

Nepalese Walnuts

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Introduction: Product Information

The walnut, also referred to as the Persian Walnut is a softwood tree plant grown and used throughout the world (Taha & Al-wadaan, 2011). It is used for medicinal purposes, for its timber, and most importantly for its fruit known by the same name (Molnar et al., 2011). There are many different species of Walnut which all fall under the genus *Juglans*. The species found in the Himalayan region, including Nepal is *Juglans regia* (FAO, 2004). It is also important to note that the local commonly used name for the walnut tree in Nepal is Okhar (Acharya, 2006).

In Nepal, one of the primary uses of the Okhar tree is the harvesting of its fruit (Aryal, Berg & Ogle, 2009), which holds significant export potential.

Description of where Walnuts are grown

Nepal is a small, but geographically diverse country of only 147,181 square km (Devkota, 1999). Nepal has a population of almost 31 million (CIA, 2014). The country ranges in altitude from 100 metres above sea level to the highest peak in the world – Mount Everest at 8848 metres above sea level (Larsen et al., 2014).

In terms of the Walnut specifically it is grown in the High Mountains region of Nepal with an elevation of 1000- 4000 m (Devkota, 1999). Although this is true, Walnut trees can be found spread across the country in temperate regions of the country (Dhakal, 2003). It is important to note that the Walnut tree does exist in naturally grown forests in the country (Acharya, 2009).

History, ethnography of the product

The Okhar tree is native species to Nepal and is found throughout the mountainous areas of Central Asian spread throughout eastern Turkey to western China (FAO, 2004). Although rarely used as a commercial crop, the walnut has been used as a traditional indigenous medicine and as a subsistence food item (Aryal, Berg & Ogle, 2009). In Nepal the nuts and bark have been used to treat skin disorders among other ailments. Aryal, Berg & Ogle, 2009 also reference the religious use of the Walnut but does not go into great detail other than its use for religious purposes.

Growing Conditions of Product

Walnut trees are large with often significant trunk diameters in older trees (Molnar et al., 2011). They often have deep root system which gives it a distinct advantage in stress tolerance (Molnar et al., 2011). The plants typically begin to flower in the beginning of spring and bear fruit at the beginning to mid fall. The actual nut—and the tree species itself—have a wide diversity and the size and shape of nuts ranges depending on the region (FAO, 2004).

Environmental sustainability in growing Walnuts for Nepal

The sustainability of Walnuts must be examined alongside other uses for the crop and government policies. Around the world, the lumber from walnut trees is used for everything from flooring to furniture. In Nepal, however, it is protected legally, cannot be cut down, and the sale of Walnut lumber is banned (Larsen et al., 2014; Acharya, 2006). This means that as long as the tree produces fruit it will remain in the area which creates an advantage in terms of sustainability. Although this is important in terms of sustainability of the specific crop it does not necessarily prevent soil erosion on a large scale as the total amount of Walnut trees is still relatively low (Bhattarai & Tomar, 2009)

Labour requirements, impact on Nepalese population

Fruit bearing crops, like all crops, have a labour requirement as the crop must be harvested from the trees. Extra harvesting could put a greater workload on women in the country to complete this task, especially as men move into other sectors of the economy (Acharya, 2006). Not only that but the current laws restrict the use of Walnut lumber which have a direct impact on Nepalese women. While these laws are ecologically good, it takes away potential fuel sources for poor farmers (Acharya, 2006).

Walnut production does, however, provide benefits economically to poor rural farmers (Aryal, Berg & Ogle, 2009). Nepal is still very much a rural country with an urban population of only 17 % (CIA, 2014). The majority of poor farmers live on the hillsides and mountains. This means that the income generation from Walnuts could be a great benefit to hillside farmers (Bhattarai & Tomar, 2009). Walnuts are one of the uncultivated foods of Nepal that have shown to be profitable, although not widespread for low income individuals (Aryal, Berg & Ogle, 2009).

Inputs required

Deciduous fruit trees, including walnut trees, require inputs of nutrients in order to optimize their growth. In order to do this, manure and/or fertilizer must be added (Bhattarai & Tomar, 2009).

Health or nutritional information associated with the product

The walnut is very valuable in terms of its nutritional qualities (Taha & Al-wadaan, 2011). Most importantly it is a good source of protein and is high in oil content. They are incredibly high in polyunsaturated fatty acids including Omega 3 and 6 fatty acids. Vitamin and mineral levels are also generally high, especially in terms of phosphorus, magnesium and potassium. Walnuts also provide all essential amino acids for human being. Furthermore, as mentioned previously, the Walnut continues to be used medicinally to treat a variety of ailments (Taha & Al-wadaan, 2011).

Practical Information to get business off the ground

Current work is being done to improve the agronomic constraints of Walnuts in Nepal. Studies have also been conducted into the best fertilizer inputs to apply to walnut trees to have the

highest nutrient content (Taha & Al-wadaan, 2011). There is also a lot of work being done around the world to breed new cultivars and select for certain qualities. Some of this work can be replicated in Nepal to improve yields (FAO, 2004). This is important as small markets are already opening for farmers (Aryal, Berg & Ogle, 2009).

Export Potential

Although production of walnuts in Nepal is low compared to other markets, there is still a market that already does exist. In 2007 Nepal produced 4,521 metric tonnes of walnuts compared with the United States which produced 290,300 tonnes in the same year (Bhattarai, 2009). This does not necessarily inhibit an export market to Canada as there is growing demand in international markets for Walnuts. Canada is one of those markets that currently imports a growing number of walnuts and could import more (FAO, 2004). This does not, however, mean that Nepal will be able to compete on international markets with their walnut harvest; consideration of this will be needed to know true export potential. All of this considered, the walnut is to a degree an important local crop for Nepalese farmers (Maskey, Sharma & Joshi, 2004). As suggested above, it can be grown in areas where other crops cannot and has tremendous nutritional benefits. Without the expansion of current walnut stocks, exporting the product may not be an appropriate solution in certain region of Nepal, or even throughout the country. This must be considered when deciding on its international appeal.

Potential Canadian buyers

The retail industry would be the main buyers of Nepalese walnuts. These could include bulk chains as well as grocery stores. Potential buyers are listed below:

Bulk Barn Foods Limited
Corporate Office
320 Don Hillock Drive
Aurora, Ontario
L4G 0G9
Telephone:
(905) 726-5000

Whole Foods
Midwest regional office
640 North La Salle Street,
Suite 300
Chicago, IL 60654
312.799.5600

Sobeys National
115 King Street
Stellarton, Nova Scotia
B0K 1S0
(902) 752-8371

Conclusion

Overall the benefits of walnut export are beneficial to both Nepalese farmers and Canadian buyers. The regions where walnuts typically grow can benefit from increased economic activity without significant ecological impact. Current laws also help to ensure the sustainability of the product—although with other implications. The product is also nutritionally beneficial to Canadian buyers, and a current market could benefit—but also inhibit the export potential of the product. In conclusion, further studies must be conducted specifically into Nepalese walnuts to truly understand if they are a good export product for Canadians and Nepalese citizens.

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