

Department of Agriculture, Trade and Consumer Protection
Division of Agricultural Development
Agricultural Development & Diversification Program (ADD)

2001 Grant Project Final Report

Contract Number: 16055

Grant Project Title: Feasibility Study for a Plant to Manufacture Milk Candy in Wisconsin

Project Beginning Date: August 2001 Project End Date: August 21, 2002

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**Wisconsin Department of Agriculture, Trade and Consumer Protection
Agricultural Development and Diversification Program
2001 Grant
Final Report Attachment
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**FEASIBILITY STUDY FOR A PLANT TO MANUFACTURE
MEXICAN MILK CANDY IN WISCONSIN**

ORIGINAL INTENT OF THE GRANT PROJECT

The ADD Grant money partial funding to conduct a feasibility study to evaluate a manufacturing facility to produce Mexican milk candy in the vicinity of Madison, Wisconsin. The three major tasks to be undertaken as part of the study were:

- (1) Measure the market available to the plant. Determine the plant size to supply it, product slate and pricing.
- (2) Establish the equipment cost, working capital and manufacturing costs for the proposed plant.
- (3) Feasibility. Evaluate the economic feasibility of such operation, including .

The project included eight objectives:

1. Identify the size of the market for Mexican milk candy in Madison, and in the Chicago, Milwaukee and Minneapolis metropolitan areas.
2. Define the preferred product slate and pricing for the proposed plant.
3. Evaluate and select the technology to manufacture the milk candy.
4. Establish the plant size for the manufacturing facility.
5. Establish the regulatory and licensing requirements.
6. Identify potential suppliers.
7. Estimate the capital needs.
8. Assess the economic feasibility of the proposed plant.

The Mexican candy to be manufactured is milk candy. The major raw material used in the manufacturing process is milk, both goat and cow. Preliminary market size estimates suggested a facility that would utilize 3-5 million pounds of goat milk and 1-2 million pounds of cow milk at full capacity. This would provide a potential significant outlet for goat milk producers, and an alternative outlet for small cow milk farms.

WORK CONDUCTED IN THIS PROJECT

The grant money allowed us to complete the eight objectives. The size of the market to be serviced by the manufacturing facility was identified. The market area of influence was defined as the Mexican population in the states of Wisconsin, Minnesota, Illinois, Michigan, Indiana and Iowa. Census data and other relevant ethnic food reports were used to determine

the size and composition of these populations. Pricing information was collected, when available, from ethnic food and grocery outlets in the Milwaukee, Chicago and Madison areas. Reference pricing was also collected in several cities in Mexico: Monterrey, Chihuahua, Guadalajara and Colima. The typical consumption of milk candy in Mexico was used as a guideline for the potential consumption in the U.S. To establish the technology, a visit to a manufacturer in Mexico was arranged. The expertise of two Mexican consultants with wide experience in the dairy industry was tapped to guide the technology study.

A key aspect of the project was to identify the access to a suitable supply of both goat and cow milk. The availability of milk in the state was determined from interviews with producer organizations and key consumers with characteristics (size) similar to the proposed plant. Suppliers for the remaining raw materials were identified. Technical specifications and quotes were obtained for each material delivered to the proposed plant.

Equipment manufacturers were identified and contacted. After establishing the plant's needs, suitable quotes were obtained for the production equipment. An equipment capital investment cost was then estimated based on the equipment cost and an estimate for its installation. The personnel needed to run the plant was determined and the utilities requirements (power and fuel).

The operating cost was calculated including: Materials, utilities, labor, supervision, maintenance and depreciation. The projected revenue was estimated using the preferred product slate and their prices to be competitive with similar pricing in Mexico. A ramp increase in production was assumed starting at 20, 40, 75 and 100% of the plant capacity for the first 4 years of operation.

PUBLIC OUTREACH EFFORTS OF THIS PROJECT

The Project did not contemplate the production of any instructional or public materials.

RESULTS OF THIS PROJECT

The feasibility study indicates that the manufacture of milk candy of the types made in Mexico would be profitable. The population of Mexican origin in the initial market area was estimated at 1.5 million. The Mexican population would be sufficient to justify a plant capacity of 6,600 pounds per day. There are an additional 1 million Hispanics of other origins in the area. These Hispanic groups also consume milk candy (dulce de leche) in various forms. The proposed plant can address this market as well.

The estimated investment required to set up the plant is \$280,000. Of this, \$80,000 is needed for working capital. The plant would be run with 8 employees: 6 in production and 2 in the office. The estimated payroll cost is \$230,000. The proposed plant would generate an estimated annual net cash flow of \$1.4-1.7 million at full capacity. Considering the production ramp of 20%, 40%, 75% of the plant's capacity for the first three years, and 100% thereafter, the investment shows a payback of a little over a year.

HOW WILL THE WISCONSIN AGRICULTURE INDUSTRY BE ABLE TO USE THE INFORMATION FROM THIS PROJECT?

The goal of the funded project was to establish the feasibility of manufacturing Mexican milk candy in Wisconsin. The final goal of the project is to actually manufacture the desired candy. The proposed plant will consume 3-5 million pounds of goat milk. This would rank it as an important consumer of Wisconsin goat milk. The plant's consumption of cow milk is estimated at 2 million pounds. This would rank it as a relatively small user of Wisconsin cow milk. Wisconsin cheese manufacturers have become larger in the last 40 years. The proposed milk candy plant would be an ideal outlet for the small milk producers.

ANALYSIS OF THE INFORMATION GAINED FROM THIS PROJECT

The information gained from this project includes:

The size of the Hispanic market in Wisconsin and near States. Also, the size of Hispanics of Mexican origin was identified. This information can be useful to determine the potential market for other ethnic-foods projects.

The possibility of creating small businesses that could consume cow milk from small milk producers.