

Nepal Export Idea: Cow Magnets

Rick Temming

Abstract

This report was created to assess the potential benefits and challenges facing the exportation of cow magnets from Canada to Nepal. The pros and cons are discussed in depth through two significant sections. This includes an investigation of the export initiative and whether or not it is feasibly economical for the two nations. In addition, the report provides recommendations. The recommendations are targeted to improve the opportunities of having cow magnets exported from Canada to Nepal. This export idea is also applicable to other developing countries around the world.

Part I: Product Information

i)Product Description

Cow magnets are a very simple product, which are cylindrical in shape. They are manufactured with a long-lasting, magnetized metal (Nellessen, 1990). Often, this metal comes in the form of iron (Nellessen, 2006). Cow magnets essentially prevent hardware disease, which is a disease more commonly found in dairy cattle than any other cattle breeds (O.S Al-Abbadi, M, Abu-Seida, M, Al-Hussainy,2014). The prevention of hardware disease is done by inserting a cow magnet (refer to diagram) through a magnet applicator.



ii)About Hardware Disease

Hardware disease, which is also called bovine traumatic reticuloperitonitis (Nellessen, 1990), is a large problem that dairy farmers face all around the world (O.S Al-Abbadi, M, Abu-Seida, M, Al-Hussainy,2014). However, this issue is a greater problem for developing countries due to the cattle grazing in an unorganized manner, with lots of debris around to cause this issue(Kaura,1997). This disease initiates when a cattle consumes a piece of metal, this fragment

can be anything from a piece of wire to a bolt (O.S Al-Abbadi, M, Abu-Seida, M, Al-Hussainy, 2014).. The ingestion of this metal causes great discomfort to the cattle, and the piece of metal enters either the rumen or reticulum of the cow's stomach. As a result this becomes a big issue for the cow due to the fact that it is a ruminant. This means that in order to digest the food completely, the feed must be regurgitated and re-chewed, this process is called rumination. Subsequently, the piece of metal can easily interrupt this process, and can even puncture the inner lining of the cows stomach (O.S Al-Abbadi, M, Abu-Seida, M, Al-Hussainy, 2014).

In order to diagnose a cow with hardware disease, the following symptoms can be given to a farmer to develop a better understanding of the disease: lack of appetite, walks gingerly, hard breathing, and overall discomfort (Sharma, Dhaliwal, & Randhawa, 2015). A simple two part evaluation can be done to check for a positive correlation to

hardware disease. First, a withers test can be done, refer to top right diagram , as the farmer pinches by the withers(Conroy & Javic, 2016). The reaction of the cow when pinched determines if hardware is a possibility. If negative, the cow will flex its back, as seen in the top right diagram. However, if the cow is positive the cow will not flex its back due to the amount of pain it is enduring from the piece of metal digested. Secondly, a grunt test can be preformed. A grunt test requires the farmer to apply pressure to the lower stomach region of the cow (refer to bottom right diagram). If the cow grunts, or is tender by this action preformed, it is often the result of the cow having hardware disease(Conroy & Javic, 2016).



Contribution to Animal Health

The health of a dairy cow is essential, and whenever a disease affects its health it jeopardizes the milk production of the cow. As mentioned in previous sections, hardware disease is very painful for a cow. It is because of this pain that will cause the cattle beast to be very immobile, as the movement from walking causes it great discomfort(Braun, 2003). This is a large problem to the cow, in addition to the farmer, as the cow has to walk to get his/her feed. Eventually this task will no longer happen. Furthermore, the lack of feed consumed will lower the yield of milk for this cow greatly(Waters, 2008). When a cow magnet is inserted the magnet either goes into one of two stomachs of the cow, the rumen or reticulum. There it can pick up any pieces of metal and can stop blockages, which in turn will avoid puncturing of the inner lining of the cow's stomach(O.S Al-Abbadi, M, Abu-Seida, M, Al-Hussainy, 2014). The pieces of metal stay attached to the magnet and avoids damaging any organs, and will stay here for remaining duration of the cow's lifetime(Waters, 2008).

Process of Inserting Cow Magnet/Training

The application process of a magnet can be a difficult task if the cow is not secured properly, and the farmer is unknowledgeable about what he/she is required to do. Therefore, it is essential that the farmer receives proper training on what needs to be done to make this process as efficient and safe as possible.

To begin this process it is crucial to have the cow contained, where it is unable to move side to side, hence minimizing the risk of injury to the farmer and/or cow. The best way to do this is by having the cow in a cattle squeeze. The main purpose of a cattle squeeze is to make it safer for both the farmer and cow by restricting the cows movement, this makes it easy for the farmer to handle the cow (Braun & Flückiger, 2003). Once the cow safely secured in the cattle squeeze

the farmer can insert the magnet. The insertion of the magnet can be a difficult task, and sometimes having another person around makes the task go more smoothly. First, the cows head is held so that the mouth can open. Then, the magnet applicator with the magnet inserted inside can be pushed down the cows throat via the esophagus. Finally, the magnet can be released by pushing down on the applicator's release mechanism (Braun & Flückiger, 2003).

Inputs

From the above information about cow magnets, the following inputs are needed in order to get the optimal results with this product, and overall safety for the cow and farmer. These include: training for the farmer, cattle squeeze, magnet and magnet applicator.

Supplier/Cost



The company that will be involved is called “Agriclé”. They distribute a large variety of agricultural products around Canada, especially for the cattle industry(Cloutier, n.d). Agriclé is presently located in Saint-Dominique, Quebec. The cost of a magnet is \$3.99(Cloutier, n.d) Canadian, which is approximately \$316.96 Nepal rupees, while the applicator cost \$27.25 Canadian (Cloutier, n.d), which is approximately \$2164.73 Nepal rupees. A farmer only needs one applicator which can be repeatedly used for all other magnet insertions should the need arise.

Benefits to Canada

In present day, the firsthand impact of selling over abroad would be minimal for Canada. Agricle, for example, has a total of nine employees (Cloutier, n.d). Therefore, this small company is unable to provide a large number of jobs for other Canadians. However, if more companies in Canada manufactured and distributed these products it would result in an increased economic growth resulting in more jobs in this sector. Finally, it would also promote trade between the two nations, and could lead to future trades and stronger relations(Lloyd, 1999).

Part II: Export Potential to Nepal

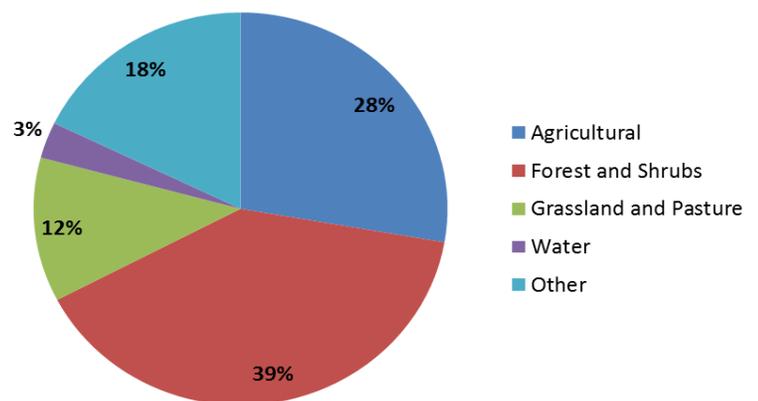
Introduction to Nepal

Nepal is located in South Central Asia in between its neighbouring countries that consist of China and India, and covers roughly 147 141km². The current population of Nepal is approximately twenty-eight million, from this population over 70% rely on agriculture for their annual income.

The terrain of Nepal can be broken down into three distinct geographical regions which include the following: Terai Region, Elevated Flatlands and Hills, and Mountain Ranges(Chapagain,Personal Communications, 2016). The majority of the population and agricultural activities occupy the Terai

Region and Elevated Flatlands and Hills due to the ideal climate and length of growing season(Chapagain, personal communications, September, 16, 2016).

The figure to the right shows the breakdown in land usage in Nepal: 28%



of Nepal's land is used for agriculture, and 12% of land is used for pasture, the area in which domesticated animals such as cows, goats, sheep and buffalo are able to graze. It is within these two regions where the majority of Nepal's cattle and buffalo graze(Chapagain,Personal Communications, 2016). It is also within these defined regions in which the livestock, such as cattle, can digest a piece of metal which will lead to hardware disease.

Nepal is one of the poorest countries in Asia (NEPAL, 2015).The currency that Nepal uses is called a Nepalese Rupee. One Canadian dollar is worth the same as 79.45 Nepalese rupees. GDP stands for gross domestic product, and is used to compare the wealth of certain countries. Nepal's GDP is approximately \$650.10 US dollars. The reason why it is so low is due to the fact that the people of this country are barely able to produce enough food for one's family, leaving little time for work that could result in a slightly higher income(Lloyd & Vautier, 1999).

There are a multitude of religions practiced throughout Nepal, the top three consist of: Hinduism, Buddhism, and Muslim. Approximately 81% of people practice Hinduism(Van Kooij, 1978). Hindus believe that all living animals are sacred, more so the cow, as they believe the cow represents all other creatures(Van Kooij, 1978). Therefore, a dairy cow is not just a producer of milk and meat, it also is an iconic symbol that is worshiped by the vast majority of Nepalese people.

Dairy Industry in Nepal

Dairy is a growing industry in Nepal, and there is high demand for milk due to the increasing population and consumption occurring within Nepal (Smith, 2015). There are two types of dairy farmers in Nepal. First, is subsistence farming, where the dairy farmer provides just enough milk to support his family. His herd consists of usually one to two cows (Redding, Chetri, Lamichhane, Chay, & Aldinger, 2012). Second, is where a Nepalese farmer overproduces

so he is able to send the product off to market. The number of cattle for this venture can vary from five cows to six hundred. The most common breed of dairy cattle used in Nepal is Bos Taurus. These cattle beasts are true dairy breeds, right alongside with holsteins or jersey's. The Bos Taurus is often crossed bred with buffalo breeds to create a larger framed, longer lasting cow (Redding, Chetri, Lamichhane, Chay, Aldinger, & Ferguson, J, 2012).

Transportation Logistics from Canada to Nepal

The transport process for my product can be represented in the following chart below:



The transportation company that would be able to ship this export product is called: A1 Freight Forwarding. Through this flow chart it shows the cost of transportation for a half a skid of cow magnets, this is approximately four thousand-two hundred-and sixty magnets. The flight from Montreal, Quebec to Kathmandu, Nepal for one skid through A1 Freight Forwarding with regards to weight and size is calculated to be approximately thirteen hundred Canadian dollars.

After the product arrives at Kathmandu it is trucked to local shops around Nepal dairy farmers, this cost is approximately five hundred Canadian dollars (Freight Shipping & Cargo Shipping by Country, n.d.).

Benefits to Nepal

Milk production is highly labour intensive, providing a lot of employment opportunity to the Nepalese people (Smith, personal communications, November 7, 2016). Cow magnets would help increase milk production as the cows are able to overcome hardware disease, as without this export there is no way to cure this fatal issue. In addition, after a cow that has a magnet administered to it, and the cow passes away the magnet is often cut out of the stomach and reused. Furthermore, having the ability to reuse these magnets the farmer doesn't need to constantly buy new ones, hence is able to save money.

Cost Analysis

To break it down in simple terms, this process makes it very effective for a Nepalese dairy farmer to get this export idea. First of all, the cost of a magnet is \$3.99 Canadian (Cloutier, n.d), plus shipping and handling, and the magnet can be reused after the cow passes away. Secondly, the cost of a cow in lactation is approximately \$2200 to \$3000 Canadian (Smith, personal communications, November 7, 2016). Therefore, the cost of a magnet can save a farmer over \$2200 Canadian as this disease is fatal if left untreated.

Documentation Required

Exporting a product from Canada takes a lot of work, and it is crucial that proper documentation is inputted. In order to export an exportation permit, certificate and license are required (Canadian Border Services Agency, 2014). In addition, the documentation must be submitted at least two hours before the product is scheduled for departure out of the country.

After the shipment of the product is completed, all required documents must be attainable for over six years after exportation date (Canadian Border Services Agency, 2014).

Competition

There are multiple competitors when it comes down to the production and distribution of cow magnets. For example, Sky Magnetech (Ningbo) Co., Ltd. A large factory located in Zhejiang, China. This is a large competitor, as China is the neighbouring country of Nepal making the transportation cost a lot lower compared to shipping from Quebec.

In addition, hardware disease can be cured through invasive surgery. However, this is not feasible for Nepalese farmers, as an animal surgeon is required to perform this task. The cost of this procedure is astronomical compared to the cost of a cow magnet which can be done by the farmer with no additional assistance required (Braun, 2003).

Conclusion/Recommendations

In conclusion, cow magnets are an inexpensive product that can help Nepal farmers save their cattle from hardware disease. In addition to their small size that make them easy to transport, it also promotes trade between the two countries. However, a recommendation could be to transport the products which are manufactured in Germany straight to Nepal instead of detouring through Canada. This does not benefit Canada, however it makes it cheaper for Nepal to be able to follow through with this product, and would therefore greatly benefit from it.

Future Studies

There are several studies that can be done in the future to make this export idea even more profitable for both nations. For example, a more in depth study on transporting the cow magnets to Nepal. This study could make the transportation cost lower, and therefore more affordable to the Nepal farmers. Another example would be to have a certified vet go to Nepal to

demonstrate the proper way of applying a magnet to a cow. As mentioned earlier, the process of putting a magnet in a cows stomach is difficult, and if not done properly can injure either the farmer and/or cow, and can result into further unnecessary financial expenditure on behalf of the farmer.

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