

Canadian Exports to Nepal
Heatwave Plus Ointment from WestGen
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Part 1: Product Information

Heatwave Plus Ointment

In the dairy industry, a producer's net income is highly dependent on the ability of domesticated animals to produce high milk yields. As a result, maintaining herd health and implementing preventative measures are fundamental practices. Specifically, an effective way to boost animal well-being is through the use of Heatwave Plus ointment. This product is applied to the udder of dairy cattle in order to facilitate improvements in udder texture, udder quality, and milk let-down (WestGen, n.d.). Heatwave Plus is notorious for its favourable aroma owing to its two main ingredients; Japanese peppermint oil and tea tree oil (A. Weaver, personal communication, October 11, 2016).

Heatwave Plus is commonly used to alleviate the symptoms of udder edema (WestGen, n.d.). This practice is important because in the first lactation of a heifer an optimal transition into the milking herd is necessary for success (Kojouri et al., 2015). As a result, heifers with udder edema pose serious complications. This disease causes heifers to retain fluids in the intracellular spaces of the mammary gland and this leads to swelling of the udder and teats (Kojouri et al., 2005). Generally, tenderness and inflated teats can obstruct milker attachments, reduce milk letdown, and increase the risk of developing mastitis (Kojouri et al., 2015).

Mastitis is the predominant production disease on dairy farms worldwide and considerably affects animal health and farm income (Van Soest et al., 2016). Specifically, this disease causes intramammary infections due to the introduction of pathogenic microorganisms (Harmon, 1994). Heifers suffering from mastitis produce substantially reduced milk quality as a result of decreased milk synthesis and changes in the volume of specific milk units (Harmon, 1994). On a larger scale, the prevailing manifestation of

mastitis in dairy herds causes approximately two billion dollars in losses to American producers alone (Harmon, 1994). However, this number does not consider the additional losses from reduced milk quality and composition once milk leaves the farm (Harmon, 1994). Therefore, it is likely that the dollar amount in losses to farmers is significantly higher (Harmon, 1994).

Although Heatwave Plus does not prevent udder edema and mastitis, the ointment considerably mitigates the symptoms of these diseases to help increase milk yield. This is crucial to providing an adequate management plan for farmers to execute when disease compromises a herd. Particularly, the anti-inflammatory action of the product is highly important in aiding with animal management practices and maintaining high standards of animal welfare.

WestGen

WestGen is a Canadian company established in 1944 and is currently based in Abbotsford, British Columbia. (WestGen, n.d.). In partnership with EastGen and CIAQ, these three companies produce the Semex Alliance. Worldwide, this partnership samples over 300 bulls per year, and offers a thorough selection of beef and dairy genetics. It is therefore understandable why WestGen is named Western Canada's leader in reproductive solutions within the beef and dairy industries. In addition, WestGen also markets high quality livestock supplies, including its most popular product; Heatwave Plus (A. Weaver, personal communication, October 11, 2016)

Depending on the farmer's preference, Heatwave Plus is available in a 500 mL tube for \$30.00 or a 2.5 L jug for \$125.00 (EastGen, n.d.). Economically, it is more feasible to purchase the jug because this investment guarantees a \$25 saving. In the application process of Heatwave Plus, enough ointment is applied to generously cover the udder and this practice is repeated once per day until symptoms are relieved. (A. Weaver, personal communication, October 11, 2016) Therefore, it is rational to purchase the larger size of Heatwave Plus regardless of herd size. In addition, Heatwave Plus is easily stored at room temperature for multiple seasons and can therefore be used on repeated incidences of udder complications (A. Weaver, personal communication, October 11, 2016).

Table 1 compares the average price of different udder creams circling the livestock market. Currently in Canada, WestGen is the only Canadian company that produces and

markets udder cream, however; the United States is a key competitor within this industry. Compared to the products from the United States, WestGen’s udder ointment is by far the most expensive. Nevertheless, Heatwave Plus has certain characteristics that other products on the market do not. While most of the products listed in Table 1 contain peppermint oil, Heatwave Plus is the only product that contains tea tree oil. Historically, the primary use for tea tree oil has capitalized on the anti-inflammatory action of the oil (Carson et al., 2006). Therefore, using a product that contains tea tree oil would be beneficial to relieving symptoms of udder edema and mastitis due to its strong anti-inflammatory response.

Table 1: Comparative Price Analysis of Other Products

Product Name	Company	Location	Average Price per 100 mL (\$)
Heatwave Plus Ointment	WestGen	Canada	6.00
Edema Mint Udder Cream	Livestock Concepts	United States	5.70
Dynamint Mint Udder Cream	Valley Vet	United States	3.06
Udderly Smooth	PBS Animal Health	United States	2.79

(Valley Vet, 2016) (East Gen, n.d.) (Livestock Concepts, 2014) (PBS Animal Health, 2016)

Canadian Benefits of Exporting Heatwave Plus

The export of Heatwave Plus to Nepal will increase annual revenue for WestGen. In addition, as an increased number of Heatwave Plus units are sold, more work will become available in the manufacturing of the ointment. Therefore, this exportation process will employ more Canadians. Expanding livestock supply trade to Nepal will increase WestGen’s reputation as a global company, which will increase their recognition with other potential trading partners.

The implementation of Heatwave Plus in Nepal will improve the health of cattle, thereby increasing the standards of the current animal production system. A refined dairy industry will significantly contribute to increased income for farmers who will then be able to purchase other livestock products from WestGen. Currently, WestGen offers a lineup of quality livestock supplies including fly control, heat detection tags and hoof care (WestGen, n.d.). Therefore, gaining the trust of Nepalese farmers in Heatwave Plus

will encourage the purchase of other products from WestGen. Ultimately, this will increase profits for WestGen, thereby further increasing the employment rate of the company.

Support Available for Exporting Project

In recent years, the export of Canadian agricultural products has gained an increasing amount of support. Specifically, the Ontario Chamber of Commerce (OCC) is a key player in supporting economic growth in Ontario (OCC, 2015). Although WestGen is primarily a Western Canadian company, its partner EastGen is located in Guelph, Ontario and offers the same lineup of livestock supplies as WestGen (A. Weaver, personal communication, October 11, 2016). Therefore, gaining funding from the OCC for the export of Heatwave Plus could be arranged. Essentially, the OCC supports the growth of Ontario businesses by providing a number of established programs to help businesses set foot into a foreign market while properly navigating government regulations (OCC, 2015).

In 2013, Agriculture and Agri-Food Canada developed a “Growing Forward 2” (GF2) policy framework that offers \$300,000,000 of funding every 5 years in an Agri-Marketing program (Government of Canada, 2016). Through a focus on market development, the goal of GF2 is to ensure that Canadian producers and processors can capitalize on market opportunities (Government of Canada, 2016). Funding from this type of grant could be used to bring potential Nepalese buyers to Canada to learn about Heatwave Plus and the benefits to dairy herds. This could significantly benefit WestGen because farmers could witness first-hand how Heatwave Plus is benefiting Canadian farmers today and how this could apply to their farms in Nepal.

The Ontario Ministry of Agriculture, Food, and Rural Affairs also support companies by assessing the export capability of a product and then using that information to develop targeted marketing education (OMAFRA, 2016). Through this approach, WestGen could gain an in-depth understanding of the sales opportunities of Heatwave Plus in Nepal in order to prepare for the potential export.

Process of Export to Nepal

The first step in exporting Heatwave Plus to Nepal is to establish a network between designated WestGen associates and Nepalese veterinarians. Building this

connection is important because veterinarians are involved in providing animal care for Nepalese farmers (Thomas-Slayter & Bhatt, 1994). As a result, educating veterinarians on the benefits of using Heatwave Plus is crucial to successfully marketing this product. Likewise, through educating veterinarians on Heatwave Plus they can further educate farmers on the signs and symptoms of udder edema and mastitis and how to use Heatwave Plus.

The next step in the exportation process is to establish a Nepalese importer such as a dairy cooperative or processor that will distribute Heatwave Plus to veterinarians. In addition, it would also be beneficial to have Heatwave Plus available in local villages for farmers to easily access between veterinarian visits. WestGen uses a number of delivery services including FedEx, Purolator, and UPS (A. Weaver, personal communication, October 11, 2016). To ship Heatwave Plus, the product would be flown from Vancouver, British Columbia to Kathmandu, Nepal where established importers would then distribute the product to designated locations (A. Weaver, personal communication, October 11, 2016).

Part 2: Export Potential to Nepal

The Nepalese Dairy Industry

Nepal is a landlocked country located directly between China and India with a population of 28 million (Thomas-Slayter & Bhatt, 1994; World Bank, 2016). Agriculture accounts for 40% of Nepal's GDP and 80% of the population is involved in the agriculture and forestry sector (Joshi and Bahadur, 2001). In addition, livestock accounts for approximately 30% of the agricultural GDP (Hayashi et al., 2005). However, Nepal struggles to meet the demands of the current agri-food system and as a result 13% of Nepalese suffer from malnourishment (USAID, n.d.). This is because producers have minimal access to refined seed varieties, new advancements, and market opportunities (USAID, n.d.). Therefore, the implementation of Canadian innovations such as Heatwave Plus could considerably improve the declining agricultural industry in Nepal.

Livestock keeping in Nepal is an integral part of crop production, and therefore maintaining herd health is imperative (Joshi & Bahadur, 2001). Generally, cows and

water buffalo are raised for draft power, animal manure and the supply of milk and meat. The average livestock holding per Nepalese family includes 3.8 cattle/buffalo, 2.2 goats and 4.5 poultry (Joshi & Bahadur, 2001). Furthermore, the average annual milk yield is 378 kg per milking cow and 810 kg per milking buffalo (Joshi & Bahadur, 2001). Approximately 88% of Nepalese families consume milk regularly and as a result maintaining high levels of milk production is pivotal (Hoshi & Bahadur, 2001). However, current inputs and services available for dairy farmers are inadequate and therefore limiting the potential for dairy farmers to earn a decent living (Singh, 2002).

Benefits to Nepal

The export of Heatwave Plus ointment from Canada to Nepal would be a major movement forward in Nepalese agriculture. Simply, the implementation of Heatwave Plus would increase the health of dairy cattle and therefore increase milk production. Furthermore, improving the dairy industry in Nepal would increase the GDP and improve the quality of life for many Nepalese families. Heatwave Plus requires minimal training for farmers and could easily be carried out by the average dairy producer without any additional inputs.

Today's milk production in Nepal is considerably underdeveloped compared to Canada. Specifically, the average milk yield per Nepalese cow is less than half of the average milk yield per Canadian cow (IFCN, 2012). Nevertheless, milk production plays a major role in providing high quality protein for home consumption (Hayashi et al., 2005). Through the use of Heatwave Plus Nepalese farmers would see significant increases in milk production per animal and this would translate into increased profits for farmers.

As previously stated, the average Nepalese family has 3.8 cattle/buffalo and therefore production diseases such as mastitis would be devastating to producers (Joshi & Bahadur, 2001). Through the use of a California Mastitis Test (CMT), researchers in the Chitwan District of Nepal found the prevalence of mastitis was 21.4% and 38.5% in cows and buffalo, respectively (Jost et al., 2010). In addition, a similar study looked at the economic impact on producers and concluded that a \$63 loss to farmers per animal affected by mastitis is expected (Jost et al., 2010). Although Heatwave Plus does not treat mastitis, using this ointment as a management practice would significantly reduce the

need for continued and rather expensive drug treatments (OMAFRA, 2016). In addition, Heatwave Plus can be applied to cattle and buffalo, thereby making it an extremely versatile product and rendering the price more reasonable for Nepalese families who likely house both animals for milk production (A. Weaver, personal communication, October 11, 2016).

Currently Nepal is 99% self-sufficient in the production of milk and other dairy products (ICFN, 2012). Moreover, Nepal is not involved in the exportation of milk products to other countries and therefore all of the milk produced in Nepal is consumed in Nepal (ICFN, 2012). However, increased milk yields from the introduction of Heatwave Plus to Nepal could encourage the export of Nepalese milk to neighbouring countries. Specifically, countries including Thailand, Vietnam, Myanmar, and southeast China are currently experiencing severe milk deficits (ICFN, 2012). This potential advancement would considerably increase income for milk producers of Nepal. In addition, Nepal is undergoing a growing demand for milk in response to a population growth of 1% per year (ICFN, 2012). Specifically, the consumption of milk products is increasing by 2.6% per year, and therefore Heatwave Plus could be a great asset to help meet this demand (ICFN, 2012).

In the developing world and predominantly in Nepal, malnutrition compromises a significant proportion of children (Pramod Singh et al., 2009). The impacts of childhood malnutrition include stunted growth and reduced cognitive health (Pramod Singh et al., 2009). To put this into perspective, 41% of Nepalese children under the age of 5 are stunted and because of this the World Food Programme has designated Nepal as having the highest rate of malnutrition (Tsang et al., 2015). However, milk is composed of many important ingredients for optimal growth and development including calcium and protein, and therefore by increasing milk yields through the introduction of Heatwave Plus, producers could help combat this pressing issue (Bruce et al., 2002).

Challenges of Exporting to Nepal

Maintaining and increasing the demand for Heatwave Plus is accomplished through the development of a stable market for producers. It is entirely evident that Canadian companies like WestGen are crucial to improving the dairy industry in Nepal. However, there are certain challenges associated with shipping products to poor countries such as

Nepal.

There are a number of Nepalese organizations available to help boost agricultural productivity, but most of these systems are inadequate in terms of legitimately benefiting producers. As a result, Nepalese farmers struggle to improve milk production practices. The Milk Producer's Cooperative Society (MPCS) of Nepal is supposed to play an intermediary role in controlling the communication between producers and dairy processors (FAO, 2015). While it would be beneficial to have MPCS organize the selling and shipping of milk from farms to processors, this society is relatively disorganized and does not meet satisfactory standards. The National Dairy Development Board (NDDDB) is responsible for improving the current dairy industry in Nepal, however; poor economic flexibility is limiting opportunities for development (NDDDB, 2015). Therefore, the dairy industry of Nepal is left stricken by underdevelopment with insufficient support for moving forward.

Poverty, transportation, remoteness, and lack of education are other factors that would increase the difficulty of exporting Heatwave Plus from Canada to Nepal. Approximately 1/3 of Nepal's population is living on less than \$14 US per month and the rates of poverty are higher in rural areas (IFAD, n.d.). This poses serious complications because the export of Heatwave Plus would primarily be targeting farmers in rural areas. Moreover, Nepal is known for having notably difficult terrain and therefore transporting Heatwave Plus to local villages could be difficult (Thomas-Slayter & Bratt, 1994). Another challenge is that Nepalese farmers are relatively uneducated and therefore comprehensive marketing approaches will be necessary (Thomas-Slayter & Bhatt, 1994). In addition, Dairy producers would need to be informed about the benefits of using Heatwave Plus and how it could be incorporated into their current livestock practices. While the export of Heatwave Plus from Canada to Nepal is a great idea, these challenges do need to be addressed in order to maximize success.

Recommendations for Export

Before the export of Heatwave Plus is commenced, there should be major changes in the current dairy industry of Nepal. Primarily, organizations such as the Milk Producer's Cooperative Society (MPCS) and the National Dairy Development Board (NDDDB) should be contacted in order to improve the current systems of dairy production.

In addition, these organizations can connect with Nepalese farmers and introduce them to the idea of incorporating Heatwave Plus into their production practices. To kick-start the program, the MPCS and NDDDB could organize the initial purchase of Heatwave Plus ointment and then distribute it to promising dairy producers. After this, these farmers would likely have enough excess income from increased milk yields to purchase future units of ointment. Aside from the organizations previously discussed, dairy processors should also be contacted because they are an integral sector of the dairy industry. Furthermore, using Heatwave Plus to increase milk yields would generate more milk needing to be processed, and this would ultimately increase income for processing plants. Essentially, through the collaboration of WestGen, dairy organizations and processors, it is completely practical for Heatwave Plus to be implemented into the Nepalese dairy industry.

Effective marketing strategies are crucial to maximizing the export success of Heatwave Plus. Initially, this project should be directed to Nepalese farms of larger scale because these producers have more knowledge on dairy practices. Therefore, these farmers will be more inclined to invest compared to those who farm on a smaller scale. Moreover, these producers will set a prime example for other farmers by demonstrating first-hand how Heatwave Plus can improve dairy production practices. When establishing marketing strategies, educating Nepalese producers on the benefits of using Heatwave Plus should be the primary focus. To do this, export professionals should use statistics geared towards Nepal’s dairy industry in order to truly validate the use of Heatwave Plus.

Table 2 provides contact information of dairy cooperatives in Nepal. Using these resources will be very valuable in kick-starting the export of Heatwave Plus from Canada to Nepal. After all, it is organizations such as the Dairy Development Corporation and the National Dairy Development Board that understand the state of the Nepalese dairy industry the best.

Table 2: Contact Information of Nepalese Resources

Dairy Organization or Corporation	Email	Phone
National Cooperative Federation of Nepal	ncf@wlink.com.np	00977-1-5010033
National Dairy Development Board	nddb@mos.com.np	977-152-5400
Dairy Development Corporation	info@dairydev.com.np	4411710

(DDC, n.d.) (NDDB, 2015.) (NCF, 2008)

Conclusion

Exporting Heatwave Plus from Canada to Nepal would have a great impact on the Nepalese livestock industry. While there will be several challenges involved in the exportation of this product, it is evident that improving the basic infrastructure of the dairy sector would alleviate some of these issues. Specifically, Heatwave Plus will improve milk production practices, which will increase income for farmers and in turn enrich the lives of their families. In essence, the export of Heatwave plus to Nepal is a great way to improve subsistence farming in Nepal while simultaneously benefiting the Canadian economy.

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