

# Export from Canada to Nepal: kopperkare, a hoof product

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The purpose of the following assignment is to evaluate the export potential of kopperkare, a hoof care product, to the country of Nepal. There are three sections to the following paper. Part one is an introduction to Nepal and its dairy industry. Part two is a review of the product in question, kopperkare. There is also information about the company that makes the product. Part three is an assessment of the export potential with a review of benefits and consequences of the product.

## Part 1: Intro to Nepal

The country of Nepal is situated in Asia. It is neighboured by China to the north and India on the other three sides. The country is nearing a population of 30 million people, and its capital is Kathmandu. The country covers about 150 000km<sup>2</sup> of ground (nationsonline.org, 2016), or about one seventh the size of Ontario. The country's currency is the Nepalese Rupee, one Canadian Dollar is about 80 Nepalese Rupees (coinmill.com, 2016). Like India, most people practice the religion of Hinduism. Nepal is not thought of as an agriculture based country, but that is a big misconception, the majority of Nepalese people are involved and working in agriculture. The development of agriculture in Nepal is the best way to help the country modernize due to its importance and popularity.



Figure 1(from <http://www.nepal.gov.np/>)

Nepal is a very diverse country. The land is divided into three sections. The first type of land in Nepal is the plains, also known as the Terai. The Terai region covers about 21 percent of the land area in Nepal (Belbase, Grabowski. 1985). This is the location where farming is most advanced. This mostly due to the flat ground, it is much easier to run machinery and tractors on this land over the hills and mountainous parts of the country. There is also less livestock on pasture in this section because the land is mainly used for crops. There are however, larger dairy farms because the region is easier to transport milk from due to the flat ground. The second region is the hills region. This region covers about 44 percent of Nepal's area. This region is also at a higher altitude than the plains, the hills range from a thousand to three thousand meters above sea level (Belbase, Grabowski. 1985). This is where cropping terraces will be seen. While they seem cool and efficient, they are a lot of work. The terraces are hard to maintain because the walls might not stay solid and equipment cannot be used at higher altitudes because it is not convenient to work with. This means that there is a lot of labour done by hand in the hills. The hills are also a good place to have grazing land, where animals like cattle, goat and sheep can overcome the steep ground conditions and can still achieve successful grazing. These livestock are of much smaller numbers than in the Terai region, selling milk to the cities from the hills would be hard to achieve due to the harsh ground conditions. The final region in Nepal is the mountains region. This region is very high in altitude and mostly unattainable by people. This region is where the least amount of agriculture happens. The ground is mostly rocks which means crops mostly will not grow well here. However, part of this region is the Himalayans and mount Everest. This is a good touristic attraction for the country.

#### Dairy industry in Nepal:

The dairy industry in Nepal is also something that people don't see as very developed. The first organizations to attempt to modernize the dairy industry in Nepal dates back to the 1950's. It was created by the Department of Agriculture(DoA) in Nepal. What this organization did was help put up processing plants for milk around the country as well as organize the processing steps to ensure that it is working efficiently. They also set up cooperatives like the Milk Producers Association(MPA). These groups ensure that dairy farmers in Nepal are getting their milk picked up and that they get fair prices for their milk (M.R.Sapkota, 2010). While all

these groups are working hard to keep the dairy industry organized. It is still a struggle to get high quality milk to the processing and chilling plants. Milk can often get contaminated after the milk leaves the farm. These contaminations are due to improper handling of the milk on the way to the processing plants. The milk might not be held at a cool enough temperature, the ideal temperature is about two degrees Celsius, which can cause bacteria build up in the milk. It's a big challenge there because they do not have the technology necessary to keep milk cool while its on trucks, therefore they require more places to chill the milk until it is put into stores. While these problems seem easy to fix, it is quite difficult to inexpensively keep milk refrigerated while on trucks in a country like Nepal. This leads to some unsafe milk being put in stores labeled as safe for people to drink (M.R. Sapkota, 2010). It's a challenge for the dairy farmers because they are supposed to produce more milk, they do not get the support from the government to increase production and at a higher quality. Another challenge to the dairy industry in Nepal is that most of their cattle, especially the buffalo, are seasonal milkers. This means that most of them will stop producing milk, usually late winter, before calving out again in the spring.

## **Part 2: Product Info**



**Figure 2(from Greenhawk.com)**

Kopperkare is an antiseptic hoof product. This product is made up of 37.5% copper naphthenate. Kopperkare comes in a bottle of 475ml and the cost is about 16 dollars Canadian, which amounts to about 1300 in Nepalese rupees (Currency Exchange Rate Conversion

Calculator, 2016). The main use of this product is to keep cracked and punctured hooves clean of infection and avoid further damage to a hoof after it gets damaged or injured. It is a very versatile product because it can be used on: beef and dairy cattle, sheep, goats, horses and even helps dry pads on the bottom of feet of animals like dogs. Application is very simple. Tools required for the use of kopperkare would be some water and a brush. If the animal is a larger one, a cow for example, it might be more efficient to have a place to immobilize the cow to be able to lift the foot in a safe manner to avoid having someone get injured trying to treat the cow's foot. Start by washing the foot that is being treated with water. There is no need to wash the foot with soap. Then apply the product to the foot by pouring, spraying or brushing the product on until the foot is covered. It should take about 10ml of solution to cover an average sized hoof on a cow. The animal requires no additional care after being treated. There is also no use to applying too much of the product because it will not decrease healing time of the foot anymore than a normal treatment. While this product does not treat infection like antibiotics or other treatments, it does a good job at keeping the foot disinfected while dirty to let the foot cure on its own without any setbacks.

#### Company info:

The producer of kopperkare, Dominion Veterinary Laboratories Ltd., is a Livestock care product producer located in Winnipeg, Manitoba. The company was created in 1950 by a man named Hy Earn. Dominion Veterinary Labs. Is now a big family business running with a staff of about 50 employees and produce a very wide range of products for livestock. The company has expanded internationally substantially. They now distribute more than 60% of their products internationally in the U.S., Asia and Africa as well. This is a really good sign for success of this product because the company already ships to places near and around Nepal.

#### **Part 3: Export potential to Nepal:**

##### Benefits to livestock:

The product kopperkare would be beneficial to the livestock in Nepal. This product is proven to help avoid fungal infections on the hoof of livestock. It is key for farmers in Nepal to keep their animals' feet healthy, especially in the hills. The animals are on pasture a lot more than in the Terai region where animals are held in an indoor facility. The more an animal walks

on its feet in a day, the more likely it is to have foot injuries or become lame. It is very hard to evaluate lameness in cattle. They could be starting to get a sore foot, they could be already injured and needing treatment, or recovering from a previous injury that has been treated (Green, Hedges, Schukken, Blowey, Packington. 2002). There is no way for a person to know right away which of the previous three stages an animal is at unless the person is taking care of the animal daily. The worst part of that is lameness is quite common yet goes undetected most of the time. On average, a lactating group of cows will be between 5% and 30% lame (Barkema, Westrik, van Keulen, Shukken. 1994). The first and most obvious effect of lameness on cows is mobility, if a cow has sore feet, it will not move as much (Reader, M.J.Green, Kaler, Mason, L.E.Green. 2011). This means the cow will not go to eat as much and will not get her exercise required either. While it may seem like foot care is not that important in making sure a cow produces a good amount of milk, foot care is key too having a high producing dairy cow. Within two weeks, a cow can drop in production about 2kg per day after being diagnosed lame (Warnick, Janssen, Guard, Grohn. 2001). That is a big drop in production, especially with smaller herds that have lower production to begin with. Lameness does not only limit production, it decreases efficiency in reproduction as well. The lamer a cow is, the more likely she is to experience a delay in ovarian activity after calving. Lameness also influences the overall pregnancy rate of a herd (Garbarino, Hernandez, Shearer, Risco, Thatcher. 2004). This is tough for smaller dairy farmers because cows are expensive to replace. Their goal is to have a sustainable herd without the purchase of new cows to produce enough milk. Another challenge related to lameness in dairy cows is that Nepalese dairy cows pasture a lot. A lame cow on pasture will lose more milk production than a lame cow in an indoor housing system, they will lose more weight per week, and they will have less laying time in a week (Hernandez-Mendo, von keyserlingk, Veira, Weary. 2007). All of the previous issues in the dairy cow industry can be helped out with a hoof care product like kopperkare that might not eliminate lameness, but it will greatly improve hoof health in a herd.

Benefits to Livestock Owners:

Livestock owners will also benefit economically because a bottle of 500ml is about 16 dollars (Greenhawk.com/hoof care, 2016). That is enough to treat about 50 different cow feet, that is about 12 cows with all four feet treated. This seems like a good investment considering that the milk production should go back up after some time due to healthier feet. It is also a good product to have because it will help cows last longer. Lame cows cost farmers a lot of money because there are many difficulties that come with having cows with sore feet (Enting, Kooij, Dijkhuisen, Huirne, Noordhuisen-Stassen. 1997).

#### Environmental issues with the product:

One issue with a copper naphthenate product is that it can contaminate the environment through the animals when they pasture. The kopperkare solution could rub off onto the ground. That might sink in and follow a water stream underground. This would lead to a near creek or river. Heavy minerals can contaminate water and cause bacteria or algae to grow (Guecheva, Henriques, Erdtmann, 2001).

#### Shipping and Transportation Process:

The shipping process of kopperkare to Nepal would be fairly simple. The product would be brought to the airport in Winnipeg from storage area where the product is held. The product would then be flown by FedEx to Gorakhpur Airport, this is in India and very close to Nepal. The cost for flying the product over to India is about 880 dollars Canadian or about 70 000 Nepalese Rupees for a 25-kg box of the product (FedEx Canada, 2016). The product would then be trucked across the border to Nepal. It would be distributed by co-op like stores around the country. This product seems a little expensive to ship over for Nepalese farmers.

#### Final Recommendation:

The final recommendation on this export idea is to not proceed. It has many benefits to the dairy industry and other animals as well. Dairy cattle will have healthier feet and will on average produce more milk with kopperkare applied to their feet. The issue is that it does not make sense financially. The people in Nepal will not make a profit by using this product, and the company in Canada will not take the financial hit for it, they are also wanting to make money.

It's disappointing to see that that is what the success of this export project relies on. Other than the money, this export would be a huge success.

References

Barkema, H., Westrik, J., Keulen, K. V., Schukken, Y., & Brand, A. (1994). The effects of lameness on reproductive performance, milk production and culling in Dutch dairy farms. *Preventive Veterinary Medicine*, 20(4), 249-259. doi:10.1016/0167-5877(94)90058-2

Belbase, K., & Grabowski, R. (1985, July). *Www.jstor.org*. Retrieved November 28, 2016, from [http://www.jstor.org/stable/4191394?seq=1#page\\_scan\\_tab\\_contents](http://www.jstor.org/stable/4191394?seq=1#page_scan_tab_contents)

Currency Exchange Rate Conversion Calculator. (2016). Retrieved November 28, 2016, from [http://coinmill.com/CAD\\_NPR.html#CAD=1](http://coinmill.com/CAD_NPR.html#CAD=1)

Enting, H., Kooij, D., Dijkhuizen, A., Huirne, R., & Noordhuizen-Stassen, E. (1997). Economic losses due to clinical lameness in dairy cattle. *Livestock Production Science*, 49(3), 259-267. doi:10.1016/s0301-6226(97)00051-1

FedEx Canada - Shipping, Logistics & Courier Services. (n.d.). Retrieved November 29, 2016, from [http://www.fedex.com/ca\\_english/](http://www.fedex.com/ca_english/)

Garbarino, E., Hernandez, J., Shearer, J., Risco, C., & Thatcher, W. (2004). Effect of Lameness on Ovarian Activity in Postpartum Holstein Cows. *Journal of Dairy Science*, 87(12), 4123-4131. doi:10.3168/jds.s0022-0302(04)73555-9

Green, L., Hedges, V., Schukken, Y., Blowey, R., & Packington, A. (2002). The Impact of Clinical Lameness on the Milk Yield of Dairy Cows. *Journal of Dairy Science*, 85(9), 2250-2256. Retrieved from <http://www.sciencedirect.com/science/article/pii/S002203020274304X>

Greenhawk Harness & Equestrian Supplies | Greenhawk. (2016). Retrieved November 29, 2016, from <http://greenhawk.com/>

Guecheva, T., Henriques, J. A., & Erdtmann, B. (2001). Genotoxic effects of copper sulphate in freshwater planarian in vivo, studied with the single-cell gel test (comet assay). *Mutation Research/Genetic Toxicology and Environmental Mutagenesis*, 497(1-2), 19-27. doi:10.1016/s1383-5718(01)00244-3

Hernandez-Mendo, O., Keyserlingk, M. V., Veira, D., & Weary, D. (2007). Effects of Pasture on Lameness in Dairy Cows. *Journal of Dairy Science*, 90(3), 1209-1214. doi:10.3168/jds.s0022-0302(07)71608-9



Nationsonline.org, K. K. (2016). \_\_\_\_ Nepal. Retrieved November 28, 2016, from <http://www.nationsonline.org/oneworld/nepal.htm>

Nepal, G. O. (n.d.). Nepal Government Portal. Retrieved November 28, 2016, from <http://www.nepal.gov.np/>

Reader, J., Green, M., Kaler, J., Mason, S., & Green, L. (2011). Effect of mobility score on milk yield and activity in dairy cattle. *Journal of Dairy Science*, 94(10), 5045-5052. doi:10.3168/jds.2011-4415

Sapkota, M. (n.d.). Dairy sector study of Nepal. Retrieved June, 2010, from [ftp://ftp.fao.org/TC/CPF/Country NMTPE/Nepal/thematic studies/Dairy.pdf](ftp://ftp.fao.org/TC/CPF/Country%20NMTPE/Nepal/thematic%20studies/Dairy.pdf)

Warnick, L., Janssen, D., Guard, C., & Gröhn, Y. (2001). The Effect of Lameness on Milk Production in Dairy Cows. *Journal of Dairy Science*, 84(9), 1988-1997. doi:10.3168/jds.s0022-0302(01)74642-5