and 93 percent indicated they would pay between \$13.01 and \$25.00 per pound. Over 60 percent were willing to pay \$19.01 to \$25.00 per pound, representing the 2 most likely price ranges: \$19.01-\$22.00 and \$22.01-\$25.00 per pound. Again, recognize that embedded in chefs' \$19 plus per pound cost however, is the full range of marketing and distribution expenses to provide product to this particular market.

At first glance, these per pound prices might seem incongruous with the reported prices charged by restaurants for their cheese plates. However, cheese plate prices average \$15.00 for 4 specialty cheeses, each provided in small sample sizes. While the survey did not ask about quantities of each cheese provided per cheese plate, the average per cheese expense to the customer approaches \$4. If chefs can provide at least six cheese plate samples per pound of cheese, customers will have paid nearly \$24 per pound based on these averages. While chefs note that they are willing to pay in excess of \$19 per pound, this example is provided to illustrate how it is possible to extract the full cost of the cheese from consumers. On a per pound basis, customers appear willing to pay very high prices, however they are typically not buying in full pound increments. When they purchase much smaller quantities, they may well be paying more per unit than they recognize. A similar observation is made by both specialty shop cheese buyers and distributors.

Table 14. Summary Restaurant Survey Responses

	Count	Percent
Number of surveys mailed	75	
Number of surveys completed	16	21.3
<hr/>		
Not currently purchasing specialty cheeses	0	0.0
<hr/>		
Currently purchasing specialty cheeses	16	10.0
<hr/>		
Specialty cheese use		
Responses	16	
Both cooking and cheese course	14	87.5
Cooking		
Average percent used in cooking		30.0
Percent used in cooking solely	0	0.0
Cheese Course		
Average percent used in cooking		70.0
Percent used in cheese courses solely	2	12.5
<hr/>		
Willingness to Pay Supplier (per pound)		
Responses	14	
< \$10.00	0	0.0
\$10.01 - \$13.00	1	7.1
\$13.01 - \$16.00	3	21.4
\$16.01 - \$19.00	1	7.1
\$19.01 - \$22.00	4	28.6
\$22.01 - \$25.00	5	35.7
> \$25.00	1	7.1
<hr/>		
Preferred volume per delivery		
Responses	10	
Order as needed	2	20.0
Providing numeric estimates		
1-5 pounds	5	50.0
6 - 10 pounds	2	20.0
11 - 15 pounds	0	0.0
16 - 20 pounds	1	10.0

Table 14. Summary Restaurant Survey Responses Cont'd.

	Count	Percent
Preferred delivery frequency		
Responses	12	
Order as needed	2	16.7
Providing time preferences		
Daily	1	8.3
Twice weekly	3	25.0
Weekly	5	41.7
Bi-weekly	1	8.3
Supplier preference		
Responses	13	
Distributor	4	30.8
Specialty shop	8	61.5
Individual cheese maker	1	7.7
Average percent of product sourced by supplier type		
Distributor		28.5
Specialty shop		59.6
Individual cheese maker		11.9
Preferred sourcing strategy		
Yes	10	76.9
No	3	23.1
Preferred information sources		
Responses	13	
Specialty cheese suppliers	11	84.6
Cooking forums	2	15.4
Other chefs	6	46.2
Press releases	2	15.4
Greenmarket Farmers Market	6	46.2
Associations	3	23.1
Other	0	0.0

Regarding delivery preferences, chefs seek small volumes of product frequently (Table 14). Twenty percent order on an “as needed” basis. Of those providing specific volume preferences, 50 percent purchase 1 to 5 pounds per delivery and an additional 20 percent purchase 6 to 10 pounds per delivery. Together, almost three-quarters of the chefs surveyed order 10 pounds or less with each shipment. One respondent (10 percent) indicates they purchase up to 20 pounds per delivery. These numbers begin to quantify the “small” volumes preferred by chefs.

Delivery frequency preferences reveal that approximately 17 percent are ordering as the need arises (Table 14). By far, the most popular choice is weekly (41.7 percent), followed by twice weekly (25 percent) delivery. Daily and bi-weekly deliveries were preferred by one chef each, reflecting 8.3 percent of total respondents.

From a supplier's perspective, chefs are desirous of small volumes on a fairly frequent basis. The delivery frequency shifts the storage burden to the supplier however, and introduces additional transportation expense. These delivery preferences alone may be incentive enough for the small-scale cheese maker to examine a distributor option, and/or begin in smaller, less transportation-costly markets. Movement to the upscale, NYC restaurant market may be more attractive to NY specialty cheese makers once base sales are established in other markets.

Respondents were asked about their supplier preference and over 60 percent indicate that they turn to specialty shops to source product (Table 14). Of those relying most heavily on specialty shops, there was also some product coming from individual cheese makers, though to a much lesser extent (7.7 percent). Reliance on distributors falls in between at 30.8 percent.

Specialty shop suppliers are attractive to chefs because they provide hand selected cheeses, offer samples, focus on customer service, offer an easy, one-stop shopping opportunity, and provide helpful product descriptions.¹⁰ One respondent who sourced entirely through distributors commented that they were indifferent so long as product taste and availability are not compromised. Those expressing unhappiness with their current sourcing scheme would prefer to work more with individual cheese makers, with one respondent commenting that the presence of a middle man raises the price.

Survey responses indicate that the same two cheese characteristics, milk type and texture, are the most important features considered by chefs with respect to cooking and cheese course use (Table 15). When cooking with specialty cheeses, chefs are also inclined to consider whether a specialty cheese is organic. In both uses however, organic was a relatively low priority for chefs relative to the other characteristics identified. Whether the milk has been pasteurized or not is a nominal consideration when cooking with the cheese. With respect to cheese plates however, chefs are more interested in raw milk cheeses and in the cheese's rind type.

¹⁰ Recognizing that many of these same services are provided by other cheese marketing agents, these were characteristics particularly noted by restaurant respondents.

Table 15. Important Specialty Cheese Characteristics by Use

	Milk Type	Texture	Rind Type	Pasteurized Milk	Raw Milk	Organic	Other
Cooking							
Response Count	5	5	2	2	2	3	0
Rank	1	1	4	3	3	2	4
Cheese plate							
Response Count	14	12	9	4	10	6	0
Rank	1	2	4	6	3	5	7

Which cheeses are already being showcased in cheese courses? Restaurant chefs were asked about the cheeses they currently purchase for cheese courses, the cheese's origin, and the approximate percentage that any one type represents of all specialty cheeses purchased. Regarding types of cheeses, responses ranged from simply providing milk type to specific cheese names (Table 16).¹¹ While a range of textures can be identified from the list, aged cheeses were the one commonality across all milk types. The strongest showing by category, in descending order, includes: washed rind, goat's milk, and soft-ripened. To a lesser extent, aged and blue cheeses were also represented.

Information as to the types and proportion of cheeses currently purchased is a useful indicator of where chef interests are right now (Table 16). Goat's milk cheeses account for approximately 20 to 33 percent of the total specialty cheeses purchased. Comparison of goat milk cheese purchases to cow and sheep milk cheeses is not available since only one response was provided for each. Other texture comparisons are possible however. Both soft-ripened and washed rind cheeses represent 10 to 33 percent and 10 to 40 percent of total weekly cheese purchases, respectively. Blue and hard cheeses together represent 10 to 14 percent of total weekly purchases. These statistics are compatible with the feedback received from retailers: at present, consumers are drawn to goat milk and washed rind cheeses. Two chefs indicated that they make a concerted effort to purchase variety making a purchase pattern difficult to discern.

Chefs further note that their specialty cheeses come from Europe and the US, even noting specific states (California, New York, and Wisconsin)(Table 16). While France, Italy, and Spain are the most frequently cited country sources, England, Switzerland, and Portugal are also mentioned. The strong influence of European cheeses is not surprising given the continent's long-standing cheese tradition and the specific interests of survey respondents.

¹¹ Though respondents were asked what percentage of each type represented in their weekly purchases, not all respondents provided this information. As a result, it is difficult to comment on the relative importance of each cheese type purchased.

Table 16. Profile of Specialty Cheeses Currently in Sample New York City Restaurants

Cheese Type	Origin
Goat's milk	France, US, NY
Fresh, soft-ripened	France, US, CA
Semi soft	WI
Aged	US
Semi hard	
Garrotxa	Spain
Sheep's milk	France, US
Feta	US
Aged	France, Italy
Cow's milk	
Soft	
Robiola	Italy
Raw milk cheddar	CA
Fresh ricotta	US
Hard aged, semi hard, fresh, soft-ripened, blue	France, US
Reblochon	France
Pyrenes	France
Livarot	France
Tete De Moine	Swiss
Fresh	Italy, France, US, Spain
Soft-ripened	France, US
Soft Blue	OR
Hard cheeses	France, US
Aged	Italy, France, US, Spain
Blue	Italy, France, US, Spain
Roquefort	France
Washed rind	Italy, France, US, Spain
Bloomy rind	Italy, France, US, Spain
Robiola	Italy
Constant Bliss soft cow – bloomy rind	US
Berkshire Blue	US
Berkshire hard sheep	England
Lancashire hard cow	England
Vagreen	Swiss
Azietao	Portugal

The survey inquired about chef sensitivity to seasonal production of specialty cheeses (Table 17). Eighty-five percent of chefs responding indicate that this is not a problem for them. Two chefs (14.3 percent) indicated that seasonal production does indeed curb their interest and to a significant degree. While some of this sentiment is to be expected, for the most part, chefs indicate that they are sensitive to production seasonality. Chefs would prefer high quality, unique cheeses at abbreviated periods throughout the year if there is a quality trade-off associated with year-round supplies.

Table 17. Chef Sensitivity to Seasonal Specialty Cheese Production*

Count	Highly	Moderately	Somewhat	Less	Nominally
	Problematic	Problematic	Problematic	Problematic	Problematic
Percent					
Is seasonal production problematic, and if so, to what extent?					
Responses	14				
Yes	2	100	0.0	0.0	0.0
No	12				

* Interest was rated on a 5-point Likert scale: 1 = Highly Problematic , 2 = Moderately Problematic 3 = Somewhat Problematic, 4 = Less Problematic , 5 = Nominally Problematic .

For small-scale cheese processors it is important to know where end-users are acquiring information about their product category. In this case, the number one information source is the specialty cheese supplier (84.6 percent), followed jointly by other chefs and the Greenmarket Farmer's Market in NYC (both 46.2 percent)(Table 14). Translated, one of the most effective ways for small-scale processors to break into the restaurant market is to supply specialty cheese shops offering wholesale operations. Respondents indicate some interest in working with cheese makers, though this may be even more attractive if contact can be made through the Greenmarket Farmer's Market where chefs can multi-task with other food needs. Associations, such as the American Cheese Society (ACS), drew a response rate of 23.1 percent and cooking forums and press releases tied for third place as an information resource (15.4 percent). Participation in ACS meetings, through attendance and/or the cheese competition, appears to be most helpful in making the specialty shop connection more so than the chef connection.

Chefs were also asked about their perceived constraints in the current specialty cheese market. Aside from chef interest in raw milk cheeses from Europe and the regulatory restrictions imposed by the U.S. Food and Drug Administration (FDA), respondents identified four issues. Issue one was the cost of domestic cheeses, many of which are more expensive than their European counterparts. While the exchange rate has worked to the advantage of domestic specialty cheese makers, the problem is grounded in

processors' cost structure. Small-scale cheese makers confront certain unavoidable fixed costs (e.g., equipment). In addition, variable costs are spread over a much smaller volume, yielding high per unit costs.

Issue two addresses perishability and potential waste concerns. The very nature of dairy products invites concern about how accurately chefs forecast cheese plate sales. What is not used is not only thrown out, but from the restaurateur's perspective, the expense of the discarded cheese has not been recovered.

Issue three addresses distribution and shipping expenses. Again, processors and cheese buyers observe high unit costs for transporting small volumes of perishable product quickly. The lack of a delivery network amongst local producers is cited as a specific concern.

Issue four revolves around FDA regulations. Interest in raw milk cheeses has only increased as specialty cheeses gain market ground. Proponents of raw milk cheeses (aged less than 60 days) claim there are flavor nuances which are lost with pasteurization or even 60-day aging. For their part, the FDA continues to assess the flavor-health risk tradeoff.

The last question asked whether chefs have sought out other specialty dairy products and had trouble finding them in the marketplace. Approximately half acknowledged that they had difficulty finding certain value-added dairy products, though there was no consensus on specific products. Respondents indicate they would especially like improved access to higher fat cream products (buttermilk, crème fraiche, high quality butter), fresh sheep's milk cheese for ricotta, goat's milk, fresh cheese imports, and non-homogenized dairy products.¹²

New York City Restaurants: Key Findings

In general, chef receptivity to having more locally produced specialty cheeses is high. They are interested in specialty cheeses because their diners are. Almost two-thirds of chefs expressed a willingness to pay suppliers between \$19 and \$25 per pound of specialty cheese. This is interpreted as an ability to recapture both their purchase cost and a premium from consumers in turn. Consumers may be willing to pay unusually high prices when calculated on a per pound basis but chefs are still concerned with their purchase costs. This is a strong signal to cheese makers that attention to production and distribution costs is a necessity.

The majority of chefs are turning to specialty cheese shops with wholesale services for their purchases. Cheese makers wanting to supply this market are advised to include a review of specialty shops offering wholesale services. Chefs are not averse to working with individual cheese makers but the basket of services (i.e., one-stop shopping,

¹² Interest in imported cheeses was also noted, particularly with respect to seasonal raw milk cheeses.

delivery service, customer service) they receive from specialty shops is a strong incentive.

A sort of middle ground between independent, direct sales and sourcing through a specialty shop is the Greenmarket Farmer's Market. Chefs are attracted to the idea of producer interaction and can purchase multiple ingredients in one centralized location. The market is open to regional producers, with a number of existing specialty cheese processors already participating.¹³ This market outlet does not alleviate the transportation cost problem but may minimize some of the additional administrative costs associated with using a distributor or selling to the specialty shop in the city.

The specialty cheeses purchased by restaurant chefs come from abroad (i.e., Europe) but also from states in the west and mid-west. New York specialty cheese processors should note that they are competing with products from beyond the northeast region. Local processors highly committed to keeping production costs low should have a transportation cost advantage over more distant cheese makers.

Chefs are interested in a wide variety of styles and types but expressed concern about product perishability and waste. Cheese makers interested in the restaurant market will want to work closely with the chef to coordinate quantities supplied and demanded in an effort to minimize this risk. At the same time, a close relationship with the chef offers the opportunity to customize production based on the specific needs of the chef. A handful of chefs are currently interested in non-cheese, higher-fat products such as crème fraiche and butter products. Where they have an established, successful relationship with a local cheese maker, they may be more inclined to tailor future production possibilities.

III. NEW YORK SPECIALTY CHEESE MARKET – SUPPLY CONSIDERATIONS

Overview of Existing On-Farm Dairy Processors and Products

Dairy producers will initiate on-farm processing enterprises for a variety of reasons. Regardless of motivation though, this report maintains that economic viability is necessary for long-term market involvement and that attention to marketing responsibilities is an integral part of venture sustainability. One of the most important first steps is for on-farm processors to identify their business goals. Realization of the overarching business objectives, in turn, helps define the marketing goals.

Investment in a marketing plan can be time-consuming but is typically an up-front cost yielding long-run benefits. These benefits translate to information about market dynamics that help on-farm processors craft business strategy. Whether on-farm dairy processors seek local, regional, or national retail visibility, profiling the enterprise they

¹³ The Greenmarket Farmer's Market is open to regional producers 120 miles south, 170 miles east and west, and 250 miles north of NYC.

wish to become holds implications for product and market selection, coordination of volumes supplied and demanded, distribution processes, and product promotion. In addition, there are product-specific marketing challenges associated with niche markets, and dairy in particular.

On-Farm Cheese Maker Feedback

At present, there are 31 licensed small-scale dairy processors in NY State (NY State Department of Agriculture and Markets, 2005). Cheese makers already in the market are a helpful resource when exploring the value-added dairy products market. This group of on-farm processors received questionnaires inquiring about their product profile, milk supply availability, marketing practices and experience, price discovery strategies, and source of technical expertise. Over a quarter of the processors responded, providing a response rate of 25.8 percent (Table 18). In terms of milk type, the largest proportion of respondents is goat milk producers (50.0 percent), followed by cow milk producers (37.5 percent), and sheep milk producers (12.5 percent) (Table 18). When categorizing by cheese type, there is significantly greater variability. Cheese styles include fresh, semi-hard, blue, washed rind, and flavored (e.g., dill) cheeses.

Regarding milk production practices, 87.5 percent of NY's small-scale cheese makers are sourcing their milk from their own herd versus buying it from another producer (12.5 percent) (Table 18). Exactly half of the processors are milking year round while the other half milk only seasonally (Table 18). The questionnaire also inquired as to the source of cheese makers' technical training. Only one respondent identified themselves as a hired cheese maker. All others make the cheeses themselves, having turned to local dairy processing workshops and seminars for cheese making training.

To market their cheeses, small-scale processors are utilizing a number of different price discovery mechanisms (Table 18). Respondents indicate that they based product price on general market trends (37.5 percent), comparable product prices (25.0 percent), retail price as a function of production and marketing expenses (25.0 percent), or some combination of techniques (25.0 percent). Ideally, all cheese makers would incorporate data from each pricing strategy for a more comprehensive picture.¹⁴

Using production and marketing expenses solely to determine price provides a minimum return cheese makers must achieve. This strategy however, emphasizes the minimum necessary price and does not suggest what the upper limits may be. On the other hand, heavy reliance on similar product prices as a pricing guide may prematurely establish an upper price limit and curtail the cheese maker's instinct to explore pricier sections of the demand curve. It is also possible that cheese makers price their product too high relative to competing products, losing customer interest where price disparity is too great. Certainly, price discovery is a process of trial and error. Assistance can come

¹⁴ Percentages do not necessarily add to 100 because respondents were asked to indicate all price discovery strategies they use.

Table 18. Summary Responses - Current Small-Scale NY Processors

	Count	Percent
Number of current small-scale processors	31	
Number of questionnaires completed	8	
Response rate		25.8
<hr/>		
Milk type		
Responses	8	
Cow	3	37.5
Goat	4	50.0
Sheep	1	12.5
Milk source		
Responses	8	
On-farm production	7	87.5
Purchasing milk	0	0.0
Both	1	12.5
Milk production schedule		
Responses	8	
Year-round	4	50.0
Seasonal	4	50.0
Price discovery mechanism		
Responses	8	
General market trends	3	37.5
Similar product comparison	2	25.0
Function of product & marketing expenses	1	12.5
Combination of mechanisms	2	25.0
Marketing outlets		
Responses	12	
Local farmer's markets	6	50.0
Other local retail outlets	5	41.7
NYC	1	8.3
Out-of-state sales	1	8.3
On-farm/farm-stand sales	3	25.0
Special events	1	8.3
Direct sales	3	25.0

Table 18. Summary Responses - Current Small-Scale NY Processors, Cont'd.

	Count	Percent
Marketing Resources		
Responses	8	
Self	6	75.0
Distributor	0	0.0
Both	2	25.0
Receiving packaging/labeling assistance		
Responses	7	
Yes	2	28.6
No	5	71.4

from using a combination of price discovery techniques and hopefully add to the confidence level surrounding an identified new product price range.

The most popular retail outlet for the current group of small-scale processors is their local farmers market (50.0 percent)(Table 18). Other local retail outlets supplied frequently include restaurants and grocery stores (41.7 percent). The third most popular retail outlets are on-farm stores and farm stands, which account for one quarter of the markets utilized (25.0 percent). One respondent each (8.3 percent) indicated that they supply NYC markets, special events, and out-of-state markets, respectively (Table 18).

Processors' reliance on farmers markets and on-farm store/farm stands, do not typically support distributor expense. Based on questionnaire feedback, distributors play only a very minor role in product marketing for current small-scale processors. Two processors indicate they share marketing responsibilities with a distributor (25.0 percent). Processors largely handle the marketing/distribution tasks themselves (75.0 percent), though 2 respondents indicated they receive assistance with packaging and labeling using companies from the Northeast (Table 18).

Along similar lines, respondents were asked about the degree to which they outsource assistance with packaging and labeling. Again, only 2 respondents (28.6 percent) note that they receive outside help with these issues versus the majority (71.4 percent) who handle these tasks in-house. This is not surprising in light of the markets served.

Promotional efforts typically include written brochures, demonstrations, and product donations to special events. Other means of promoting product visibility included word-of-mouth advertising, eye-catching label design, personal calls and contacts with potential buyers, promotion through on-farm store, and ensuring continuous availability in markets. This list suggests that respondents are employing a wide range of marketing techniques, the majority of which can be traced back to personal cheese maker effort and connection.

Processors were also questioned regarding specific marketing tasks that presented challenges. Over one-third of the respondents indicate they had not identified any particular challenge associated with marketing their product(s). Of those who did acknowledge marketing-based challenges, their inability to supply enough volume and shipping and distribution were the primary concerns. Other concerns included lack of time available for marketing, seasonal demand patterns, competitive pricing, ability to market to restaurants, and unattractive distance to markets.

Similarly, a question was asked about marketing tasks that were expected to be problematic but had presented less of a challenge than originally anticipated. No one issue generated more than one response from the respondent group. Issues included in this list are advertising, consumer education, product marketability, and delivery to market. One respondent indicated they could not identify any issues.

Respondents' perception of competition was also addressed. Several respondents indicated they had limited to no competition, suggesting that cheese makers may be focusing on products exactly like their own. However, broadening the scope to artisanal and farmstead cheeses in a similar product and price category may reveal greater competition than originally suspected. This strategy applies best where consumers do not seek highly specific cheese types, but desire simply high quality product in general. Approximately one-quarter characterize their competition in terms of the number of similar animal milk type operations in the region. One cheese maker cited large, commercial cheese makers as a competitive source and one cheese maker did not respond to the question.

Finally, the questionnaire provided an opportunity for current processors to list the types of additional information that could be provided by New York State Department of Agriculture and Markets (NYSDAM). The top two answers from the respondent group addressed technical issues, namely assistance with production troubleshooting and improved test response time. Other responses included simplification/clarification of regulatory guidelines and provision of equipment supplier contact information.

Current New York Value Added Dairy Product Offerings

Already a wide variety of on-farm dairy products are available to consumers compliments of local processors. Currently, NY small-scale processors provide 48 cow milk products, 25 goat milk products, 3 sheep milk products, and 1 cow-sheep mixed milk product to consumer markets. Both raw and pasteurized products are available by milk type (Table 19). Twenty-three small-scale processors currently process a specialty cheese product, making cheese the largest product category represented.

Table 19. NY Value-Added Dairy Products Currently in Production

Product	Cow Milk Processor Count	Goat Milk Processor Count	Sheep Milk Processor Count
Pasteurized Milk Products			
Whole milk	11	3	
Low fat milk	5		
Skim milk	6		
Miscellaneous cheeses	7	10	1
Ice cream	5		
Yogurt	6	2	1
Butter	3		
Raw Milk Products			
Whole milk	3	7	
Miscellaneous cheeses	2	2	1
Product Count	48	24	3

Source: NYSDAM Small Processing Plant List, December 2004

The pasteurized cow milk category provides consumers with the greatest number of product choices, including whole, reduced fat, and skim milks, as well as miscellaneous cheese types, ice cream, yogurt, and butter. Fluid milk and a variety of cheese types are also available from raw cow's milk, though far fewer processors produce these products. While the number of goat milk products is half of those available from cow's milk, the number is still sizable. The largest goat milk product category is pasteurized goat's milk cheese (10 processors), followed by raw beverage milk (7 processors). Relative to the other milk types, sheep's milk provides the smallest product line. Pasteurized cheese and yogurt, as well as raw milk cheese, is available from a total of 3 dairy sheep processors. A cow-sheep mixed milk cheese is also available from one on-farm processor (Table 19). In part, the profile of existing specialty dairy products may be explained by the density of cow milk producers relative to goat and sheep milk producers. This disparity in numbers is also manifested in the marketing opportunities available to each type of milk producers.

Product Identification

Product identification helps answer many of the subsequent marketing decisions regarding retail venues, distribution strategies, and pricing strategies. Regarding specialty cheeses, producers of all milk types should be encouraged by the open mindedness of American consumers. While the current range of on-farm processed dairy products is admirable, consumer interest in high quality, novel cheeses suggests that small-scale processors have room to explore additional processed product opportunities.

Ideally, on-farm processors are able to identify novel dairy products sought by consumers. Product identification will likely be driven by a handful of basic decisions made regarding (1) milk source/animal type, (2) milk type (i.e., raw versus pasteurized), and (3) product shelf life (i.e., fresh versus aged). On-farm dairy producers making any type of product will note that the type of animal providing the milk determines the milk composition. Sheep, goats, and cows all provide distinctly different milk composition profiles. In addition, there can be considerable variability across breeds as in the case of Jersey versus Holstein milk. In turn, some cheeses are more suitable for certain milk types. An awareness of milk composition, and proposed product compatibility are among the first decisions confronted by the on-farm processor.

Despite the open-ended potential for domestic specialty cheese production, on-farm artisanal and farmstead processors may be tempted towards existing cheese types and flavors. One suggestion is to guide NY specialty cheese makers away from well-established European cheese types. Small, on-farm value-added dairy processors will find it particularly challenging to “out market” such well-established cheeses as a Provolone from Italy, Cheddar from England, or Brie from France. Not only is this strategy more challenging, it is in contrast to the characteristics that many end-users seek, namely one-of-a-kind local foods. In addition, cheese makers will find it difficult to compete with larger domestic processors on such types as Cheddar given the economies of scale that can be achieved. Ultimately, the benefits of competing on commodity products are nominal for small-scale processors.

The most attractive strategy for NY dairy producers is to capitalize on their own unique resources. One strategy being embraced by current specialty cheese makers is pasture-based feeding. Dairy producers are drawn to the lower feed costs while consumers and cheese connoisseurs note the unique flavors imparted from regional native grasses. This notion of “terroir,” the ability to capture novel milk and cheese flavors through native pastures, may prove a viable strategy for smaller scale processors. This strategy establishes a strong regional connection to the final product and plays to the romance of the cheese story. Moreover, it is one that is difficult to replicate outside of a given geographic profile.

Feed strategies are but one part of the product profile. Additional considerations include pasteurized versus raw milk and fresh versus aged product decisions. By NY State law, raw fluid milk may be sold on-farm. Raw milk cheeses however must be aged a minimum of 60 days prior to sale. Many in the artisanal and farmstead cheese community would like greater flexibility with raw milk products based on perceived product quality and flavor, as well as consumer demand. The proliferation of on-farm processors selling raw milk and associated products would seem to support the notion of increased consumer demand. On the other hand, regulatory agencies contend their primary concern is food safety, citing potential health risks to consumers on this front.

At least initially, the decision whether to produce a fresh or aged product is likely based on economics. Fresh product sales imply cash flow. Aged cheeses suggest that the processor must hold valuable inventory during which time they are not receiving income

on the cheese. The risk is also present that the cheese encounters problems during aging making it unsalable. In this case, the cost of producing the cheese is lost completely. It is assumed that dairy producers with new on-farm processing ventures seek to re-coup as much of their processing investment cost as quickly as possible. One means of handling this decision is to initiate fresh product production and sales early in the venture, diversifying to a combination of fresh and aged products once fresh product sales are well-established. This strategy allows cash flow from fresh product sales to off-set some of the delayed cash flow risk associated with the aged products.

On the supply side, potential volumes supplied can be calculated using herd size and approximate milk per cow production numbers. While milk yield and composition varies by animal type, it is still relatively easy to assess cheese production estimates (Table 20). Note that the seasonality component, in concert with the feed strategy (i.e., pasture fed, organic), causes further adjustment to production estimates. The symmetrical nature of production estimates suggests producers will need to identify which combination of resources yields the highest return for them.

In absolute terms, goat and sheep producers will observe lower milk yields than will cow milk producers. The corollary to this is there are also fewer commercial marketing opportunities for sheep and goat milk. The number of local buyers standing ready to purchase cow milk is much larger than is offered to other milk types. For cow milk producers, some shared fluid milk-cheese product combination may be financially attractive. In contrast, the fluid markets for sheep and goat milk are much smaller and less developed, limiting the number of dual fluid-processed product marketing strategies available.¹⁵ Presently, goat and sheep milk producers are more likely to enter the dairy product market with a finished/processed product in mind, given their more limited raw milk marketing options.

Of special interest may be products not currently available in the marketplace including organic and ethnic cheese products that cater to specific consumer segments. Using a combination of sales and census data, these two emerging product categories are examined.

Natural/Organic Product Potential

Consumer interest in organics provides a niche market opportunity for small-scale processors. Though difficult to pinpoint exactly, one estimate for 2004 sales is \$5.3 billion with the expectation of 16.9 percent annual, inflation-adjusted growth rates through 2009 (Purcell, 2005). And which outlets are consumers turning to for organic food purchases? The three leading market venues include natural food stores and conventional grocery stores, as well as direct-to-consumer markets (e.g., farmer's markets, farmstands, mail order sales)(Dimitri and Greene, 2002; USDA, 2003).

¹⁵ There is currently discussion of creating a Northeast Goat and Sheep Dairy Cooperative for the benefit of NY producers of these milk types. One of the key challenges at the moment however, is coordination of distribution tasks.

Specialty food sales at natural food stores in particular topped \$1.8 billion in 2004, a 37 percent increase over 2002 sales figures (*Cheese Reporter*, June 2005).

Dairy products represent approximately 11 percent of total category sales (Sloan). And while fresh produce leads organic category sales, dairy products saw extraordinary growth of over 500 percent between 1994 and 1999 (Dimitri and Greene, 2002). Cheese sales in natural food stores represents 6.8 percent of sales (*Cheese Reporter*, June 2005). A 2002 USDA report, “Recent Growth Patterns in the U.S. Organic Foods Market,” notes the following characteristics about the organic dairy product sector (Dimitri and Greene):

- Organic milk first appeared in conventional grocery stores in 1993.
- Organic milk price premiums ranged from 50-72 percent over branded/private label milk prices.
- The price premium for organic cheese ranges from 124 percent in 1995 to 28 percent in 1997 in a select Minnesota market.
- Organic dairy products including milk, butter, cheese, eggs, and yogurt, accounted for 0.9 percent of total 2000 U.S. dairy sales.
- In 1997, there were 12,897 certified organic dairy cows. New York claimed the largest number of organic dairy cows (3,386 cows), followed by Wisconsin (2,509), and Minnesota (2,425). To a lesser extent, Pennsylvania, California, and Maine each had 1,000+ cows certified organic.
- The number of certified organic milk cows almost tripled between 1992 and 1994. Between 1994 and 1997, the same rate more than doubled.

But what do these statistics imply for NY state dairy producers looking to initiate small-scale processing operations? First, they demonstrate a strong growth pattern over the past fifteen years, a trend expected to continue into the near future at a minimum. Second, dairy represents a sizable portion of the organic foods category at 11 percent. Interest in specialty dairy products appears to be growing due to consumer prioritization of certain product characteristics. Consumer interest in “purer” foods (i.e., the absence of select synthetic chemicals used in herd management) invites closer processor attention to production practices. Third, the heavy reliance on direct-to-consumer marketing strategies dovetails well with those already in use by small-scale processors (e.g., farmer’s markets and on-farm store sales). Consumers focused on simple, hand-crafted specialty cheeses made from organic milk are more likely to seek out the direct-to-consumer outlets where cheeses will be sold because they so highly value those production characteristics. Finally, New York’s role as a one-time leader of certified organic dairy cows indicates these product types have had a foothold in the state for almost 10 years, during which consumers have come to value the organic product through increased product visibility and awareness.

Ethnic Product Potential

Food trends indicate increased consumer interest in ethnic cuisines, many of which incorporate some degree of dairy product use and consumption. In light of this trend, demographic characteristics act as a springboard from which new product ideas might be generated. Consumer interest in ethnic and regional cuisines is leading to greater interest in authentic cooking ingredients, which may be to the NY dairy producer's benefit.

What's behind this trend? Food industry analysts suggest three drivers, all of which are similar to those driving the more generalized specialty foods category. First, consumer heritage or ethnic background contributes significantly. Ingredient authenticity may be especially important to immigrants or first-generation consumers. Though the US marketplace already provides a range of ethnic ingredients, consumers are becoming increasingly more discerning, seeking not only choice but authenticity as well. Of particular interest is the Hispanic/Latin population, noted in the 2000 U.S. Census as the fastest growing ethnic category. Already, this group has indicated a greater desire for authentic Hispanic/Latin foodstuffs and will presumably expand their preference for choice.

Second, non-Hispanic, mainstream consumers are turning to ethnic cuisines as a means of adding new flavors to their meal experience. The degree and breadth of travel by today's consumers have introduced a level of sophistication not previously observed by food marketers. In addition, this consumer segment has discretionary income with which to pursue new food experiences.

Finally, as mentioned earlier, developments in the food media network have expanded the culinary horizons of all consumers. Not only have cooking and food shows expanded in number, but in ethnic scope as well. Together, with consumers' interests and ability to purchase more expensive foodstuffs, the ethnic foods market is experiencing considerable growth.

A helpful tool to evaluate market potential for ethnic dairy ingredients in the NY area is the 2000 U.S. Census. While certainly not all ethnic groups are enumerated, it is a useful starting point to get a feel for the larger sub-groups. The 2000 U.S. Census is evaluated for NY at a state-wide and NYC level. The state-wide discussion accounts for all of NY State, less the five NYC counties. The census tracks five separate ethnicities with allowances for individuals to claim more than one type of ethnic background (i.e., two or more). The term "Hispanic" is used to aggregate persons of Mexican, Central American, and South American descent, as well as those of Spanish descent. Census data suggests that approximately 15 percent of the national population will be of Hispanic descent by the year 2010 and almost 18 percent by the year 2020. Nationally, the Hispanic population is most heavily concentrated in urban areas and in Los Angeles and NYC in particular. Regionally, the Northeast is home to approximately two percent of the total Mexican population, 61 percent of the total Puerto Rican population, and 14 percent of the total Cuban population.

In NYC proper, Hispanics/Latinos represent the largest ethnic group with approximately 2.1 million individuals, or representing 75.4 percent of the city's population. Here, Puerto Ricans represent the single largest share of the total Hispanic population, followed by Cubans and Mexicans (U.S. Census, 2000). Outside of these three specific sub-groups, national figures also show that the Nicaraguan, Salvadoran, Columbian, and Peruvian populations are growing, suggesting additional niche market potential for food marketers (U.S. Census, 2000). In the remainder of the state, almost one in four residents (24.7 percent or approximately 700,000 individuals) claim some degree of Hispanic/Latino heritage (U.S. Census, 2000). As a whole, NY State is home to almost 2.8 million individuals of Hispanic or Latino descent.

From the food marketer's perspective these population statistics are noteworthy. Hispanic buying power appears to be growing at a rate faster than the population, increasing 161 percent from 1990 (\$208 billion) to 2001 (\$524 billion)(Potenza, 2003). Together, the combination of a strong Hispanic market commitment to dairy, and favorable current and projected market size estimates, point to opportunities for dairy producers. Survey data from "The Hispanic Consumer: Attitudes, Buying Behavior, and Purchase Drivers" (IDDBA, 2000) and the Bureau of Labor Statistics' Consumer Expenditures report (USDL, 2003) highlight the importance of dairy products to the Hispanic community. Though the statistics provided below reflect national buying patterns, it is likely that the NY community exhibits similar behavior.

- On average, Hispanics spend \$374 per household member annually on dairy products compared to \$322 per household member for non-Hispanics, reflecting a 19% higher expenditure average (USDL);
- On average, Hispanics spend \$214 per household member annually on dairy products other than fresh milk and cream compared to \$200 per household member for non-Hispanics (USDL);
- Most Hispanics frequent American-style grocery stores for groceries though 16 percent are dissatisfied with the existing selection of Hispanic products in the dairy case (IDDBA)
- Hispanics shop the dairy case on average 2.2 times per week and those in more urban areas are likely to frequent the dairy case more often (IDDBA); And
- 62% of Hispanics often put cheese in sandwiches, 42% often use cheese as an ingredient in cooking, and 40% often snack on cheese (IDDBA).

These numbers reveal the importance of dairy in Hispanic cuisine. The value placed on dairy is reflected in the growth of cheese varieties tailored to the Hispanic community. The proliferation of cheeses tailored to the Hispanic/Latino community is a clear market signal. In the 1996-2001 period, Hispanic-style cheese production increased 52 percent, equivalent to approximately 102 million pounds in 2001 (Van Hekken, 2002). This translates to a supply curve that outperformed both the cheddar and mozzarella categories in the same time period.

Researchers at USDA's Agricultural Research Service' Eastern Regional Research Center (ERRC) have begun working with cheese makers to better understand

the technical processes which yield the unique properties of four specific Hispanic cheeses: Queso Blanco, Panela, Asadero, and a Mennonite-style cheese commonly produced in the Chihuahua region of Mexico (Van Hekken).

In both California and Wisconsin, Hispanic cheese production is on the rise. In California, more than 20 varieties of Hispanic cheeses were produced in 2002, representing approximately five percent of total state cheese production (78 million pounds)(<http://www.realcaliforniachese.com>). California is the largest single-state volume provider of Hispanic-style cheeses to the marketplace (62 percent) followed by Wisconsin (26 percent). The balance of 12 percent is provided by various other states (Spice, 2004).

Wisconsin's 2003 Hispanic cheese production volume increased 17 percent, to 34.8 million pounds, from the previous year (Spice). The WMMB notes that in 2003, three of the ten fastest growing cheese varieties made in Wisconsin were Hispanic cheeses, using grocery store sales as a marker of growth. Number one on the list was Crema Mexicana, with a growth rate of 140.9 percent. Number five was Queso Blanco with a growth rate of 26.5 percent, and number ten was Queso Fresco at 20.6 percent (WMMB, 2004).

Hispanic cheese manufacturers have supplied product to market for a number of years, however the growth of the Hispanic population has generated greater incentive for more authentic products. Historically, these products have been sold through specialty ethnic retail outlets, though they are increasingly finding their way to mainstream grocery stores (Spice). The emergence of companies specializing in Hispanic cheeses reflects suppliers' interest in meeting consumers' preferences. Though some of these companies are off-farm enterprises, the nature of their customer base forces them to address many of the same concerns that on-farm cheese makers would. That is, some Hispanic consumers may be more highly attuned to product authenticity yet unwilling to pay the higher retail prices that non-Hispanic consumers simply looking to broaden their food scope would. For a select consumer group, it is still feasible to make their own product rather than spending more at retail for a pre-packaged product. This type of consumer information highlights the need to provide superior, authentic product quality while keeping production costs low (Scharfman, 2005).

The growth in Hispanic cheese production highlights the potential for dairy producers/processors to tailor product to a particular ethnic market. In NY, the opportunity exists to meet the needs of an even more diverse market population, in addition to the Hispanic consumer. The ethnic specialty cheese market is in no way limited to limited to Hispanic-style cheeses. There is also observed growth in other ethnic cheese markets such as Middle Eastern (Van Wagner) and Caribbean (Sander, 2003). One Wisconsin-based cheese processor now offers a line of cheeses tailored to populations from Caribbean locales. Though similar to their other Hispanic-style cheeses, their Caribbean products are marketed using different labels and slightly different recipes customized for this group of consumers (Sander, 2003).

Hispanic cheeses are just one opportunity. Observation of other ethnic cheese sales growth in recent years suggests this trend is not unique to Latino products. The case of Feta cheese indicates how an ethnic cheese product makes its way into mainstream US grocery stores. Last year, sales of Feta increased 11.2 percent to \$111.9 million, relative to 2003 sales figures (Buragas, March 2005). Interestingly, there has been an American customization of the traditional Feta resulting in milder flavor and lower salt characteristics. A more traditional Feta, consistent with the product eaten by native Greeks, is still available in the marketplace for those desirous of a more authentic product (Buragas, March 2005).

The specialty cheese product opportunities are numerous for processors looking to cater to ethnic markets and/or wanting to specialize in production of lesser-known, already existing cheese types. Examples of this include the Finnish cheese Juustoleipa (or “bread cheese”) identified by Wisconsin’s Center for Dairy Research (WCDR) (Held, 2002) and the Paneer and Chenna cheeses now produced by the Specialty Cheese Co. in Wisconsin (*Gourmet Retailer*, 2003). Juustoleipa cheese production pairs well with small-scale production capabilities and can be stored for up to 2 months in the refrigerator or frozen for up to a year, giving it attractive shelf life options. The Indian cheeses mentioned exemplify the extent to which cheese companies are catering to specific population segments.

In an effort to more effectively cater to a particular ethnic market, NY on-farm processors might consider partnering with existing industry participants to access the specific market. On-farm processors may find it attractive to focus on specialty cheese production while marketing and distribution responsibilities are delegated to a second firm with greater affinity for the marketing components involved in product development. This form of specialization offers processors an alternative business plan, particularly for dairy producers/processors whose skill set is more closely aligned with production versus marketing. In addition, this type of partnership may afford the smaller processor to capture greater product value without compromising time and labor in marketing and distribution efforts.

Specialty Cheese Distribution

Specialty Cheese Distributor Feedback

In short, distributors are in the business of delivering products to market. Their presence in the market indicates that a certain segment of specialty product manufacturers recognize distributor-sourced benefits to be at least as great as the cost of employing them. The question for NY State on-farm dairy processors is whether these same services are economically justifiable in providing their own product(s) to market.

Much of the distributor’s effort is directed at coordinating delivery schedules and volumes so as to meet product handling concerns, and at the same time, buyers’ needs. Translated, the distributor is assuming a certain level of risk for coordinating the timely

delivery of a highly perishable product. Their fees cover transportation, short-term storage expenses, and some degree of product marketing. Their rates are influenced by such factors as fuel costs, transport mode, proximity to end market, product volume, and product characteristics.

There are cheese makers for whom distributors provide economic benefit. For others, self-distribution is a more economical decision. Ultimately, the time, labor, and capital trade-offs associated with a producer's resource base will vary by producer, given that producers may value their trade-offs differently. Initially, the information gathering phase may seem onerous. However, it is a short-run time investment that invites a more informed decision in the long-run.

Working with a distributor can significantly increase visibility for processors who, for various reasons, have difficulty accessing potential buyers. This may be an especially attractive feature for small-scale processors looking to grow their sales region beyond local markets. Benefits associated with using a distributor however, come at additional expense to the cheese maker. Often cheese makers are hesitant to consider distributor services feeling that the service expense exceeds service advantages. The opportunity for on-farm cheese makers to capture a greater portion of the marketing dollar is a strong incentive to assume distribution and marketing tasks. However, self-distribution ultimately ensures that some resources are re-directed away from one use to satisfy distribution and marketing responsibilities. Discussion of the costs and benefits associated with employing a distributor is facilitated when producers know the value of these resources and complement them with other cheese maker, product, and market characteristics.

Incorporating distributor feedback in this report is an effort to more completely capture supply chain participants perspective. Participating distributors were identified through an American Cheese Society (ACS) web resource (<http://cheese.onecityinternet.com/cgi-bin/memberdb/memblast.cgi?profession=DISTRIBUTOR>). Twelve specialty cheese distributors provided feedback on the following issues:

- Selection criteria,
- Perceived benefits and concerns in working directly with small cheese makers,
- Purchasing volume and frequency preferences,
- Willingness to pay price ranges,
- Interest in increased NY specialty cheese offerings, and
- Observed specialty dairy product trends.

The distributors providing feedback typically purchase product domestically and abroad. In terms of markets served, most of the distributor companies contacted focus either on small, regional markets or choose broader, national markets.

Regarding selection criteria, all distributors cited product quality and taste as a first point of reference. Specialty product distributors, by nature, are driven to find

unique food products for their customers. Providing relevant product to their retailer customer motivates distributors' search for high quality, hand-crafted cheeses. To find these products, distributors often turn to the ACS annual cheese competition and to their staff for referrals. Distributors also indicated that new cheese selections are frequently a response to trends observed at retail.

Half of the distributors providing feedback indicated they typically pay the cheese maker a price reflective of the cheese's characteristics (e.g., degree of differentiation, taste) and did not provide a price range. Those providing actual price ranges typically paid cheesemakers up to \$10 per pound, though higher prices are possible where the purchasing agent is particularly impressed. Several distributors noted that the general retail price-producer paid price relationship is typically two to one, reflecting distributor and retailer expense and margin.

Distributor contacts were asked to identify their perceived benefits when working one-on-one with cheese makers. One distributor succinctly responded that they received "fresher product, better pricing, and better (product) availability." In some form or another, all distributor respondents cited the close relationships they established with cheese makers as a perceived benefit. Distributors felt that doing so led to better information regarding make procedures and quality. In turn, this information leads to an improved understanding of the cheese story and subsequently cheese sales. Another expressed their relationship with smaller cheesemakers as individual "alliances." The alliance idea suggests an ability and interest in identifying win-win strategies for both parties (e.g., creating customized products for cheese clients).

Not surprisingly, the distributor-cheese maker rapport is positively correlated with communication about supply volumes and availability. Because artisanal and farmstead cheeses are typically produced in small volumes, supply consistency can be especially challenging for distributors. The majority of distributors indicated they do not have fixed purchase volumes or schedules. Instead, a cheese's life cycle typically dictates both the quantity purchased and purchase frequency dynamic. A few distributors indicated that they assume some additional risk in trying to coordinate more structured customer demand schedules with the variability of small-batch cheese production.

Transportation is the single largest expense distributors incur once they purchase the product. Given the perishable nature of the product, timely and efficient delivery to market is essential, and not always inexpensive. Considerable effort is dedicated to finding cost effective transportation strategies for specialty cheeses. Most distributors use a combination of strategies including truck transport, air cargo, and access to consolidation points located near coastal ports. Consolidation points pool small product volumes arriving from international locations and from multiple local cheese makers so that distributors achieve greater economies of scale in shipping.

Another challenge is the cheese maker's seasonal interest in distributor services. Specialty cheese makers are often drawn to farmers markets where they can capture higher retail prices during warmer months without sharing marketing costs. However,

when farmers markets close for the season, cheese makers sometimes turn to the distributor to smooth sales. For their part, distributors are charged with building product momentum and customer interest. This task is simplified when marketing a product year round (versus a 4-5 month window) because of the stable supply stream.

To address general product quality and consistency concerns, some distributors note that they spend considerable effort upfront, sharing information about distribution and sales processes with cheese makers. Distributors note that cheese makers may not fully recognize the range of tasks and responsibilities assumed by the distributor and the associated costs of providing those services.

In terms of marketing specifics, the value of the cheese story, and label attractiveness and appeal are important in peaking retailer interest in a product. Consumers are still in the early stages of the specialty cheese learning curve and the cheese story is a useful resource to provide them with additional product information. In fact, consumers and cheese makers are often drawn to these types of cheeses for the same reasons: commitment to specific production strategies, product quality through craftsmanship, and interest in supporting local producers. Distributors' point out that sharing these common interests, through communication of the cheese story via product label and packaging, greatly enhance product appeal at retail.

All distributors indicate a high degree of interest in having access to more NY specialty cheeses. The breadth of new specialty cheese product possibilities is remarkable, though ultimately, buyers seek superior product quality. Distributor respondents commented on the strength of consumer demand for domestic specialty cheeses, particularly as imported cheese prices respond to exchange rate fluctuations. Two comments in particular reflect what distributors see as a very positive growth market for small cheese makers. First, unlike European consumers, Americans tend to be more open-minded, willing to try an unusually wide range of flavors and textures. Second, this open-mindedness also means that cheese makers have few constraints in terms of what types of cheeses they might explore. The trade-off is that there is no real track record for many of the more successful domestic specialty cheeses, making it difficult to place them in traditional cheese categories. Many distributors noted increased consumer interest in flavored cheeses, sheep's and mixed milk cheeses, and entertainment-ready products, especially around holiday seasons. Blue cheeses appear to be coming on strong in the marketplace and distributors are responding with more artisanal and farmstead blues.

The following section is an effort to share distributor-based issues with producers considering on-farm value-added dairy processing. Presumably, the primary distribution decision for this group revolves around whether or not to outsource market delivery services. The distributor decision ought to be made after careful consideration of a number of factors, among them cheese maker, product, market outlet, and distributor characteristics. A full accounting of information provided by these sources is likely to facilitate many of the product distribution decisions.

The Product Distribution Decision – Cheese Maker Characteristics

For cheese makers, the real concern is the degree to which assuming distribution responsibilities constrains existing resources. Resources available to a producer are typically of three types: time, labor, or capital. And while it may be easy to overlook the time commitment of delivering product to market, it is a critical consideration. Product distribution can be particularly time consuming where a very small number of laborers are responsible for both milk production and cheese making. Assuming distribution responsibilities during this phase may appear cost-effective in dollar terms, but it likely introduces additional time constraints on an already tight on-farm labor supply. Product distribution responsibilities could be prohibitive for already overextended laborers.

Intertwined in evaluating the time resource is the labor component. The first important piece of information to know is the total amount of labor available in a given time period (e.g., each week), as well as the rate at which each laborer is paid. During the initial start-up phase, it is unlikely that farmstead and artisan cheese makers have excess labor capacity to dedicate to marketing. A purely economic calculation may overlook the possibility that cheese makers have a strong preference for staying on-farm and allocating their time and attention to milk and cheese production phases. In discussions with specialty cheese distributors, a number of them cite this preference as a leading reason why cheese makers out-source product distribution. It is also worth noting that over time, product success, enterprise expansion, and/or changing preferences in tasks assumed, will influence the time-cost relationship of employing distributor services from the cheese maker's perspective.

The third resource, capital, is also relevant to the distribution discussion in that on-farm processors will require packaging and labeling capabilities as well as a vehicle for self-distribution. Each of these tasks (packaging, labeling and transportation) are closely monitored by NY Department of Agriculture and Markets. Regulatory compliance on all three fronts introduces additional expense in terms of equipment and vehicles.

Vehicle requirements will largely be determined by the volume of product and the distance it must be transported. The primary vehicle consideration is refrigeration capability. For exceptionally close markets, refrigeration may not be necessary at all. In some instances, a traditional refrigeration truck may be necessary. Other times, standard pick-up trucks may be adapted or outfitted with small refrigerators to accommodate transportation of small volumes to market or retailer. The latter however, will be considered on a case-by-case basis subject to approval from NY State Department of Agriculture.

Of the three markets examined in this study, two marketing channels emerge. The key difference is whether or not cheese makers employ a distributor to supply their end markets. The decision should fully account for the opportunity costs, in both time and dollars, associated with transporting product to market, marketing the product, and administrative oversight.

The Product Distribution Decision – Product Characteristics

Product and market characteristics also offer assistance in narrowing the distributor decision. Product characteristics dictate the allowable time away from refrigeration, the mode of transportation, and the associated cost of moving the product. The product profile drives many of the distribution decisions regarding delivery transit time, delivery frequency as it relates to shelf life, and transportation mode. Fresh products with shorter shelf life (e.g., raw milk, yogurt, or fresh cheeses) will require greater attention to product freshness relative to an aged, long-life cheese. Shorter shelf life products also require faster inventory turn-around times in addition to refrigerated short-haul travel distances to retailer. For soft and fresh cheeses, timely delivery to market is of greater importance. By comparison, aged cheeses are less time-sensitive and offer greater logistical flexibility. Regardless of cheese type however, concerns with product spoilage are ever present and necessitate some means of maintaining low product temperatures during transport.

The Product Distribution Decision – Market Outlet Characteristics

Market characteristics influence distribution decisions to the extent that market size and product volume requirements may exceed a cheese maker's self-distribution capabilities. Three general types of market outlets include (1) the local, less formal retail option (e.g., farmers markets, on-farm retail outlets), (2) local commercial restaurants and retailers (e.g., local grocers, specialty/gourmet shops, wine trail retailers), and (3) the large, urban outlet such as those located in NYC. For on-farm processors selling directly at farm retail stores, the tradeoff from transportation savings comes in the form of decreased consumer visibility. One strategy to compensate for this may be development of a website from which internet purchases could be made. These types of trade-off evaluations are useful marketing-oriented exercises for producers considering on-farm processing ventures.

In the case of less formal, local markets (e.g., farmer's markets and on-farm sales) the cost of hiring a distributor exceeds the benefit. For the local restaurant or urban market scene the decision is more complex. Regarding local restaurants or grocery stores, cheese buyers may have specific packaging and labeling concerns in addition to preferred delivery schedules. These preferences may be enough to warrant use of a distributor who ferries the product from farm to buyer. The more stringent the buyers' requirements however, the more attractive the distributor option is likely to appear. For cheese makers selling to a very small number of establishments, self-distribution may be feasible in terms of time and labor constraints. The benefit-cost relationship varies largely with the complexity of buyers' purchase requirements, the number of buyers a producer confronts, and the market's distance from farm.

As with the local restaurant and grocery store scene, NYC cheese buyers may have similarly stringent preferences on cheese deliveries. The same complexity of buyer preferences, number of buyers, and distance from farm factors are worth consideration.

Producers in Western NY may find self-delivery to NYC too time expensive. The benefit of being able to stay on-farm to attend to production responsibilities may off-set the dollar cost of employing a distribution service.

Specialty foods distributors are in the business of providing unique, high quality, products to their retail buyers and express genuine interest in having access to a greater diversity of locally produced specialty cheese products. They provide transportation and marketing services so as to better coordinate cheese maker and retail buyer interests. The cost of their services is primarily a function of shipment mode, fuel rates, distance to market, and product characteristics (e.g. degree of perishability), product volume, and promotional effort. The cheese maker's decision whether or not to outsource distributor services may be shaped, in large part, by the complexity of the buyers purchasing preferences, offer price, and distance from farm.

IV. KEY MARKETING POINTS

Coordinating Supply and Demand

On-farm dairy processors are confronted with the challenge of finding the highest visibility retail outlet subject to their business goals. The most desirable situation is a visibility level that results in sales volumes that complement volumes supplied. Coordination of supply and demand is driven by market clearing quantities, drawing attention to the need for well-defined price estimates. The greatest benefit will accrue to cheese makers who have accurate supply and demand volume estimates and a feel for consumers' willingness to pay, across a given time horizon.

Marketing any type of product involves first, recognizing what product attributes consumers value and second, communicating how the attributes provided by a product meet, if not exceed, consumer wants/needs. With respect to niche market products, consumers are typically less cost conscious, choosing to pay higher prices for attributes they particularly value, such as quality and uniqueness. Niche products typically convey a sense of novelty and/or artistry and time commitment through hand-made production practices. The marketing component fulfills the task of introducing these types of products to niche market consumers.

To a certain extent, the size of the market supplied is a marker of the potential sales volume. Dairy producers examining alternative market outlets need to consider not only their short-run, but long-run production scenarios. Participation in smaller market venues may be initially very attractive especially if there are constrained production capabilities. On-farm stores and farmer's markets are two examples of local, less formal market venues. Supplying product to chefs at local restaurants or grocery stores, and mail/internet order availability may appear (geographically) close to the farm, but has the potential to attract interest in larger volumes. These venues may be of special interest to producers looking to grow an existing market and/or producers looking to start out at this

level of supply with sufficient volume. Retail outlets with the greatest potential to expand volumes supplied are those in NYC. Urban specialty/gourmet shops and white tablecloth restaurants afford access to a large population. Regardless of geography however, cheese makers supplying restaurant chefs enjoy the possibility of customizing future products for mutual benefit.

This process is also conditioned on integrating numerical market size data with information about consumer preferences such per capita consumption estimates, socioeconomic data in light of product price, and whether consumers perceive the food product as more of a luxury or necessary good. Also of interest to on-farm processors is information about competitor cheese makers in the same market. Knowing competitor size, product offerings, and competitor retail outlets, and ways in which the processor distinguishes themselves from their competitors, allows start-up processors to uniquely tailor their own marketing and production strategy.

Efforts to coordinate supply and demand can be challenging though. From the production perspective, supplies can escalate quickly (Table 20), highlighting the need for knowledge about market-specific demand patterns.¹⁶ Dairy producers looking to supply local farmers markets or wineries may find they can achieve, and even exceed, weekly volumes demanded with relative ease. For example, a dairy cow producer with a herd of 25 cows, dedicating 10 percent of their milk to cheese production, produces approximately 90 pounds of cheese weekly (Table 20). Feedback from winery respondents suggests that 5 to 10 pounds would likely meet consumer demand at a single facility. Assuming the cheese maker is looking to market their product in entirety, a minimum of nine wineries, each moving 10 pounds a week, are needed to match volume supplied. To both the winery and cheese maker's benefit, the milk production and winery business cycles are largely compatible. This is attributed to the peaking of milk production in the Spring, just as wine trail tourist season is beginning. In short, the relationship between the retailer and cheese maker is conditioned largely on the ability to coordinate volumes supplied and demanded. For cheese makers relying solely on a small number of outlet venues with any seasonality component, the challenge becomes identifying venues with similar volumes demanded at complementary time periods.

¹⁶ Milk production estimates in Table 20 are average approximations of weekly cow, goat, and sheep production volumes and are not associated with any particular breed. Recognizing that milk production is a function of several factors, these estimates are used only to illustrate how quickly cheese supplies can accumulate. Note also that milk-cheese conversion rates are highly variable depending upon the type of cheese produced. Those used here are representative of hard cheese (e.g., Cheddar) production.

Table 20. Estimated Weekly Hard Cheese Production Volumes (lbs.)

Animal Type and Herd Size	Percent of Milk Dedicated to Cheese Production			
	10	25	50	100
Cow^a				
10	36	89	179	358
15	54	134	268	537
25	89	224	447	894
50	179	447	894	1,788
100	358	894	1,788	3,5775
Goat^b				
10			23	45
15			34	68
25			57	113
50			113	227
100			227	453
Sheep^c				
10			15	30
15			23	46
25			38	76
50			76	152
100			152	303

^a Cow milk estimation based on weekly production volumes of approximately 358 pounds per cow and a milk-cheese conversion rate of 10 to 1.

^b Goat milk estimation based on weekly production volumes of approximately 50 pounds per goat and a milk-cheese conversion rate of 10 to 1.3.

^c Sheep's milk cheese estimation based on weekly production volumes of approximately 23 pounds per sheep and a milk-cheese conversion rate of 10 to 0.9.

Sources: <http://adga.org/DHIR/2004BreedAverages.htm>; Mark Stephenson, Cornell University; Tatiana Stanton, Cornell University; Carol Delaney, University of Vermont; Stephanie Clark, Washington State University

Two production issues merit discussion at this point. The issues of balancing and cheese by-product use force the dairy producer to understand how the raw milk is used at every stage of the production process. First, dairy producers of all milk types, and regardless of milking schedule, must consider what to do with milk that is not intended for processing. For cow milk producers, if enough raw milk is re-directed to processing efforts, volume could fall enough such that fluid buyers are less interested. For goat and sheep milk producers, the problem is not necessarily solved simply by producing additional products (e.g., soap). The risk here is that time and labor resources are further constrained as more, and different, processed products are added. Second, once the cheese is made, the whey by-product remains for which there may be some market value. Market value however, will be dependent upon the type of cheese made. Dairy producers who consider marketing options for both the milk and whey only add to their specialty

processing opportunities. Historically, whey has been a feed ingredient supplement. However there may be processing opportunities (i.e., fresh ricotta) that brings a higher return than the cost savings from feeding.

The Value in Understanding Price Points

Producers well-versed in product price points garner greater leverage in negotiations with other supply-chain participants such as distributors or retailers. Dairy processors cognizant of the services that each participant provides, and the current market valuation for those services, are better able to evaluate supply chain expenses. Knowing three types of cost information clearly work to the on-farm processor's benefit.

One piece includes information about the maximum retail price consumers would be willing to pay for the product. Consumer price sensitivity and the associated costs to supply each market contribute to final retail price determination. Not surprisingly, the NYC outlets are more expensive to the consumer. Consumer willingness to pay in the winery market is estimated to be in the neighborhood of \$7 per pound. In the NYC specialty shop market, the same estimate doubles to \$14 per pound. And in the sample of NYC restaurants, customers are paying almost \$4 per cheese sample, which is almost certainly less than a whole pound. In fact, most chefs indicated they are willing to pay suppliers \$19 plus per pound.

Second, knowing the market value of distributors' services is important. The challenge however, is to accurately recognize the range of services provided by the distributor and the associated market value for those services. Given this data, the on-farm dairy processor is able to back out their own expenses to provide like services and subsequently compare costs. For artisanal cheese makers, this is the equivalent of identifying their time and dollar opportunity costs associated with product distribution.

Finally, value-added dairy processors must have a firm grasp of their own production costs. Full understanding of processing expenses are critical to establishing (1) a minimum retail price needed to cover per unit expenses and (2) a benchmark against which to evaluate other supply-chain costs. The summation of production, distribution, and marketing costs provides a reference point against which the retail price can be interpreted.

A key distinction between commodity and value-added dairy product markets is the consumer's perception of quality. It is this quality perception for which they are often willing to pay a higher retail price. Unfortunately, this higher retail price is often attributed to higher production costs confronted by the processor. As a result, the challenge becomes capturing as much value-added as possible at retail while carrying "the additional responsibility of marketing higher quality product (Van Wagner)."

Specialty Cheese Product Promotion

Specialty cheeses have shown themselves to be a growth market with customers eager to learn and buy more. Because the category is in its infancy, promotional efforts serve a dual purpose. One goal is to increase attention and interest in individual products. Increasing product awareness and visibility can be accomplished through retail sampling, attention to attractive packaging and labeling, success in cheese competitions, etc. Ultimately, each cheese maker seeks to share their product with as many as possible, as effectively as possible, to enhance product appeal at retail. At a broader level though, all small-scale processors benefit from promotional efforts which educate consumers on types and styles. Promotional efforts that bring the consumer farther along the learning curve are more likely to encourage long-term consumer interest.

Product Promotion – Sampling

Each respondent group identified taste as the most important characteristic in deciding whether or not to purchase a specialty cheese. For small-scale cheese makers with a limited number of products, sampling is a simple and low-cost means of luring the buyer to a product. With specialty food products, the first challenge is getting the customer to initially taste the product. Hopefully, product quality leads to an initial purchase and later repeat purchases. At the specialty shop, available samples translate to a day-long marketing campaign by cheese counter employees. At wineries, concurrent wine and cheese samplings create an effect whereby customers come to think of them as a necessary pair. By definition, the cheese plates offered by chefs are simply samples of a variety of cheeses. Finally, distributors have indicated they will work with small-scale processors on delivery schedules and packaging and labeling, but they are adamant that they sample the cheese first for taste.

Relatively speaking, sampling is an inexpensive marketing strategy. Cheese buyers at NYC specialty shops indicated that it was not necessary to have the cheese maker assume the sampling cost though it is appreciated. By comparison, winery survey respondents were more concerned about assuming that cost. The difference between the two markets is likely attributed retailers' perception of how easily the cost of supplying samples can be passed along to end-buyers.

Product Promotion - The Cheese Story

Niche markets, characterized by smaller production volumes and/or market size, do not enjoy the same marketplace visibility as more mainstream/commodity products. The smallness of niche markets means that product visibility is a greater challenge. Marketers of commodity cheese dedicate few resources toward educating consumers about product characteristics because quality and price attributes are already familiar. Increasing awareness about specialty cheeses through educational efforts should

encourage consumers to gravitate towards those products where information is accessible.

Capitalizing on the “cheese story” is a highly important part of the marketing process. Consumers’ learning curve is a function of how much information is available at point of purchase. For most, the type and quality of information available to consumers at the cheese case, either through signage, labels, or discussion with retail employees, can significantly shape their perception. Artisanal cheese makers are encouraged to provide as much information about their cheese as possible at retail. One suggestion is to establish a close relationship with the retailer, the first line of defense in filling in information gaps about the product to consumers. Secondly, information about the cheese maker, the farm and the animals, feed practices, and cheese making techniques resonate with consumers interested in having a greater connection with their food supply. Together, these pieces of information fit together to tell a story about the specialty cheese. In turn, the story helps the consumer recognize which products are produced in a fashion they most highly value and, for which they might pay a premium.

Product Promotion – Cheese Competition Award Recognition

Consumer expectation regarding product quality and food safety characteristics is typically higher with niche products. Endorsement from objective judges in a cheese competition is one signal consumers use to help them identify good candidates for purchase. Award recognition, especially in larger, well-established shows, establishes unbiased credibility about the cheese’s quality. “Many in the cheese industry note the success of U.S.-made cheeses at the World Cheese Awards as an example of the overall popularity and high quality of U.S. specialty cheeses (*Cheese Market News*, October 2004).”

Quality recognition in the specialty products market is often the strongest, most distinguishing characteristic available to specialty cheese makers. In fact, sponsors of cheese competitions are noting increasingly larger numbers of entries both in domestic and international shows. Increased cheese maker participation benefits the specialty cheese market as a whole, reflecting both broader product offerings and commitment to quality. Two such domestic competitions are sponsored by the American Cheese Society and the Wisconsin Cheese Makers Association.

Product Promotion – Capitalizing on Existing Resources

Outside of promotional efforts by the NY State Farmstead and Artisanal Cheese Makers Guild, other state-wide resources are available as potential marketing outlets. Non-profit organizations such as the Regional Farm and Food Project (RFFP)(<http://www.farmandfood.org/>) and the Finger Lakes Culinary Bounty (<http://www.fingerlakesculinarybounty.org/>) have spearheaded efforts to promote linkages between local producers and retailers, as well as restaurants. The Small-Scale

Food Processor Association of New York (SSFPANY) (www.nyssfpa.com) is another available resource addressing a range of production/processing and marketing concerns including coordination and dissemination of regulatory, technical, financial, and marketing information, coordination of cooperative input purchases, and negotiation of group-rate product liability insurance (<http://www.nyssfpa.com/home.html>). Certainly each of these programs offers marketing possibilities for specialty cheese makers. In both cases however, specialty dairy product interests were a sub-set of goals designed to assist producers of all types of locally produced agricultural goods.

Another opportunity available to on-farm NY dairy processors is provided by the NY Wine and Grape Foundation which sponsors a program called "NY Wines and Dines." This program is intended to help link agricultural producers/on-farm processors with restaurant interests throughout the state. Since 2001, the program has run three consecutive years in both NYC and Albany, and one time each in Rochester and Buffalo. The program offers a website profiling program participants, among them six value-added dairy processors, and almost 200 restaurants located throughout the state in an effort to facilitate these linkages (<http://www.newyorkwinesanddines.org/index.aspoffers>).

In terms of university-based resources available to on-farm processors, researchers at Cornell University are hoping to provide access to a new software program *MarketScape*TM, ideally administered through cooperative extension service representatives. *MarketScape*TM is a prototype GIS-based mapping tool for use in identifying target markets for New York food and agricultural products. The tool merges consumer demographic, retail business location, and consumer purchasing preference data for small-scale processor use. Target market areas can be identified based on a confluence of highly attractive geographic and economic factors sought by processors. Project participants have completed the early stages of *MarketScape*TM design and anticipate program availability soon for processor use.

Interaction with these types of organizations is one avenue to increase product visibility. Groups such as the NYS Farmstead and Artisan Cheese Makers Guild, RFFP, Finger Lakes Culinary Bounty, and the NY Wine and Grape Foundation, offer on-farm processors an opportunity to showcase their products in both regional and state-wide venues. It appears that many of the on-farm dairy processors currently in the market are already accessing these groups and programs to promote their products.

Product Promotion - Additional Opportunities

NY cheese makers are fortunate in that they have relatively close proximity to mid- to large-size urban markets. For the creatively-minded cheese maker looking to market a new product, promotion need not be dollar costly. It will however, carry a time cost. Much of the success behind marketing a specialty cheese, depending upon the market, will be found in nurturing mutually beneficial relationships with vendors as well as consumers. With specialty cheeses, having information about the cheese's story will

help to convey a more personal sense about the product. Additional marketing opportunities might include:

- Establishing personal relationships with local restaurant chefs where product customization benefits both chef and cheese maker;
- Establishing relationships with groups conducting cheese and wine pairing classes;
- Participation in regional food shows highlighting locally produced food goods;
- Website development
- Establishing personal relationships with local specialty shop retailers who would be receptive to in-store cheese tastings.

The newness of the farmstead and artisanal cheese market means that supply chain participants, from producer to consumer, are exploring the learning curve. Marketing value-added dairy products may be initially somewhat challenging given the absence of a state marketing board's muscle however, creative marketing opportunities exist.

V. SUMMARY AND AVENUES FOR FUTURE INVESTIGATION

Market analysis is a necessary step in evaluating potential success of specialty cheese operations. This report investigates the market characteristics of three retail outlets in New York State. These markets were selected on the basis of their potential compatibility with NY specialty cheeses. Survey responses provide valuable feedback from cheese buyers who also act as a filter for reading consumer demand. Results suggest that marketing efforts are facilitated by unusually high levels of consumer interest. This translates to consumers "pulling" at the end of the supply chain for new product and information. Strong consumer interest however, can not compensate for attention to marketing fundamentals. In particular, this report finds six key points for would-be processors to consider.

First, all survey respondents view specialty cheeses as a growth market. This sentiment is echoed nationally by distributors supplying product beyond state boundaries. New York dairy producers, looking at the retail environment, are curious whether they might not be able to capitalize on the attractive retail prices through on-farm cheese making efforts. Observed consumer retail behavior is one motivation behind exploring marketing possibilities for NY specialty cheeses. Second, collectively, survey respondents welcome additional specialty cheese offerings from small-scale NY processors. The open-mindedness of American consumers, in terms of style and texture, leave product development possibilities wide open.

Third, price points are critically important in market evaluation. The same specialty cheese can draw different retail prices in different markets depending on

consumer price sensitivity. The average retail price per pound at NY wineries is approximately half of what is observed in NYC markets. Recall that price estimates from winery respondents are associated with considerable uncertainty, likely due to the lack of experience with this product. As processors explore new market venues where retailers lack experience with specialty cheese sales, this effect may surface again. In this case, retailers still contribute valuable information though it is more likely to be based on sales patterns and expectations about like products.

While the NYC markets exhibit higher retail prices, there are also additional expenses associated with supplying this market (i.e., distribution) relative to local wineries or even farmer's markets. Supplying perishable product to market on a weekly basis, a preference of survey respondents, introduces additional time and dollar costs. Processors will want to have as much information about production, distribution, and marketing expenses as possible from which they can look down the marketing supply chain and evaluate retail prices.

Understanding retail price-product cost structure is critical. Given the high start-up costs associated with on-farm processing efforts, cheese makers would do well to consider producing a fresh product initially to jump start cash flows. Once a base product has demonstrated its ability to generate somewhat predictable revenue, cheese makers can broaden their product line to include aged products if so desired. This strategy tempers the risk of holding expensive inventory during which time no sales are generated.

Fourth, seasonality colors the product marketing exercise. On the production side, seasonality introduces constraints for the processor through available milk supply which peaks in the spring and summer seasons. Moreover, the question of balancing arises for dairy producers not dedicating all of their milk to cheese production. The ability to coordinate milk supplies with processed product supplies is the first step in later coordinating cheese supplies with market outlet demand. Seasonal cheese production coincides especially well with the swells of tourists along the wine trails. However, the end-of-year demand indicated by specialty shops may be problematic for seasonal cheese processors unless an aged cheese product is made to stretch out the seasonal processor's marketing window. Specialty shop demand is a reasonable marketing opportunity for year-round producers. For their part, NYC chefs recognize the seasonal component to specialty cheese production and have indicated that it does not curb their interest in these products - their response is to simply adjust their menu to reflect what is currently available from the specialty cheese market.

Fifth, each survey group provided information regarding their perceived preferences and concerns when purchasing cheeses from the cheese maker directly. In general, respondent groups are receptive to the idea of increased one-on-one interaction with the processor. Respondents are drawn to the idea of promoting the local concept and facilitating cheese buyer-cheese maker dialogue. Respondents in each survey group are usually willing to work together with cheese makers on delivery schedules to provide a win-win situation.

That said, the leading concern when working with cheese makers was product consistency. While amenable to working with processors on delivery logistics, cheese buyers are adamant that product quality not suffer. They select cheeses based on taste and distinctiveness of flavor. Failure on this front can change their likelihood of a repeat buy. The domestic market appears eager for a broad variety of styles and flavors but the burden is on the cheese maker to produce a superior quality cheese. It could be argued that there is an artistic component to specialty cheese production but the processor will first have to pay close attention to the technical processes for achieving product consistency.

At the risk of dedicating all resources toward technical production issues though, cheese makers can ill afford to shortchange product marketing efforts. In the words of a recent *Cheese Market News* article title, “Quality is not enough; overlook marketing and miss out on sales (Buragas, June 2005).” Despite the strength of consumer interest in the specialty cheese market, cheese makers can not underestimate the value in providing a high quality product that is well marketed. In short, packaging, the cheese story, and other promotional efforts are a necessary piece of the marketing puzzle but they will not compensate for shortcomings in taste/quality. Rather, they work to enhance the consumers specialty cheese experience where they complement a high quality product.

And finally, the U.S. specialty cheese market is still quite young. This means that cheese makers, retailers, distributors, and consumers alike are navigating their way along a learning curve. Consumers especially appreciate promotional efforts which help pull them along in the education process. In-store tastings, cheese signage, and the proliferation of cheese plates at restaurants all work to increase specialty cheese visibility. Many specialty product consumers are drawn to the food’s production characteristics (i.e., organic) for which they will pay a premium. Processors would do well to convey as much information about their farm, their animals, and their product, as possible to consumers via the cheese story.

A number of factors dovetail to make specialty cheese production particularly attractive to producers: close proximity to a large, diverse urban market (i.e., NYC), strong consumer demand, high retail prices (relative to commodity cheeses), and the depth of dairy resources in the Northeast region. The trade-off is that these same factors work to entice that many more dairy producers into on-farm cheese production, subsequently raising the number of competitors in the market. The level of competition is most likely distinguished though by product quality, the degree of attention to all economic costs, and the level of product visibility. The more marketing savvy small-scale processor can use these points to their advantage and hopefully increase the likelihood of new product success.

Looking Ahead: Value-Added Dairy Opportunities

As the value-added dairy project progressed, a number of key points consistently re-surfaced that directly impacted the cheese maker’s production plan. In large part,

these points can be addressed through discussion of product quality and/or production, and start-up expenses. Product quality concerns have been identified by all survey participants who indicate that superior quality is a marketing necessity. Achieving superior quality though, begins with selection of milk type, make procedures, and post-processing handling practices. Production is conditioned on acquisition of the necessary information and capital resources. In terms of information resources, cheese makers must have the technical know-how to make the product and information regarding regulatory rules for compliance. From a capital perspective, equipment expenses can escalate quickly and adversely affect the balance of funds available for other expense categories. In short, both product quality and capital expenses have been identified as necessary talking points for on-farm processors not yet in the market but in the consideration stage.

While this inquiry highlighted a number of issues critical to successful promotion of small volume specialty cheese production, the cost of distributing perishable dairy products beyond state markets was identified as a sizeable constraint. Given the expected growth in the specialty cheese market nationally, distribution presents itself as a barrier to market growth. In response, a research proposal was submitted (Fall 2005) to the Northeast Sustainable Agriculture Research and Education (NESARE) program to examine (1) existing distribution networks for perishable dairy products available in NY and throughout the Northeast region, assessing each for their strengths and weaknesses and (2) identification of alternative distribution strategies affording greater market access to small-scale dairy product processors in NY.

Additional opportunities exist to work with specific value-added interest groups such as the NY State Farmstead and Artisan Cheese Makers Guild, are being explored. Issues that strengthen the presence of existing small-scale processors in the market and enhance the resource base to on-farm cheese makers may be two avenues worth pursuing. Addressing these topics may be especially helpful to the Guild which is a fairly young organization looking to expand their capabilities and visibility.

References

- “25 Major Specialty Food Trends: From Food Safety to Comfort Foods and The Mediterranean Diet, Fads, Trends, and Issues Have Affected the Specialty Food Industry Over the Past 25 Years. Here’s Our Picks of Those with Major Impact.” *Gourmet Retailer*. v. 25, no.9. September 1, 2004.
- American Cheese Society.
<http://www.cheesesociety.org/displaycommon.cfm?an=1&subarticlenbr=2>.
- American Cheese Society. <http://cheese.onecityinternet.com/cgi-bin/memberdb/memblast.cgi?profession=DISTRIBUTOR>.
- American Dairy Goat Association. 2004 Production Estimates.
<http://adga.org/DHIR/2004BreedAverages.htm>
- Berry, Donna. “Cheese Trends Spring 2004: Cheese – A Natural.” *DAIRYfoods*.
http://www.dairyfoods.com/CDA/ArticleInformation/features/BNP_Features_It em/0,6775,121530,00.html. March 2004.
- Buragas, Amelia. “Feta Jumps from Greek Salads to Supermarket Cheese Cases.” *Cheese Market News*. v. 25, no. 8: 1,8. March 25, 2005.
- Buragas, Amelia. “Quality is not enough; Overlook Marketing and Miss Out on Sales.” *Cheese Market News*. v. 25, no. 18:1,42. June 3, 2005.
- Bureau of Labor Statistics. Consumer Expenditure Survey. Table 2200.
<ftp://ftp.bls.gov/pub/special.requests/ce/standard/2003/hispanic.txt>. 2003.
- California Milk Advisory Board. <http://www.realcaliforniacheese.com>.
- “Cheese Among Largest and Fastest-Growing Specialty Food Categories.” *Cheese Reporter*. v. 129, no. 48: 1, 7. June 3, 2005.
- Clark, Stephanie. Department of Food Science & Human Nutrition
Washington State University. Personal interview, January 2005.
- Dairy Facts 2003 Edition. International Dairy Foods Association. September 2003.
- Delaney, Carol. Small Ruminant Specialist, University of Vermont. Personal interview, January 2005.
- Dimitri, Carolyn and Catherine Greene. United States Department of Agriculture. National Agricultural Statistics Service, Economic Research Service, Marketing and Trade Economics Division and Resource Economics Division. Agriculture Information Bulletin No. 777. September 2002.

- Greenberg, Laurie. *Specialty Cheese in Wisconsin: Opportunities and Challenges*. University of Wisconsin – Center for Integrated Agricultural Systems. July 2005.
- Guzman, Betsy. *Census 2000 Brief*. United States Department of Commerce. May 2001.
- Harbutt, Julie. *World Encyclopedia of Cheese*. New York: Lorenz Books. October 1998.
- Harbutt, Julie and Roz Denny. *A Cook's Guide to Cheese: Illustrated Encyclopedia*. New York: Lorenz Books. September 1999.
- Held, Tom. "UW expert rediscovers bread cheese" *Milwaukee Journal Sentinel*. <http://www.jsonline.com/news/state/oct02/86477.asp>. October 9, 2002.
- "Hispanic Cheese Under the Knife." www.dairyreporter.com/news/printnews-NG.asp?id=12467. April 12, 2002.
- International Dairy-Deli Bakery Association. "The Hispanic Consumer: Attitudes, Buying Behavior, and Purchase Drivers." 2000.
- International Dairy Foods Association. *Dairy Facts 2004 Edition*.
- International Market Analysis Research Group. "United States, New York Region: Specialty Cheese Sector." Winter 2004.
- Jenkins, Steve. *Cheese Primer*. New York: Workman Publishing Co. October 1996.
- Kansas Department of Commerce, Agricultural Marketing Division. *Value-Added Dairy Processing Feasibility Report: "A Catalyst for Thought."* July 2003.
- Mack, Sharon Kiley. "State Dairy Farms Finding Success with Organic Milk." *Bangor Daily News*. www.bangordailynews.com/business/article.cfm?ID=436497. September 27, 2004.
- McCalman, Max and David Gibbons. *The Cheese Plate*. New York: Clarkson N Potter Publishers. March 2002.
- Michaels, Chris. "Travel, Exposure to TV Food Shows Fuel Rising Interest in Specialty/Gourmet Food Retailers." <http://www.cheesemarketnews.com/>. January 2, 2004.
- "More Cheese, Please." *Progressive Grocer*. http://www.progressivegrocer.com/progressivegrocer/firc_new/search/article_display.jsp?vnu_content_id=1000650444. October 1, 2004.

- “New California Artisan Cheese Guild Will Support, Encourage State’s Cheesemaking Community.” *Cheese Market News*. v. 23, no. 12: 1,11. September 23, 2005
- “New Indian Cheeses Produced by Specialty Cheese Company.” *Gourmet Retailer*. v. 24, no. 6: 34. June 2003.
- New York State Department of Agriculture and Markets. Division of Milk Control and Dairy Services. New York State Dairy Statistics: 2003 Annual Summary. <http://www.agmkt.state.ny.us/DI/NYSAnnStat2003.pdf>.
- New York Agriculture Statistics Service. Survey of Wineries and Grape Processing Plants. <http://www.nass.usda.gov/ny/02feb/win0203.htm>. February 5, 2003.
- New York State Department of Agriculture and Markets. Small-scale Dairy Processing Plant List. December 2005.
- New York Winery Survey 2004. Issued and compiled by U. S. Department of Agriculture – National Agricultural Statistics Service, New York State Department of Agriculture and Markets-Division of Statistics, and the New York Wine the Grape Foundation. September 2005.
- “No Velveeta in Sight.” *New York Times*. January 23, 2005.
- “Organic Farming and Marketing: Questions and Answers.” United States Department of Agriculture, Economic Research Service. June 24, 2003.
- Petrak, Lynn. “The Big Cheese.” *DairyField*. v. 187, no 3:1,49-54. March 2004.
- Potenza, Nicole. “The Hispanic Influence of U.S. Food Retailing.” <http://www.specialtyfood.com/do/news/ViewNewsArticle?id=41>. January 7, 2003.
- Purcell, Denise. “Confidence in Organic Soars.” SpecialtyFood.com. <http://www.specialtyfood.com/do/news/ViewNewsArticle?id=2152>. March 22, 2005.
- Robuchon, Joel, Kazuko Masui, and Tomoko Yamada. French Cheeses, First Edition. New York: Dorling Kindersley Publishing. October 1996.
- Sander, Kate. “Marketing Boards Work to Capitalize on Chefs’ Trend-Setting Capabilities.” *Cheese Market News-Retail Watch*. <http://www.cheesemarketnews.com/articlearch/retailwatch/rw16may03.html>. March 9, 2001.

- Sander, Kate. "Unique Food Concepts Launches Hispanic, Caribbean Cheeses." *Cheese Market News-Retail Watch*.
<http://www.cheesemarketnews.com/articlearch/retailwatch/rw16may03.html>.
 May 16, 2003.
- Sardo, Piero, Gigi Piumatti, and R. Rubino. Italian Cheese: Two Hundred Traditional Types: A Guide to Their Discovery and Appreciation. Italy: Slow Foods International. August 2001.
- Scharfman, Paul. Specialty Cheese Company. Personal interview. October 8, 2004.
- Shoukas, Denise. "The Exploding American Palate: Ethnic Flavors Spice up the Mix." *Specialty Food Magazine*.
<http://www.specialtyfood.com/do/news/ViewNewsArticle?id=1522>. July 2004.
- Sloan, Elizabeth. "Gourmet & Specialty Food Trends." *Food Technology*. v. 58, no. 7: 26-38. July 2004.
- "Specialty 'Cheese Bread,' Try It in Coffee or Warm with Honey or Jam!" Wisconsin Center for Dairy Research. <http://www.cdr.wisc.edu>. October 9, 2002.
- "Specialty Cheesemakers Grow Along with Demand for Product." *Cheese Market News*. v. 24, no. 39: 1, 8. October 29, 2004.
- Spice, Linda. "Cheese, Hispanic Style." *Milwaukee Journal Sentinel*.
<http://www.jsonline.com/by/news/jun04/239770.asp>. June 27, 2004.
- Stanton, Tatiana. Extension Associate, Cornell University. Affiliated with the Northeast Sheep and Goat Marketing Program. Personal correspondence. December 2005.
- Stephenson, Mark. "Chapter 6: Dairy-Markets and Policy." In the New York Economic Handbook: 2006. Extension Bulletin 14(2005). 10 pages, Department of Applied Economics and Management Cornell University.
<http://aem.cornell.edu/outreach/outlook/2006/Chap6Dairy2006.pdf>.
- United States Census Bureau. United States Census 2000.
- Van Hekken, Diane L. "Cheese, Please: Recreating Unique Properties of Hispanic Cheeses." United States Department of Agriculture, Agricultural Research Service. *Agricultural Research*. v. 50, no. 12: 16.
<http://www.ars.usda.gov/is/AR/archive/dec02/cheese1202.pdf>. December 2002.
- United States Department of Agriculture. National Agricultural Statistics Service, New York. Fruit Report. <http://www.nass.usda.gov/ny/10oct/frt1005.htm>. October 13, 2005.

- United States Department of Agriculture. National Agricultural Statistics Service, New York. Fruit Report: Survey of Wineries and Grape Processing Plants. <http://www.nass.usda.gov/ny/07jul/fruitwineries0705.htm>. July 7, 2005.
- United States Department of Agriculture. National Agricultural Statistics Service. Noncitrus Fruits and Nuts: Final Estimates 1997-2002. May 2004.
- United States Department of Labor, Bureau of Labor Statistics. Consumer Expenditure Survey 2003. <http://www.bls.gov/cex/home.htm>. 2003.
- University of Nebraska-Lincoln. Food Processing Center, Institute of Agriculture and Natural Resources. "The Specialty Cheese Market." October, 2001.
- University of Wisconsin, Babcock Dairy Store Cheese listings. <http://www.wisc.edu/foodsci/store/cheese.html>.
- Van Wagner, Lisa. "Spotlight on Cheese. Beyond Mozzarella and Cheddar: Specialty Cheeses Find a Home in the Supermarket." *Advantage*. <http://www.fmi.org/advantage/issues/052004/pdfs/pub/spotlightoncheese.pdf>. May 2004:108-109.
- Wakefield, Jeffrey R. "UVM Launches Cheese Artisan Institute with \$500,000 From Sen. Jeffords, John Merck Fund, Private Donor: First in U.S. to Provide European-style Technical Assistance to Artisan Cheesemakers." University of Vermont press release. June 16, 2004.
- Werlin, Laura. The All American Cheese and Wine Book: Pairings, Profiles & Recipes. New York: Stewart, Tabori & Chang. 2003.
- Wines & Vines Buyers Guide 2004. Dottie Kubota-Cordery, Ed. The Haring Co.: San Rafael. Vol. 84. No. 12-A. December 31, 2003.
- Wisconsin Institute for Specialty Cheese. <http://www.wisspecialcheese.org/special.htm>.
- Wisconsin Milk Marketing Board. Custom Analysis of 2002-2003 Retail Sales Data from Information Resources, Inc. and Fresh Look Marketing Group. 2004.
- Zagat Survey®. 2004 New York City Restaurants. Curt Gathje and Carol Diuguid, eds. 2003 Zagat Survey, LLC.
- Zagat Survey®. 2004 New York City Marketplace. Carol Diuguid and Benjamin Schmerler, eds. 2003 Zagat Survey, LLC.

Specialty Cheese Resources

American Cheese Society <http://www.cheesesociety.org>

California Artisan Cheese Guild (website not yet available as of November 2005)
www.cacheeseguild.org

California Milk Advisory Board <http://www.realcaliforniacheese.com>

Finger Lakes Culinary Bounty <http://www.fingerlakesculinarybounty.org/>

New York State Farmstead and Artisan Cheese Makers Guild <http://www.nycheese.org/>

New York Wines & Dines! <http://www.newyorkwinesanddines.org>

Regional Farm and Food Project <http://www.farmandfood.org/>

Small Scale Food Processor Association of New York www.nyssfpa.com

Vermont Institute for Artisan Cheese. www.uvm.edu/~vaic/

Wisconsin Institute for Specialty Cheese. <http://www.wisspecialcheese.org>

Wisconsin Cheese Makers Association
<http://www.wischeesemakersassn.org/uscontest/index.html>