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Farmers Markets and Location Choice for Value Added Processing

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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.

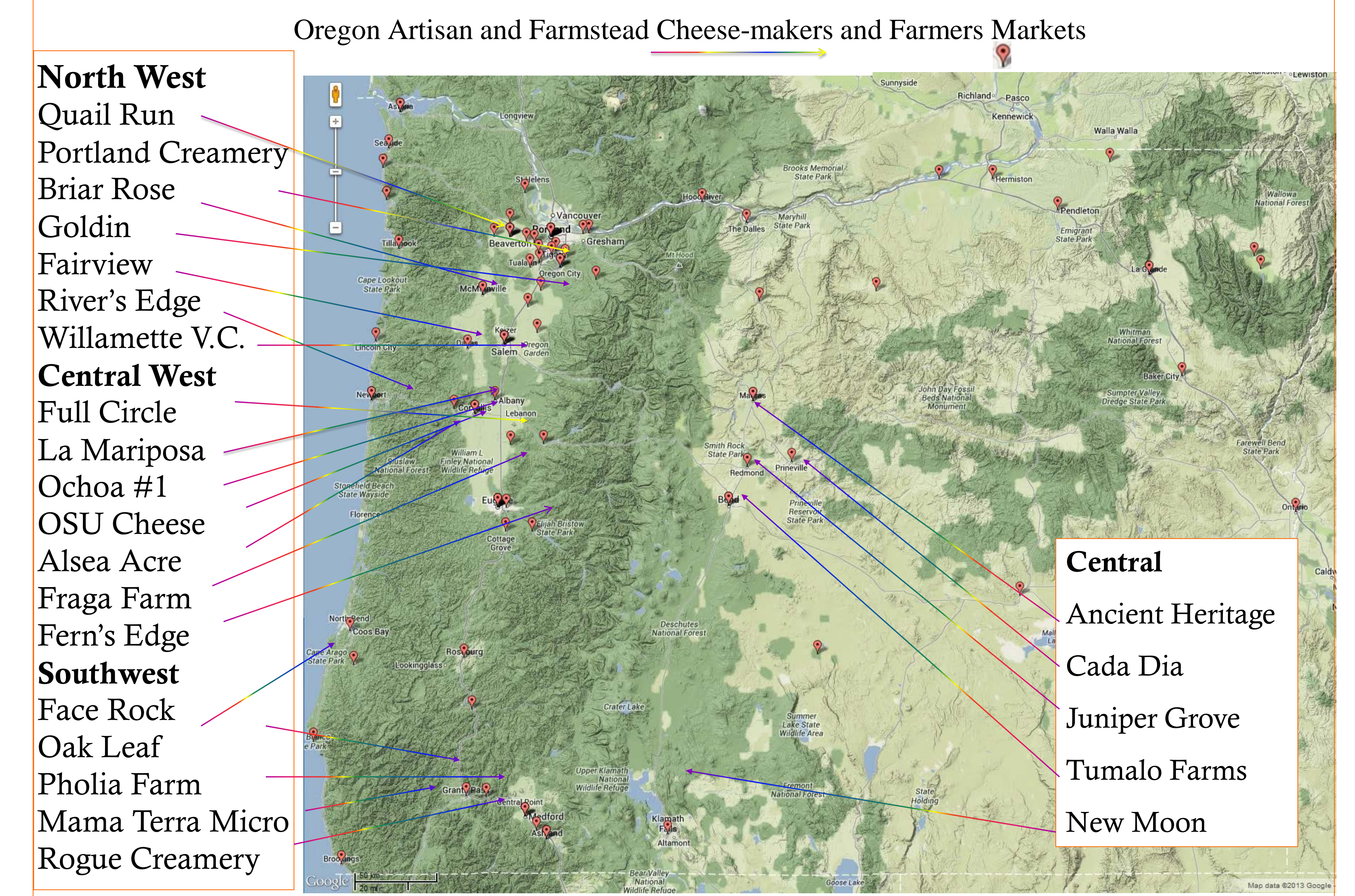
Among other variables, the tool allows the number of farmer's markets, the local grocers and restaurants within practical reach, and the average distance to these to be entered. To examine the impact of location on feasibility four scenarios (rural, semi-rural, sub-urban, urban) with respect to these 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 Name rent/sq.ft.	Assumptions	Production Thresholds	
		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 ≥ 250,000 population, ^b Town ≤ 100,000 population, ^c City > 100,000 population, 50 lbs. per day at farmer's market 600 lbs. per year /wholesale outlet

OBSERVED LOCATIONS



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.



Scenario Name: Geographical		User Input	
Business Parameters		Product Attributes	
Business situation (see description box to the right)	1	% Yield	11.00%
IF "Rent 1": Declare your monthly rent per square foot of space	\$10.00	% of total cheese production	100%
IF "Rent 2": Declare the total cost to modify the rental space (build-out cost)	\$50,000	8 days aged	150
IF "Rent 3": Declare fees/ hour/ rental costs		Retail \$ price/lb	\$30.00
IF "Own 2": Declare the cost of the land you will be processing on		milk \$/gallon (animal type)	\$17.70
Desired number of days to process per year	200	% Yield	
Desired target production during scale-up (lbs. cheese/yr), and of year 3 (will be adjusted to shrink)	60,000	% of total cheese production	
Production growth (%) for years after scale-up occurs in year 3	3.0%	8 days aged	
OVERWRITE in white area		Retail \$ price/lb	
Loan Yearly Interest (compounded monthly)	6.00%	milk \$/gallon (animal type)	
Loan Duration (up to 15 years)	15	% Yield	
Calculated down-payment on loan (20%)	\$47,201	% of total cheese production	
OTHER: retail space on farm sales, etc. ...		8 days aged	
OTHER: Labor hours per week		Retail \$ price/lb	
OTHER: Hourly rate for employees		milk \$/gallon (animal type)	
OTHER: Sales (lbs.) per week	200	% Yield	
		% of total cheese production	
		8 days aged	
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