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Farmers Markets and Location Choice for Value Added Processing

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Farmers Markets and Location Choice for Value Added Processing



Andrea Bouma, Catherine A. Durham, Lisbeth Goddik

ABSTRACT

A less examined facet of the local foods movement is the impact of the location of the producer on the feasibility of operating as a local supplier. Obvious variables are labor hours in travel to regional markets and fuel expenditures. The costs these engender is strongly related to the density of customers that are willing or able to deal with smaller scale delivery. Whether supplying produce or a value-added food, the viability of an enterprise which hopes to diversify its markets or products through a local channel is dependent on that density. Furthermore the price received varies greatly depending on whether the customer is a farmers market consumer, a local grocer or restaurant, or-as those markets are exhausted-a distributor. With value-added products (28% of farms engaged in entrepreneurial activities are producing value—added products (Martinez 2010)) the availability of alternative channels and pricing received in them is particularly important due to the capital investment required for equipment.





Model Data and Development

Data on fixed and variable costs for cheese production and business start-up for the model was collected in an in-depth survey of six operating artisan cheese firms. Supplemented with current information on equipment costs, retail space rental, and labor costs from business and governmental sources, a business model was designed within Microsoft Excel 2010 that effectively describes the business environment in which an artisan cheese company might exist. The model estimates size of the production and aging facilities and capital cost based on intended production volume and cheese types produced. Economic feasibility is measured through net present value (NPV) and Internal Rate of Return (IRR) of the investment, breakeven analysis is also included in the spreadsheet model utilizing Microsoft Excel Solver. To examine scenarios data is entered into the USER INPUT SHEET.

Among other variables, the tool allows the number of farmer's markets, the local grocers and restaurants within practical reach, and the average distance to these to be entered. To examine the impact of location on feasibility four scenarios (rural, semi-rural, sub-urban, urban) with respect to these market variables were designated and NPV for each examined across four final (post-startup) production volumes (7500, 15000, 30000, and 60000 pounds produced annually). To account for land cost differences, these scenarios assume processing facilities are rented and appropriate rental cost is used.

LOCATION ASSUMPTIONS								
Location		Production Thresholds						
Name rent/sq.ft.	Assumptions	Direct -> Wholesale	Wholesale- >Distributor					
Rural (\$0.20)	150+ miles away from a major urban ^a area; could have closer access to towns ^b but also could be isolated. Few retail outlets in the area to sell wholesale. Needs a distributor to gain a larger population of consumers.	52 days at Farmers Markets (FM) 2,600 lbs.	6 outlets + FM sales =total = 6,200 lbs.					
Semi-Rural (\$0.33)	150+ miles away from a major urban ^a area, closer access to cities ^c . Access to direct sales and wholesale revenues in cities. Dependent on distributors to gain large sales volume.	104 days at FM 5,200 lbs.	10 outlets + FM sales =total = 11,200 lbs.					
Sub-Urban (\$0.53)	Less than 150 miles away from large urban ^a area. Access to farmers markets and wholesales in urban areas, less need to go to distributor until higher production levels are achieved.	156 days at FM 7,800 lbs.	15 outlets + FM sales =total = 16,800 lbs.					
Urban (\$1.15)	Within the bounds of a major urban ^a area. Large potential of direct sales to consumers and wholesales through local retailers/ restaurants.	208 days at FM 10,400 lbs.	20 outlets + FM sales =total = 22,400 lbs.					

^a Urban $\geq 250,000$ population, ^b Town $\leq 100,000$ population, ^c City > 100,000 population, **50 lbs. per**

Scenario Name: Geographical				User Input			
Business Parameters				Product Attributes			
Business situation (see description box to the right) F "Rent 1": Declare your monthly rent per square foot of pace	1 \$10.00	Type the corresponding number for choice of each business situation:		% Yield % of total cheese production Gouda # days aged	11.00% 100% 150		
F "Rent 1": Declare the total cost to modify the rental space build-out cost)	\$50,000	1 = RENT: a space to use solely for your business. Typically there will be modification costs involved. (\$/sq ft rent)		Retail \$ price/lb milk \$/gallon (animal type)	\$30.00 \$1.70	price that you would otherwise sell	
F "Rent 2": Declare fees/ hour rental costs F "Own 2": Declare the cost of the land you will be processing		2 = RENT : time in another facility. Do <u>not</u> purchase the equipment/facility space. This is a fee/hour option.		% Yield % of total cheese production CHEESE 2 # days aged		Ex. ranges of milk pricing: Cow: \$1.70 - \$2.50	
n. Desired number of days to process per year	200	3 = OWN: Purchasing equipment and are building a facility on land that you already own.		Retail \$ price/lb milk \$/gallon (animal type)		Goat: \$4.25 - \$5.00 Approximate yields and suggested	
Desired target production during scale-up (lbs. cheese/yr), end f year 3. (will be adjusted to shrink)	60,000	4 = OWN: Purchasing land in addition to the equipment, and building a facility.		% Yield % of total cheese production CHEESE 3 # days aged		aging per style:	
Production growth (%) for years after scale-up occurs in year 3. OVERRIDE in white area	3.0%	NPV: #REF!		Retail \$ price/lb milk \$/gallon (animal type)		Bloomy rind: 12.5%, 14 days Gouda: 11%, 150 days Mozzarella: 14%, 2 days	
oan Yearly Interest (compounded monthly) oan Duration (up to 15 years)	6.00% 15	Retail PRICE: 20.42		% Yield % of total cheese production		Cheddar: 10%, 60 days Hard: 8%, 180 days	
Calculated down-payment on loan (20%), OVERRIDE in white area, otherwise leave blank	\$47,261	Rent/sq ft 1 0.2		CHEESE 4 # days aged Retail \$ price/lb		Fresh: 20%, 2 days Alpine: 9%, 120 to 180 days	
	% of total	2 0.33 3 0.53	-	milk \$/gallon (animal type) % Yield		*Note: if making raw milk cheeses, a minimum of 60 days aging is	
Area of the Marketplace Direct Sales (eg. Farmers Markets, on-site sales)	(override in	4 1.15 7500		% of total cheese production # days aged		required.	
Vholesale (eg. direct to grocers, bulk sales)	60%	15000 30000		Retail \$ price/lb			
Distribution (eg. specialty food distributors) OTHER (eg. CSA, retail space, on farm sales, etc)	30% 100%	60000		milk \$/gallon (animal type)	Total Production		
OTHER: Labor hours per week OTHER: Hourly rate for employees		Marketing/Sales Attributes (Override in blank white at right of suggested values)		100% Equipment	: Prices Used OVERRI		
OTHER: Sales (lbs.) per weak	200			4	Raw/pasteurized milk Batch Vat/Pasteurize	-bulk_tan \$5,000	

day at farmer's market 600 lbs. per year /wholesale outlet

Marketing/Sales Attributes (Override in blank white at right of suggested values)

values)			
Geographical location (See description box below)	4		
Wholesale Outlets: Average miles driven each week to deliver product	200		
Wholesale Outlets: Suggested number of accessible outlets.	6		
Farmers Markets: Average miles to each (round trip)		20	
Farmers Markets: days at farmers markets can attend per year			
Current gasoline \$/gal		\$3.50	

OBSERVED LOCATIONS Oregon Artisan and Farmstead Cheese-makers and Farmers Markets North West Quail Run Portland Creamery Briar Rose Goldin Fairview River's Edge Willamette V.C. **Central West** Full Circle La Mariposa Ochoa #1 OSU Cheese Central Alsea Acre Fraga Farm Ancient Heritage Fern's Edge Cada Dia Southwest Face Rock Juniper Grove Oak Leaf Tumalo Farms Pholia Farm Mama Terra Micro New Moon Rogue Creamery

CONCLUSIONS

The viability of an artisan cheese business is profoundly impacted by the location selected. Sensitivity analysis was undertaken across key revenue and cost variables, the most important being milk price, cheese style, product retail price, and geographical location of the creamery. Other variables examined include fuel cost, labor cost, distance to farmers markets, distance to wholesalers, cheese yield and aging time, processing days per year. Location produced a greater range in NPV than 25% swings in any of the other model variables except retail price.





CAVEATS

Marketing channels not included in the model include: Community Supported Agriculture systems (CSA), a retail space on site at the creamery, and direct sales through the internet. The first is limited, the second has potential, but probably will not see sufficient custom outside of an urban area to justify it economically. The most potential is in internet sales with mail distribution. However, it may require deep pockets, due to the need to establish the market and will need to have its own marketing costs, as with a distributor-internet marketing may require some time to establish and may be best suited to unique and well received cheeses which will benefit from broader distribution.

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