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Opportunity Analysis of Water Buffalo in Canada

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## Summary

The purpose of this paper is to discuss the introduction of water buffalo among dairy farmers as a profitable alternative to fluid milk and quality cheese products while meeting the expectations of consumers. Given the changing ethnic profile of Canada, it is expected that the majority of immigrants whose main diets are comprised of milk and milk products, find the source of these milk products mostly from water buffalo. To facilitate the incorporation of water buffalo milk and milk products, the next step would be to initiate importation of water buffalo process in consultation with government authority.

## Problem Statement

The dairy industry is the largest sector of the Canadian agri-food economy after grains, red meats and horticulture. Consistently, world milk production has grown by 41 million tones, which represents a 7% increase over previous years. The world total production of milk in 2002 was 595.3 million tones, which represents a 1.4% increase compared to the previous year. The share of cow milk, taking into consideration the majority of milk production has decreased from 85%, marking the growing market for other animals' milk globally, particularly buffalo milk whose production grew 18% over the last 5 years. Additionally, almost all of the buffalo cheeses consumed in Canada are imported from other countries, such as Italy, Australia and the USA. There is one small dairy producing a small quantity on the west coast of Canada. This is an opportunity for farmers to start a buffalo cheese business, increasing their array of investments in the market.

## Objectives

This research has three primary objectives, to gain an understanding of a possible market for water buffalo milk and milk products, to determine the feasibility of water buffalo husbandry and finally, to determine the processing opportunities for water buffalo milk, milk products, meat and tertiary products. These objectives are attempted to be met using nutritional assessments and processing implications as educational tools for both consumers and processors.

## Procedures

Given the premium image that the product eludes, a very precise area was selected to adequately represent the consumers based on concentration of population, ethnic diversity, rate of growth, income, education and tourism opportunities.

Information was gathered using two different methods, telephone and face-to-face interviews. In addition, secondary data on immigrants profile, Canadian dairy industry and government policies were also collected for this study.

## Results

Of all of the discussions with business owners, only about 20% of consumers request milk and milk products made with water buffalo, while approximately 40% of stores have shown high interest in carrying and selling water buffalo milk. In addition, 26% of stores indicated that they would probably carry and sell water buffalo milk due to the reason that South Asian customers have expressed that water buffalo milk has a perceived better taste and higher quality attributes. They attribute the product to have a natural taste, rich flavour and allude to the pureness of the product. These identifying elements suggest that the product will realize tremendous success as it will be readily received and accepted.

Other positive elements derived from the study suggested that the cheese product is well known among industry players with a steady demand for the water buffalo mozzarella. Currently, the milk cheese product is not processed locally and supply depends on the availability of imports. Additionally, given that water buffalo cheese is a specialty product, it is price sensitive with high quality expectations.

While there are tremendous market opportunities, there are also pricing strategies to consider. With respect to water buffalo milk, many respondents reported expectations that the product would be priced competitively to that of cow milk. Contradictory, other respondents suggested that the expected retail price of water buffalo cheeses to be significantly higher given the premium image that product conveys. Each of these findings have significant product category implications.

Across all facets, it was believed that water buffalo milk and milk products conveyed a strong positive image towards healthy attributes, excellent taste and flavour as well as a premium image.

## Nutritional Assessment Findings

The following is an equivalency chart used to illustrate the economical feasibility of incorporating water buffalo into local farming practices.

Milk Equivalents of Common Dairy Products		
Product	Cow Milk	Water Buffalo Milk
Butter	14.0	10.0
Cheese	8.0	5.0

The following is a nutritional assessment comparison of water buffalo and cow milk that can be used as an educational tool to help producers and consumers accept water buffalo milk as a substitute for cow milk.

<b>Constituents</b>	<b>Cow</b>	<b>Buffalo</b>
Protein (gm)	3.2	4.5
Fat (gm)	3.9	8.0
Carbohydrate (gm)	4.8	4.9
Energy (K cal)	66	110
(KJ)	275	463
Sugar Lactose (gm)	4.8	4.9
Saturated (gm)	2.4	4.2
Mono-saturated (gm)	1.1	1.7
Polyunsaturated (gm)	0.1	0.2
Cholesterol (mg)	14	8
Calcium (if)	120	195

## Conclusion

Through the use of primary and secondary data, an overview of conclusions can be drawn with respect to water buffalo milk and milk products (namely cheeses) for the specified market. Firstly, the water buffalo cheese market potential is technically and financially feasible. Currently the demand for the product is being addressed by import products, which suggests a potential for a local market. Additional benefits see water buffaloes as an investment alternative to alleviate the tied resources to the milk quota system. While there are many benefits to integrating water buffaloes as part of the family business, the ultimate success will depend on the quality of the final product as well as an effective marketing strategy.

There is also the issue of the end user, a strong need to identify the cultural applications of water buffalo milk will depend of the South Asian community accepting the integrated product. The first step will be to ensure that business owners will carry and promote the product to their customers. The incentives for the owners will be to try and maintain a competitive pricing strategy that will allow for a return on investment and margin gain.

Other hurdles include the strict importation regulations from BSE and FMD free countries only once a risk assessment has been completed. Secondly, the high cost of importation of water buffalo would be approximately \$30,000 and it would take 1-2 years for the entire process to be finalized. A great deal of investment is required before the animals have entered the market.

## Recommendations and Future Research Direction

Given the strong suggested demand for water buffalo milk and milk products, a full length survey of consumers should be conducted to see the actual perception of consumer

expectations. More specifically, a close examination of South Asians (consumer and business markets) should be examined to further quantify demand.

Given the premium image and price sensitivity of water buffalo milk and milk products, processors views should be taken into consideration with non native water buffalo countries, where herds have been established by importing water buffaloes from other countries should be contacted to assess the water buffalo establishment. Other areas for future development include the availability of resources for the development and promotion of the products.

We have taken steps to ensure that the market findings and consumer readiness still exists. These include supporting three teams of students to examine the consumer expectations and perceptions of water buffalo meat and milk. These students are measuring the inclusion possibilities at higher end restaurants and food markets. They are also using nutritional assessment data to help explain the comparisons and benefits of water buffaloes milk to that of cow milk. This nutritional assessment is useful to both consumers looking for healthier food choices and processors seeking economical production options.