Canadian Exports to Nepal

Promoting Calcium Borogluconate Exports to Nepal

Natalia Pavey A

Part 1: Product Information

Introduction of Product

The medicine being proposed as an export idea to Nepal is called Calcium Borogluconate. This product is used for cattle (can also be used for sheep and swine) to treat hypocalcemia, which will be examined for export to Nepal. (USDA, 2000). Hypoclemia is also known as milk fever, which occurs right before, or after a cow gives birth (USDA, 2000). The cause of milk fever has to do with the cow's failure to metabolise fast enough to keep the blood calcium at a sufficient level (Hoard's, 1993). Milk fever is most common in high producing dairy cows over five years of age, but can occur at any age (Kahn, 2005). There are three stages of milk fever. Stage one shows signs of hypersensitivity and excitability. Stage two becomes more serious when the cows are unable to stand (Kahn, 2005). Stage three results in the cow losing consciousness, cows in the last stage may only survive three hours (Kahn, 2005). The use of this Calcium injection will benefit all dairy farmers in Nepal to treat the deadly illness. This paper will investigate the proper Canadian company to ship the product along with a detailed cost analysis of the product and required materials. The paper will analyze benefits to both Nepal and Canada, along with looking at any downfalls to the product export.

Product Description

Figure 1
http://www.agristore.ca/index.php?target=products&product_id=748

Calcium Borogluconate is a made up of 5 parts calcium gluconate and one-part boric acid and is classified as a livestock medicine (MacPherson and Stewart, 1938). This product needs to be store between 15 and 30 degrees Celsius and kept from being frozen(Animal Health). For an accurate and safe dosage prior to use the solution will need to be warmed to body temperature

(Animal Health). Like stated above the calcium injection raises the calcium level which treats milk fever (USDA, 2000). By raising the calcium levels in dairy cows, they are then able to continue proper absorption in their digestive tract, maintain bone density, as well as production of milk (Hoard's, 1993).

Cost

A 500mL bottle of Calcium Borogluconate will cost $7.41 which converts to 590 Nepalese rupees (Vetiquinol). The price point is realistic for Nepalese farmers as opposed to losing a dairy cow. An average dairy cow is approximately 2000 dollars, which would convert to 164,020 Nepalese rupees (Natzke, 2014). The dosage for mature cattle can be anywhere from 250-500mL. The bottles are sold from the company in 500mL quantities(MERCK, 2016).

Required Materials and Labour

This drug needs to be administered by a slow subcutaneous injection (an injection under the skin) or an intravenous injection (if symptoms are very bad), which means the Nepalese will need some equipment in order to make use the Calcium Borogluconate (MERCK,2016). The cost of a needle can vary depending on the type and brand of the needle. Using Syrvet Canada as a general price a disposable needle can cost anywhere from 20-30$ which converts to 1,639-2,459 Nepalese rupees (SyrVet). Non disposable needles can also be bought and the tip changed as needed. The price of a needle will hold no An average dairy cow is 2000 dollars, which would convert to 164,020 Nepalese rupees (Natzke, 2014). This

Figure 2 http://www.syrvetcanada.ca/en/disposable-syringes-luer-lock/disposable-syringes-12-ml-with-18-g-x-1-needle-box-100-05-4981b

method can be demonstrated and taught to Nepalese farmersFigure 3, below, shows the simple needling method.

Figure 3 http://www.fwi.co.uk/advertisement/sterimatic-how-to-guide-for-injecting-cattle-and-sheep.htm

The drug can also be administered by intravenous injection, if symptoms are very bad this will be a more efficient method. This is a more efficient method do to the fact that the Calcium Borogluconate is injected right into the vein. This type of injection will also need training from a veterinarian and is a technique that requires expertise (Godkin, 2016). The Veterinary Association located in Nepal is the perfect organization to host a teaching clinic for intravenous injections. This association is a professional organization of veterinarians that observe food security, public health and animal welfare. The company could properly teach the farmers this method (Nepal Veterinary Association). Figure 4 shows the more complicated needling method where the IV is running into the stomach after the cow goes down from milk fever.

Figure 4 https://www.youtube.com/watch?v=F85cuRuQjLE

Cow restraints may also be needed when needling the cattle but headlocks can be used, or gates. Therefore, there is no need to buy equipment if it's not already owned by the farmer.

Description of Companies

Figure5 http://vetoquinol.ca/eng

Calcium Borogluconate can be purchased from a company called Vetoquinol located in Canada (Vetoquinol). The company is known for their distribution for their Canadian clients as well as for other parts of the world (Vetoquinol). Vetoquinol has a research and development centre, a head office, and a production plant located in Quebec (Vetiquinol). Vetiquinol also has a second production plant located in Ontario (Vetoquinol). This company produces various products for companion animals, and livestock for hygiene and care, reproduction, and medecation. Vetiquinol is a very reliable company as it meets the good manufacturing practices as well as the food and drug administration standards (Vetoquinol).

Benefits to Canada

Calcium Borogluconate being shipped to Nepal will also benefit Canadians. There are many employees that take part in working for this company. An exact number was not calculated but the company is a multinational company with many distribution places around the world. If the product was sold and transported to Nepal, the company employee number could increase in production, packaging and shipping to help with Canadians looking for employment. Opening up the distribution from Vetiquinol to Nepal could bring forward a lot of other opportunities for the company to sell their other products to the Nepalese farmers. Nepal has 69.41 million head including cattle, buffaloes, goat, sheep, pigs, chickens, and ducks (M.O.A.D). With the large

population of livestock and over 70% of the Nepalese people working in the agriculture industry there will be lots of room for improvement and need of new products that can be distributed by Vetoquinol (M.O.A.D). This could give Canada a lifelong distribution partner as well as an opportunity to be an innovator to a growing country.

Part 2: Export Potential to Nepal

Introduction to Nepal

Nepal is a landlocked country between China and India (mof.gov). Nepal has a population of 27.8 million people, as of 2013 (Population, total). Nepal is a large agriculture country, 33% of their gross domestic product relies on Agriculture (Kari, 2015). Another big impact farmers have on Nepal is the fact that the main source of food, income and employment is from Agriculture, at 66% (Kari, 2015).

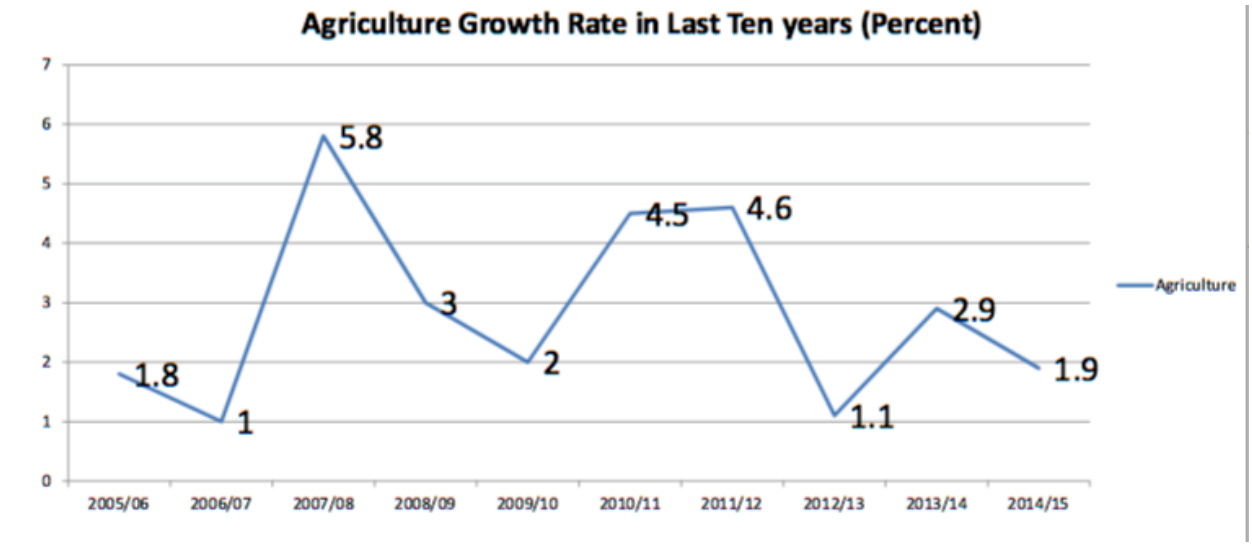

Figure 6 http://www.mof.gov.np/uploads/document/file/Agriculture_NPPR-2015_20150913011507.pdf

Figure 6 shows that the agricultural growth rate in Nepal is always increasing and the average over the last decade is 2.9% (Kari, 2015). With the agriculture growth rate increasing so is the population growth rate, which means more food production is needed (Kari, 2015).

A big impact that affects agriculture is the earthquakes that hit Nepal, the damages in the agriculture sector amount to 28.3 billion Nepalese Rupees (Kari, 2015).

Brief Description of Dairy in Nepal

Dairy is a large and growing industry in Nepal. The dairy industry occupies more than 60% of the gross domestic product in the livestock sector (Kari, 2015). Nepal produces on average 1622,000 metric tons of milk per year (M.O.A.D). There are 500,000 families/households involved in the dairy industry as producers or sellers of milk (Samarth).

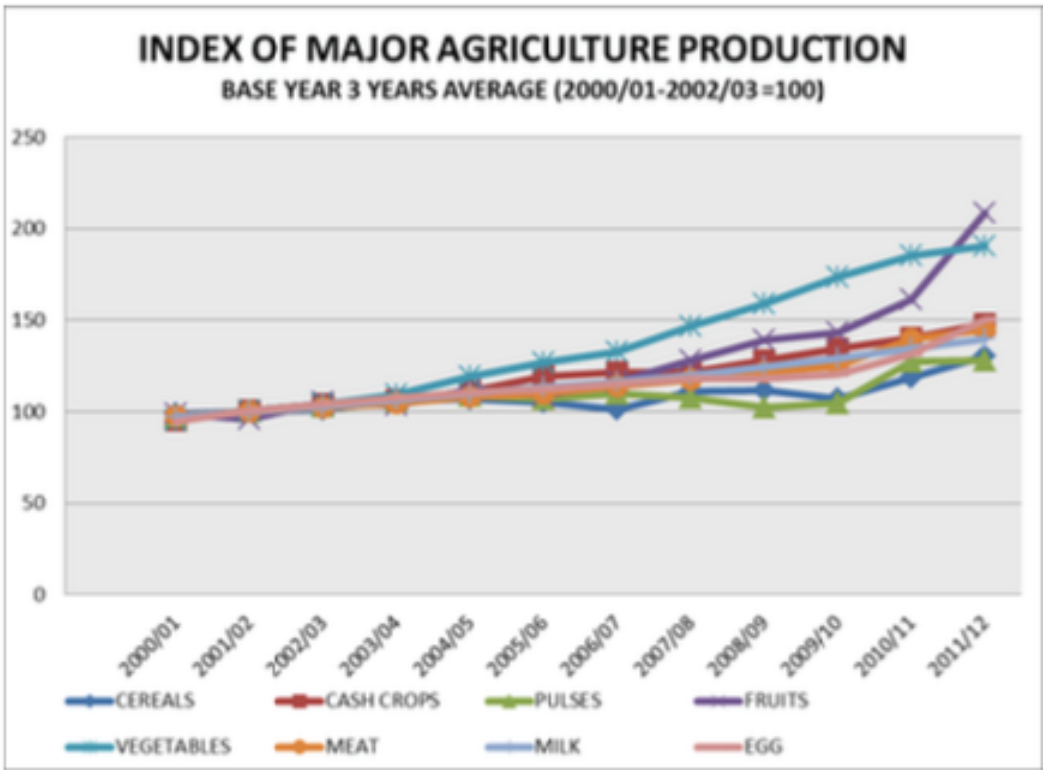

Figure 7 http://www.moad.gov.np/downloadfile/yearbook2012_1363677455.pdf

Figure 7 puts into perspective the increasing need of dairy products, along with the increasing production. Policies set in place by the dairy sector of Nepal under the Food and Agriculture Organization state that the increase in milk production and productivity include development of many different aspects in dairy like improving breeds, preservation and development of feed (Dairy Sector Study of Nepal, 2016). This policy also includes the development of animal health

care and disease control (Dairy Sector Study of Nepal, 2016). The information given shows that Nepal has a developing dairy industry but is on the track to success if given the right help.

Benefits to Nepal

Figure 8 http://thehimalayantimes.com/news-archives/latest/french-cheese-made-in-nepal/

Nepal can be benefited largely by having access to Calcium Borogluconate, as Nepal relies largely on their dairy cows for milk production as they produce 1622 thousand metrics tons of milk (M.O.A.D). Milk fever is an ongoing problem that is very common in dairy cattle. Hoard's Dairyman stated that over 82% of farmers reported that they had milk fever in their cow herds (Hoard's, 1993). Milk fever leads to death if not treated properly, having the Calcium Borogluconate can prevent loss of cattle in the herd. Nepal needs this product because no natural calcium source is claimed to be capable of reversing the milk fever (USDA, 2000). Calcium sources being added into the cattle's feeding regimens is not likely to benefit the cow when in stages two or three of milk fever (Hoard's, 1993). Cows that have previously had milk fever become more prone to getting milk fever again (Hoard's, 1993). This means if the Nepal farmers can prevent progression in stage one using natural sources of calcium the milk fever is most likely to return, and need treatment. This leaves a greater chance that the Calcium Borogluconate will be needed to treat a cow. Another huge benefit to this product is that no withdrawal time is required, which means the milk is still good to use after the administration of this medicine (USDA, 2000). Milk production for Nepalese can continue right away, without a loss of a cow when using the Calcium Borogluconate.

Transportation to Nepal

Vetoquinol is a distribution company therefore the company would take care of transportation of the export product, Calcium Borogluconate, from the Canadian plant location to the Nepalese Vet clinic chosen. Because Vetoquinol is a distribution company of medical supplies for animals they only distribute to vet clinics, or authorized personnel. There was no response from Vetoquinol on exact transportation logistics to Nepal. The most efficient way to ship the Calcium Borogluconate is in bulk of 1000 bottles by air freight with the company A1 Freight (A1 Freight Forwarding, 2016). It would cost $229.62 Canadian dollars to ship right to Nepal which is only 0.23 cents more per bottle than the price without shipping (a1 freight). Another route is by utilising the Vetoquinol distribution locations around the world. Plants and research facilities are located in Canada but there are distribution locations in various places such as China and India where the Calcium Borogluconate can then be transported by truck (Vetoquinol). Due to the fact that Vetoquinol is a distribution company of medical supplies for animals the Calcium Borogluconate must be shipped to a vet clinic or certified personnel. No confirmations have been made as to where the product could be further distributed from but there are many possibilities. The Veterinary Association of Nepal, a vet clinic in Kathmandu or many of the other organizations available to improve to Nepal agriculture.

Figure 9
http://www.a1freightforwarding.com/quote/rate2.php

Competing Companies

A competing company of Calcium Borogluconate is located in India, at $1.89 US dollars per 500ml vial with a minimum order quantity of 1000 bottles (India mart email). That is 207 Nepalese rupees whereas the Canadian version of the product is 590 Nepalese rupees.

Another downfall to exporting this product to Nepal is they do not yet have access to a clean, safe needle supply for their livestock (Beldangi, 2013). Therefore, needles would also have to be introduced to Nepal before the export could be of any use.

Figure 10 https://www.jefferspet.com/products/cmpk-gel-400gm-300ml-tube

Some competing products to Calcium Borogluconate is a CMPK gel. This is a gel that is given to dairy cattle prior to and after calving (CMPK Gel). The gel is a source of calcium, phosphorus, magnesium and potassium that is used to treat milk fever (CMPK Gel). Another competing product is an oral calcium supplement in pill form called bovikalc (Bovikalc). Both of these competing products are administered using a dosing gun that goes down the cow's throat, this is an easier tool to send to Nepal. Needles can be health hazards, and need to be properly maintained where as a dosing gun is a lot easier to store and ship to Nepal. Due to the fact that the Calcium Borogluconate is injected into the cattle the effects of the drug will take place faster than if the Calcium was taken orally with the gel or pill. Therefore, if the cow is in stage 3 of milk fever, the Calcium Borogulconate will be the most effective way to keep the cow alive. If the cow is in early stages of milk fever the oral dosages will work as treatment but may take longer than using Calcium Borogluconate injections. The price for the gel and pills will amount to a similar price as the Calcium Borogluconate per dosage, but the competing products are produced in the states, not in Canada.

Part 3: Future Studies and Conclusions

Future Studies

Through this study of Calcium Borogluconate, studies will need to be continued to make concrete conclusions and transportation plans. Further research needs to be done in regards to getting the Calcium Borogluconate distributed once it gets to Nepal. There are various vet

clinics, or associations available in Nepal that are involved with improving Agriculture that could be possible distributors. All distributors must be properly certified to be shipped the product to further distribute. These possibilities will need to be researched as to a practical plan to get product to all Nepalese farmers.

Further research needs to be conducted on needles being introduced into Nepal for livestock. There are many factors and research points that will need to be looked at before needles can be distributed to the Nepalese farmers. Health and safety, cost, and practicality will need to be under consideration.

Finally, a thorough investigation of Canadian Government or International loan or grant programs should be contacted to help finically aid distributors and farmers in Nepal that will buy and use the product.

Conclusions

This paper has provided an intensive study of the potential export of Calcium Borogluconate from Canada to Nepal. Exporting this product will benefit the Canadian company Vetiquinol by opening a new and large distribution area. This is a great advantage towards Canada because Nepal is a developing agriculture country therefore all products at Vetoquinol are possible distributions to Nepal. This will also provide new job opportunities for Canadians. This product will also benefit Nepal in the same way because it will open up a trade market with a knowledgeable company that is based on livestock medication. Although India has this same product for less money Vetoquinol is a known reliable company that is connected with many resources to help Nepal. When adding transporting logistics India had gotten back to me with a route and Canada did not. Cost is also a big determining factor when dealing with Nepal, but in the long run Vetoquinol will hold a lot of trade opportunity with Nepal.

Due to the fact that Nepal does not have needles in their country this could not be a possible export until Nepalese farmers have needles and proper training available to learn how to use them. This research shows that due to cost, and the tools needed with this product that this export could not yet be feasible for Nepal, but can be in the future. The competing products would be a doable source of treatment for the Nepalese farmers until needles are available to the company.

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