

Nepal Report; Pisium Sativum
Ujala Mehmood
Agr1110
University of Guelph

Part 1: (Combine info together at the end) (Pisium Sativum)

Pisium Sativum; How it is grown, processed and its purpose:

Pisium Sativum has plenty of good uses and surely it benefits Canadians and Nepalese farmers into using these seeds. This product is chosen based on it's quality for it's use, it consists of many nutritional content, and the environment required to pea productions is highly suitable and most definite that it meets its conditions. The *Pisium Sativum* is packaged through "Little Marvel" and is processed through The West Coast Seeds. They serve many advantages for pea productions and along with this company, there are plenty of benefits for both the consumers and producers; exporting to importing nation all as one potential. First off, The West Coast Seeds manufacture and simply package their seeds without the use of any synthetic chemicals such as insecticides, pesticides which have the chance of ruining the seed composition, where it could disrupt it's growth cycles and yielding. *Pisium Sativum* are provided as an essential for organic gardening and by other means, the *Pisuim Sativum* is the general classification of the green peas. The peas are a cool seasoned crop, which has wax- like bluish- green appeal to it. (Elzebroek and Wind, 2008). The pea's overall structure consists of plant-like parts such as for stems, leaves, tendrils, stipules, and there are various pairs of leaflets attached to the vines of the pea, and therefore it has an oval shape (Mcgee, 2012). These peas have their own suitable timings that are relevant to how the seed is then grown, raised and harvested to obtain healthy variety of peas which will then be provided as good source for fresh market products. Initially, if a farmer wants to expand on pea production, they may select cooler weathers whereas the soil is more moisturized due to the levels of nitrogen that is present and it also tends to be in it's best structure when the temperature is suitable. It is said 10 to 20 degrees Celsius is considered to be its average temperature required for the soil to initiate pea production. (usda). Moreover, pea production mainly takes place in areas which are along a slope or in real life cases, terraces

would generate a successful outcome as these crops require to climb. (WestCoast-2013). While a terrace is used, it will refrain the vines from falling apart and it keeps the pods leaves from falling towards the ground. (Christman, 2003,2010). Harvesting usually occurs when the peas reflect off a prominent light green colour and the pods are fully loaded. (2013). Along with this, it is highly recommended that rock phosphate should be added within 3m and 2 cups should be used. (2013). More specifically, this garden pea grows up to 5ft and the pods are 12.7 inches long, whereas the amount of peas that exist in each pod are about 5 to 7 peas as whole. (Christman, 2003,2010). *Pisium Sativum* have been divided into different categories regarding their state of composition. Such of these varieties include the *macrocarpon*, which are significant for snow peas, as they consist of pods that are stringless and tend to be much shorter. There are *var. Arvense* which are considered as field peas. These peas are essential for livestock, or seeds that are edible to which can be used for soups. In addition, they can be used as a cover crop as well. (Christman, 2003-2010).

Health and nutritional information:

Pisum Sativum have its own benefits for giving off nutritional values and resources. Green peas are highly significant for providing excellent sources of vitamins and minerals which fully specifies the diets of all livestock animals. The vitamins which exist within them include amino acids, good amounts of fibre, starch and even protein. (Anderson, 2014). There are also enough

protein contents which are essentially required for the diets of species categorized as aquaculture diets. While in terms of digestion, green peas grown in gardens have been linked to process slowly during fermentation; highly evident when an animal feeds on these proteins and grains, therefore it functions the rumen. Such animals as for cows, have consumed a low quality of forage. (Anderson, 2014). In cows, peas provide an efficient amount of protein which can be broken-down by the rumen. Moreover, digestion within the rumen occurs throughout the use of energy that composed of starch and fibre. (Anderson, 2014). A pea would consist of various matters which conclude the way it is designed and how it serves sustainability to the environment. For instance, knowing that the temperature should be mild and temperate; best for cool season crops. The pH within the soil should be 5.5 - 7.0 for better outcomes and results of the productions (Hartmann et al. 1988). Nutritional contents can be eliminated through improper located seeds. This exhibits that pea productions are to be grown under cool seasons. An over ally increased rate in temperatures link to the reduction of flowering and seed development can interfere with abnormal changes to it's nutrient content. Whereas, the original fibre, protein and starch are more likely to increase it's value and therefore it disrupts the general form of the pea (Hartmann et al, 1988).

Table 1; The expense among different crops

	Corn	Bushel and Canola meal	Green peas
Types of crops	\$3.50 per bushel	\$175 per ton	\$4.94 per bushel

Inputs required (i.e labour, machinery, healthcare, animals)

Whereas for machinery, pea cultivation is highly evident and they are available where irrigation is required to maintain for such crops to be grown at a specific rate and time. Management care can ensure that the peas and additional cover crops are grown under all conditions and it avoids the peas from getting contaminated and if it was suppressed by weeds (Clark, 2007). “Little Marvel” packaged through The West Coast Seeds company ensured that no synthetic chemicals are used towards the growth of pea production as it has the likelihood of decreasing the rate of seed development and stop germination (West Coast Seeds, 2013). In addition, peas end up lowering their levels of N present at it’s earlier stage, rather it should be performed once it is fully developed crop, concluding that mowing, insecticides and the use of herbicides during it’s earlier stages in pea production can damaged (Clark, 2007). It is known that every seeds has it’s own rate of germination period, root system defined by the rate of seeding and methods also its the type of soil is was grown in could result as factors. Such intensive farming techniques may come in hand if seeds require the use of *Rhizobium leguminosarum* in order to inoculate it, and here it is applied in fields where peas have not been grown at that specific location. The use of this allows the nitrogen fixation and process of roots nodule to be more successful (Clark, 2007). Little Marvel has an enriched green colour and about 22.7kg would hold nearly 113500 seeds, where 25g of weight would cost \$2.99 and eventually increases as the amount of weight is increased (West Coast- 2013). Even for the Nepalese farmers, ensuring that soil contents contain

enough levels of minerals is also highly essential for the growth of pea crops. It is mentioned that a potassium fertilizer among the wheat sectional of rotation. In addition, with this use, it will contribute to have an efficient amount of potassium present in the soil (French, Pritchard, Seymour, Reithmuller, chapter 2).

Benefits to Canada:

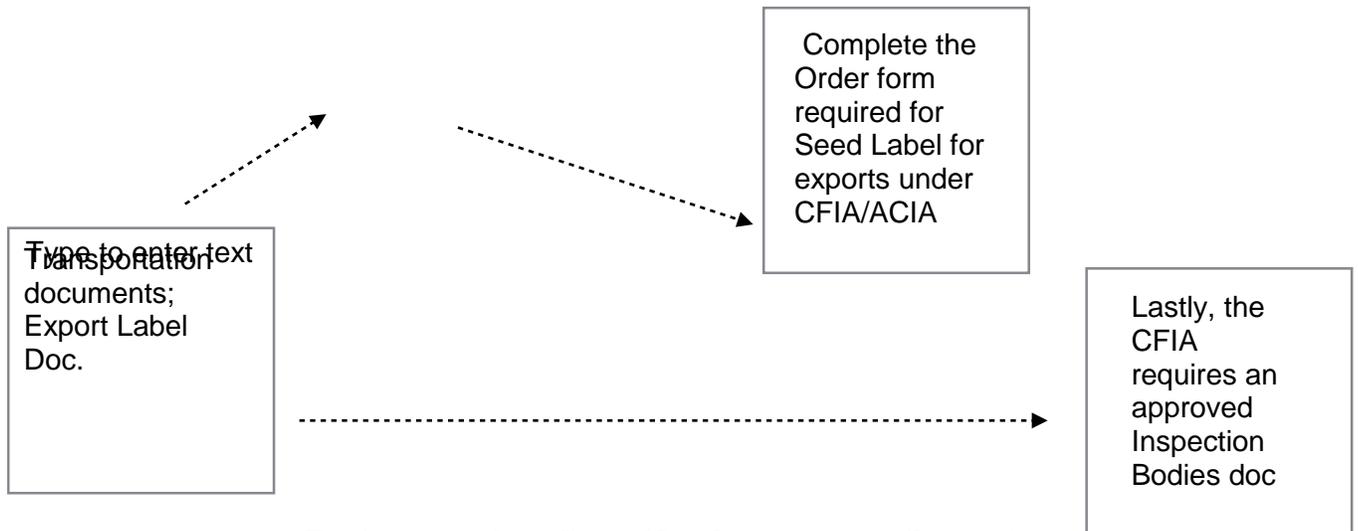
The Foreign Affairs, under the Trade and Employment Canada stated that statistics have proven that there are consumer benefits for Canadians involved in exporting. This is because much of international trades are tend to increase the value and profitability of businesses to expand and it becomes more competitive for other nations to reach out to. The greater number of products which become present for such domestic markets will end up becoming more successful. (Opening New Markets; 2012). For an example, while the West Coast Seeds are members of the CFIA, they have access to international trading. These packaged seeds will end up increasing the product value and competition due to high sales and if it is highly promoted. These Canadians working under trading agencies benefit from both consumers in the nation and even the producers. Therefore, an increased number of sales would contribute towards an adequate amount of selections of products and services which were provided (Opening New Market, 2012). Another statistic proving market opportunities among Canada is during 2010, when Canadian pea exports hit \$800 million dollars for the world. Previously, Canadian exporters have been encouraged and as apart of the European Union, these exporters have shipped over 700,000 tonnes of peas into Europe. (). The fact that western Canada is apart of British Columbia, is similar to the West Coast Seeds origin place, and therefore it is a perfect example as to why both Canadians can benefit from exporting. India and China are highly dependent and have greater

demands for receiving goods from Canada and links to the idea that Canada is in the competition of food markets. ()).

Part 2: Export Potential to Nepal:

Transportation Logistics

Pisum Sativum can be transported through an airplane since it is apart of the overseas exporting. The idea goal was that packages of Little Marvel would be transported through the accompany of CSTA. The Canadian Seed Trade Association have a big label and contribute towards marketing, productions, trades are all done in both internationally and domestically. They provide these services for over 132 brand name seed companies and therefore with this good of a reputation all companies can negotiate and develop further on strategies (CDN, 2014). Canadian seeds were told to follow The Organization for Economic Co-operation and Development (OECD) since 1962 and have set aside specific rules and regulations regarding their specifications. Nevertheless, no seeds produced by a Canadian company will be imported/exported without a valid certification through the Agriculture and Agri-foods Canada. (CDN,2014). Canadian Food Inspection Agency has stated that sampling procedures are done at all CFIA seed labs. In terms of exporting, every facility is provided an assigned series number and is from the CFIA which would most definitely appear on export labels. (apndx 7). Afterwards an approval of a manager must be made and is then followed by the printing of labels that can be used as export labels (CPCPS; 2010). Exporting to different nations will acquire



Environment benefits to Nepal: (terraces, soils, peas)

There are many environmental influences of using *Pisum Sativum* towards Nepal. First off, there are issues regarding the terraces in Nepal. Most of the terraces in Nepal have not been fully irrigated to a point where not all of the land is used. It is known that 3/4 of the land in Nepal is covered by mountains, terraces, hills projecting a unique landscape. Furthermore, there is approximately 32% of irrigated land available and Nepal is highly dependent on Agriculture to gain income (Nepal District Profile-2006). 21 % of the areas is considered cultivable since as mentioned earlier that nearly 32 % of irrigated land is available (Nepal District Profile, 2006). In Nepal, the terraces are neutralized from the amount of nitrogen that is present. This refers to high fertile soils. During the seasons where pea production are more likely to occur, Nitrogen is highly linked to increase higher yields and it is examined that the excess levels of Nitrogen are released from soil (McGee, 1993).

Real World Canadian company and nepalese buyers who can be informed about my idea:

There are real pea buyers and brokers in relation for marketing purposes. In western Canada, Saskatchewan Agricultural agencies have provided various companies which are linked to marketing of crops.

(Figure 2) (List of resources for marketing purposes) (source: Dry pea fact sheet)

Saskatchewan
Agriculture

Agriculture
Knowledge Centre

Crop Varieties for
irrigation; can be
contacted at (306)
867- 5400

Alberta Agriculture;
the website will
provide suggestions
for growing crops in
Western Canada.

Trades, global competition, or possible future studies required to evaluate export of my product:

(what is unknown?)

Appearance	Peas from Beijing	Peas from Little Marvel	
	Sealded and packed	Sealed and packed	

On the Alibaba website, it is seen that there are a few products which are relevant towards my product while shipping and exporting is a common idea. There is a product which is called Hydrolyzed Pea Protein and it is from Beijing, China and also Tianjin. It says its equivalent to \$10- 28 per kg. However, once I compare this to Little Marvel which consists of a greater quantity and it is at a cheaper price. Therefore, Nepal would take advantage of the Little Marvel more since it requires a good amount of sources of nutrients required for livestock feed, and it can help maintain the structures of terraces. Where they would not be suffering from droughts and possible erosions. The concept of these products predicts that they aren't highly qualified. Although some companies may be cheaper, it is good to say that at least dietary fibre, proteins and trans fat are all looked after by the CFIA management. Therefore it portrays that health and nutrition is one of the biggest standards when it comes towards exporting goods and obtaining and increasing their marketing sales. What is similar to this product from China is that they are both in the same class of *Pisium Sativum*, therefore they both have the same ultimate purpose and are utilized the same way. They are both packaged the same way. The only thing which should be focused on is the health and nutritional impact among the people in Nepal. Since the majority of the people there depend on agriculture for gaining income, they can gain success from here.

Works Cited

Christman, S. (2010, February 9). Floridata: Pisum sativum. url.

http://www.floridata.com/ref/p/pisu_sat.cfm

Vegetable seeds. (2013, January 1). <http://www.westcoastseeds.com/product/Vegetable->

[Seeds/Peas/#sthash.zem6gc1s.dpbs](http://www.westcoastseeds.com/product/Vegetable-Seeds/Peas/#sthash.zem6gc1s.dpbs)

Hartmann, H.T. 1988. Plant science. Development of cultivated plants. Clark. A; (ed.) 2007.

Managing cover crops. url. http://plants.usda.gov/plantguide/pdf/pg_pisa6.pdf

McGee, R.L and H. 1993. Evaluation of nitrogen fertilizer in plant materials.

http://plants.usda.gov/plantguide/pdf/pg_pisa6.pdf

Anderson, V., & Ilse, B. (n.d.). Filed Peas As Feed For Livestock.

<http://www.northernpulse.com/uploads/resources/691/npqa-feeding-brochure-9-2010.pdf>

French,
B.,

Pritchard, I., Seymour, M., & Reithmuller, G. (n.d.). Crop Management; Growing Field Pea.

from url

http://archive.agric.wa.gov.au/objtwr/imported_assets/content/fcp/lp/southern_pulse_manual_ch2.pdf

Dry Pea Fact Sheet. (n.d.). <http://www.agriculture.gov.sk.ca/Default.aspx?DN=0c18f233-c517-4510-b398-e08fd216aad2>

Modification - Opening New Markets and Increasing Canadian Exports Generates Jobs—

Creating Benefits for Middle-Class Families: Report. (n.d.).

http://www.international.gc.ca/media_commerce/comm/news-communiqués/2012/09/11a.aspx?lang=eng

Nepal District Profile, 2006, Arctic Climate Impact Assessment. Earth Policy institute.D-02-10:

Canadian Phytosanitary Certification Program for Seeds (CPCPS) to meet the phytosanitary import requirements of the United States. (n.d.). <http://www.inspection.gc.ca/plants/plant-protection/directives/grains-and-field-crops/d-02-10/eng/1323873927629/1323874058512>

