

Exporting Wilsons Root Stimulator to Nepal

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Background on Nepal

In Nepal the labour force in agriculture is 75% of the population (Central Intelligence Agency, 2014). This makes agriculture extremely important in order to survive. Nepal is a country completely landlocked on all sides by China and India, which makes it more difficult to export items in from farther countries. The population of Nepal is about 31 million and the area covers 147, 181 square kilometres but only 17% of that is farmable land (Central Intelligence Agency, 2014). In the lower elevations of Nepal they can plant 3 crops a year, a little higher up and the Nepalese can only plant 2 crops a year. Even higher in elevation the Nepalese can only plant one cold tolerant crop a year (Schroeder, 1985). As Acharya states Nepal is divided into five physiographic regions (Figure 1). The Terai region 100-300m above sea level has the most fertile soil and is where the Nepalese can grow 3 crops a year. The Siwaliks is 120-2000m above sea level which is where the Nepalese can grow 2 crops a year. Then the Middle Mountains is from 200-3000m above sea level which is where the Nepalese can plant 1-2 crops a year. It can also be called the central belt which occupies about 44% of Nepal's population and is less than 5% flat. The next region is the High Mountains ranging from 1000-4000m and the High Himalayas range from above 4000m above sea level (Acharya, 2006; CBS, 2001; Land Resource Mapping Project, 1986).

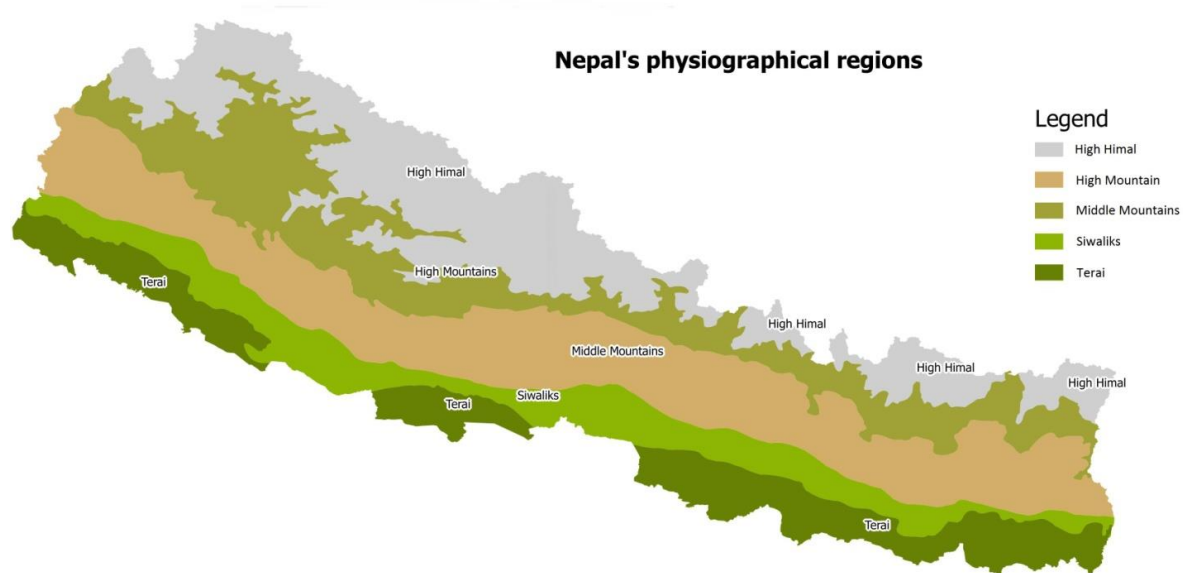


Figure 1. The 5 physiographic regions of Nepal. Retrieved from http://www.franepal.org/wp-content/uploads/page_images/physiographic_regions4.jpg

The form of currency in Nepal is called the Nepalese Rupee. One Nepalese Rupee is approximately equal to \$87.50 Canadian dollars (Exchange Rates, 2014). Per year Nepal imports about \$10.41 million dollars (CAD) in Canadian merchandise from Canada (Export Development Canada, 2014).

The most predominant religion in Nepal is Hindu which makes up about 83% of the population (Central Intelligence Agency, 2014). So majority of Nepal respect their cows and will not eat them as meat (Figure 2). If the people of Nepal cannot eat a lot of meat then they rely heavier on what they grow for their food source. 93% of the Nepalese in the foothills rely on agriculture to sustain their families (Joshi, 2013).



Figure 2. Cattle grazing on hills in Nepal. Retrieved from http://lccrsp.org/wp-content/uploads/2011/03/Nepal_mtns_cattle.jpg

Nepal's population is 83% rural and roads in rural Nepal are extremely difficult and dangerous to drive on (Central Intelligence Agency, 2014; Jacoby, 2001). This makes transportation to farms in the hills and some farming communities difficult. Fonzon and Oberholzer say farming in the hills is mainly done on terraces, or trees are used in strips around fields sloping about 40-70% (Figure 3). The soils in Nepal are generally poor for agriculture as they contain phyllites, shists, quartzites, granites and limestone which do not keep nutrients or moisture very well. Erosion is a huge hazard due to the monsoon season which lasts from June to September and is when Nepal gets 80-90% of its annual rainfall (Fonzon, Oberholzer, 1984). This is why trees are an important part of agriculture in Nepal because they are the main source of fodder for livestock, they help prevent erosion and allow the Nepalese to farm on hills.



Figure 3. Farming on the hills with terraces and trees in Nepal. Retrieved from http://goputney.com/wp-content/uploads/2014/10/CSNPL_JillSchneider_Talamarang_0264-Large.jpg

Part 1 - Product info

In Nepal the primary reason for deforestation is fodder for livestock and the clearing of more land for agriculture (Bajracharya, 1983). Trees though are very important in order to grow crops in the hills. Wilsons root stimulator can be used for stem or leaf cuttings. It helps the plant grow stronger roots much quicker and it can also control many soil-borne diseases. Wilsons root stimulator comes in 50mL bottle, weighs about 0.17lbs and the height and width of the bottle is 3 by 1.5 inches (Figure 4) (Home Depot Canada, 2014). Wilsons root stimulator has a very strong smell and is a thick clear blue liquid with a pH of about 7.5-8.5 (Premier Tech Home & Garden, 2013). The Canadian company that manufactures the product is called Premier Tech Home & Garden. They are located in Brantford Ontario and employ about 200 employees. Premier Tech Home & Garden is a privately held company who only deal with retail stores in Canada (Premier Tech Home and Garden, 2014). The cost for one 50mL bottle of Wilsons root stimulator can

range from \$5.50-\$7 Canadian dollars depending on the retail store (Canadian Tire, 2014; Home Depot Canada, 2014).



Figure 4. Wilsons Root Stimulator in 50mL bottle and packaging. Retrieved from <http://www.duncanplantsandponics.com/test/images/propagation/wilsonroots.jpg>

Benefits to Canada and Inputs Required

Two Canadian companies that could be involved in exporting Wilsons root stimulator from Brantford to Kathmandu are Premier Tech Home & Garden and FedEx Canada. In 2013 Canada exported 479, 363.8 million dollars (CAD) to other countries (Statistics Canada, 2014). Without exports the Canadian economy would be destroyed. So looking at the larger scale picture, exporting more goods to Nepal helps the Canadian economy. Exporting goods to other countries also allows for more diversity to be shared. Some countries due to their climate cannot grow certain crops, so they import crops from other countries. Countries also specialize in producing certain products based on their geographic location and climate. For example Canada is the producer of 85% of the worlds maple syrup (Agriculture and Agri-Food Canada, 2014). So to be able to share and experience food or products from other countries is amazing.

The manufacturer of Wilsons root stimulator is Premier Tech Home & Garden, a Canadian company that makes Canadian products. If the demand of Wilsons root stimulator goes up, then supply needs to increase to meet the demand of the product. If supply is increased then revenue for the Canadian company is increased. The Canadian company that would ship Wilsons root stimulator is FedEx Canada. FedEx serves 228 countries worldwide and serves 375 airports (Federal Express Canada Ltd, 2014). They could fly Wilsons root stimulator from Brantford to Kathmandu. The benefits to FedEx are much the same as Premier Tech Home & Garden. The more packages and crates FedEx ships the more revenue they make which in turns benefits the Canadian economy and the company.

Inputs required from Premier Tech Home & Garden would be to safely receive their shipments needed to manufacture their products, and then to package and properly test and label everything accordingly. Inputs required from FedEx would be to supply the vehicles, planes and fuel needed to get Wilsons root stimulator from Brantford to Kathmandu. FedEx Canada has 1650 vehicles and 104 international flights a week (Federal Express Canada Ltd, 2014). The labour involved with Wilsons root stimulator would be the employees from both companies safely manufacturing and shipping the product. Since Wilsons root stimulator is made of chemicals it can be manufactured and sold year round.

Health Concerns and the Environment

The MSDS sheets from Premier Tech Home & Garden say that Wilsons root stimulator contains some 3-Indole butyric acid and etridiazole and its chemical name is 3-Indole butyric acid. The sheets highly advise people to keep Wilsons root stimulator away from local water supplies because it will contaminate them if it enters them. Over exposure to Wilsons root

stimulator can cause symptoms such as dizziness, drowsiness, incoordination, irritation to the eyes, throat, skin, respiratory tract and nausea. It can cause health problems in rats like tumors and hypoglycaemic effects. If the product comes in contact with skin the best first aid procedure would be to wash hands with soap and water thoroughly. If ingested the procedure would be to give 200-500mL of water to drink and to not induce vomiting. If Wilsons root stimulator comes in contact with eyes, flush them with water for at least 20 minutes. But if Wilsons root stimulator is used properly it can be very helpful in building stronger plants. Proper use includes chemical resistant gloves, safety goggles and coveralls. If the product leaks the spill should be cleaned up immediately with appropriate absorbent such as alcohols or ketones and the area cleaned with soap and water. Then the waste disposed of properly. (Premier Tech Home & Garden, 2013; Santa Cruz Biotechnology Inc, 2010).

Ecologically the bioaccumulation of Wilsons root stimulator is low and the chemical 3-Indole butyric acid is considered stable. 3-Indole butyric acid degrades rapidly in soil and its mobility or ability to move is rated medium, so it is not a huge risk to the environment. By itself 3-Indole butyric acid is hazardous but in Wilsons root stimulator there is only 0.4% of the diluted chemical which is not significant enough to be hazardous (Premier Tech Home & Garden, 2013; Santa Cruz Biotechnology Inc, 2010).

Intellectual Property Constraints

Wilsons root stimulator is a registered trademark product. All Canadian trademarks are registered with the Canadian Intellectual Property Office (CIPO) (Canadian Intellectual Property Office, 2014). The brand name Wilson is the intellectual property of Premier Tech Home & Garden (Premier Tech Home & Garden, 2014). Wilsons root stimulator is more of a niche

product included in the garden industry but more specifically as fertilizer for flowers, trees and shrubs. Wilsons root stimulator is only registered for use and sale in Canada and therefore would not be able to be exported to Nepal without further registration (Davis, 2014).

Part 2 - Export Potential to Nepal

Shipping approximately 50 Wilsons root stimulators from Brantford Ontario to Kathmandu Nepal would cost about \$357.00 Canadian if the package weighed about 10lbs. The trip would take about 10 days and the shipping company would be FedEx Canada. More expensive flights would take a shorter period of time. For example it would take 5 days to ship Wilsons root stimulator from Brantford to Kathmandu but it would cost \$397.00 Canadian (Federal Express Canada Ltd, 2014). Once shipped to Nepal Wilsons root stimulator can be sold at retail stores in Kathmandu such as the CTC mall or Sapurna Enterprises, a hardware store (CTC mall, 2013; Sapurna Enterprises, 2013). 50 Wilsons root stimulators would cost about \$300.00 CAD if one bottle cost \$6.00 CAD. The total price of shipping and the actual product put together would be about \$657.00 CAD which is approximately 58,000 Nepalese Rupees (Exchange Rates, 2014). One bottle of Wilsons root stimulator costs about 485-617 Nepalese Rupees which when divided among a farming community could be a reasonable price (Exchange Rates, 2014).

Wilsons root stimulator should be stored in a cool environment and away from flame with a minimum temperature of 5°C and a maximum of 40°C. The MSDS sheets also say to keep Wilsons root stimulator away from heat as it will emit toxic fumes if heated (Premier Tech Home & Garden, 2013).

Benefits to Nepal

Deforestation in Nepal is happening because of the need for more agricultural land and livestock fodder, but deforestation is also decreasing biodiversity (Bajracharya, 1983). Before 1880 Nepal was a lot more abundant in trees and so the Nepalese cut trees down at will. In 1957 all forests became owned by the government, but even then their hold was weak and trees were still being cut down. This all lead to some loss in biodiversity (Gokhale, Nagendra, 2008).

Wilson's root stimulator is used to help stem and leaf cuttings grow strong roots much quicker than normal as you can see in figure 5 (Premier Tech Home & Garden 2014). Having plants or trees with strong roots in Nepal can help preserve the tree types still left and prevent soil erosion on the hills especially during monsoon season. Trees that would grow stronger roots are key in soil strength. The stronger the soil the less likely for erosions (McKinnell III, Swanston, Wu, 1979). With the ability to grow stronger roots on hillsides, the Nepalese farmers could receive higher yields due to less erosion. Environmentally Wilson's root stimulator has pros and cons. Wilson's root stimulator is essentially a fertilizer and will help plants grow better, but if it enters local water supplies it will contaminate them.



Figure 5. Not using Wilson's root stimulator versus using Wilson's root stimulator. Retrieved from <http://www.leevalley.com/en/images/item/gardening/sg690s3.jpg>

There are many benefits of growing plant cuttings as opposed to growing seeds. The cuttings taken from a tree or plant will be identical to the parent plant (Lerner, Welch-Keesey, 2009). Taking a cutting from a healthy strong plant will in the future increase the strength in the countries plant genes. Eventually only the best adapted will grow and create a strong arrangement of healthy plants and trees in Nepal. Cuttings are also a lot easier to grow than seeds. It may take a seed two to three years to germinate whereas a cutting will grow, flower and mature much faster. Cuttings can be taken from trees, shrubs and any herbaceous plants. Stem cuttings can be taken as long as there are buds or leaves attached to the stem and a leaf cutting is taken using only a leaf (Figure 6). Softwood cuttings can be taken around springtime from new growth and hardwood cuttings can be taken while the plant is dormant around winter or early spring (Lerner, Welch-Keesey, 2009).

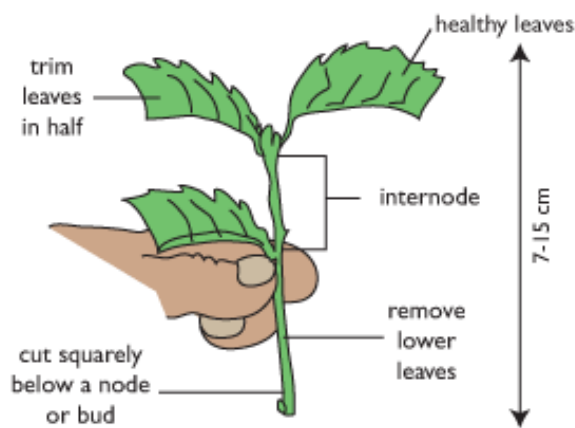


Figure 6. Good example of a stem cutting. Retrieved from

http://www.tekura.school.nz/departments/horticulture/images/ht105_16.gif



Figure 7. Farming community in Nepal. Retrieved from <http://www.jica.go.jp/nepal/english/activities/img/agriculture03.jpg>

Wilson's root stimulator could greatly benefit the farming communities of Nepal. If they bought one or two bottles to share amongst themselves it could last them all hundreds of cuttings, plus the cost to each farmer will be significantly lowered (Figure 7). Cuttings will grow faster than seeds and therefore the farmers can have protection against erosion sooner. Also cuttings of trees would mature faster so farmers can grow more fodder to feed their animals. Wilson's root stimulator can benefit individual farmers the same as groups but the individual farmers can plant more cuttings for their selves. The people who live in cities like Kathmandu that may have a little more money than the rural farmers can also benefit from Wilson's root stimulator. The product can also be successfully used on house plants or plants in their gardens (Figure 8).



Figure 8. Garden in Kathmandu Nepal. Retrieved from <http://www.cityfarmer.info/wp-content/uploads/2011/12/nepalgarden.jpg>

Company Information

The two Canadian companies that would be involved in exporting Wilsons root stimulator are Premier Tech Home & Garden and FedEx Canada. Premier Tech Home & Garden is located at 97 Easton Road in Brantford Ontario. Their telephone number is (519) 754-4755 and their contact information can be found on their website in the 'contact us' section on their website <http://www.pthomeandgarden.com> (Premier Tech Home & Garden, 2014). FedEx Canada's main headquarters is located at 5985 Explorer Drive in Mississauga Ontario. Their toll free telephone number is 1-800-463-3339 and their email and other contact information can be found on their website under 'contact us' at <https://www.fedex.ca> (Federal Express Canada Ltd, 2014). Two potential retail stores in Nepal that could be contacted about selling Wilsons root stimulator are Sapurna Enterprises and a retail store inside the CTC mall. Sapurna Enterprises is a hardware store located in Kathmandu Nepal. Their telephone number is 977-1-4480103 or they could be contacted by their e-mail keel1son@hotmail.com (Sapurna Enterprises, 2013). The CTC mall is located at 44600 China Town Road in Kathmandu Nepal. Wilsons root stimulator could be sold at the appropriate retail store inside the mall (CTC mall, 2013).

Competition Regionally and Globally

Wilsons root stimulator at first could only be available in cities like Kathmandu. The product can be used by anyone old enough to apply the growth stimulator on plants. The target audience is for farmers because they are the ones who need trees and plants in order to grow livestock and farm on the hills. Since China and India are much closer to Nepal than Canada they

could be big competitors. From Alibaba.com in China they sell a product called Gibberellic acid which is also a plant growth regulator sold from a company called new sunshine. The price for Gibberellic acid is \$5 US per kilogram (Alibaba.com, 2014). Wilsons root stimulator is about \$6 CAN for only 50mL. More natural plant growth regulators are available from tradeindia.com where the price is not listed, but some things to consider are that India is a lot closer to Nepal than Canada (Tradeindia.com, 2014). From Amazon.com there is a plant growth hormone available called Monterey Florel Fruit Tree & Shrub Growth Regulator which cost \$20.97 US for 1 pint (Amazon.com, 2014). 1 pint is equal to about 473mL. The plant growth regulator from China is much cheaper and comes in larger quantities compared to Wilsons root stimulator. But what needs to be considered is the quality of the products and how much of the product is needed for one plant or cutting. Also the quantities shouldn't be too big because it may end up being too much for the Nepalese to store properly for so long.

Funding Programs

To get the funding to export Wilsons root stimulator there are many Canadian grant programs that can help. The Canadian Trade Commissioner Service website has a funding program called Global Opportunities for Associations (GOA) that helps finance new or expanding businesses internationally. GOA approves funding on a yearly basis and if approved they give one year non-refundable payments ranging from \$20,000-150,000 CAD. The program also matches suitable expenses up to 50% and the year begins April 1 and ends March 31 the next year (The Canadian Trade Commissioner Service, 2014). Other grant programs include Export Development Canada and the Canada Business Network (Export Development Canada, 2014; Canada Business Network, 2014).

Future Studies

Due to the fact that Wilsons root stimulator is not registered for sale or use outside of Canada, it cannot be shipped to Nepal. There are though similar products that can be bought from China or India that will cost less to transport and purchase for the Nepalese. Nepal also does not have the proper safety tools to handle Wilsons root stimulator. Coveralls, goggles and gloves would be needed for the Nepalese farmers. Things that still need to be researched more thoroughly are the papers needed for registration of use outside of Canada and export documentation. Also trade barriers for shipping Wilsons root stimulator from Canada to Nepal need to be researched. A good idea would also be to scout and survey whether or not people in Nepal will actually want to buy Wilsons root stimulator or any similar products before they are potentially exported. Plant growth regulators have great potential to help improve agriculture in Nepal because trees are the main source of fodder for livestock, they help prevent erosion and they allow the Nepalese to farm on hills.

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