

**Tulsi**  
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**“Promoting Nepalese Agrifood Exports”**  
AGR 2150

**Tulsi: “The Matchless One”**

Tulsi, in Sanskrit, means “matchless one”,<sup>2</sup> which demonstrates the high regard for this plant by local peoples. This seemingly magical plant, also known as “Holy Basil”, “The Incomparable One”<sup>2</sup> or “Queen of herbs”<sup>3</sup> has countless medicinal properties that have been indigenous to the Hindu culture, and specifically the Nepalese, for centuries. Easily cultivated, Tulsi is an ideal crop for Nepalese farmers to produce for export. There are numerous health benefits reported to be associated with this plant can fill an ever-widening market demand for herbal remedies globally.

*Ocimum sanctum*, or Tulsi, offers countless medicinal properties for an extremely wide variety of ailments and health concerns. When dried and added to hot water, Tulsi makes a pleasing tea that calms the consumer and reduces stress.<sup>2</sup> Research has shown that Tulsi also “enhances stamina and endurance; increases the body’s efficient use of oxygen; boosts the immune system; reduces inflammation; lessens aging factors; has antibiotic, antiviral and antifungal properties; and provides a rich supply of antioxidants.”<sup>2</sup> More specifically, Tulsi is used for treatment of: heart and blood disease, leucoderma (burn, cut, or ulcer), strangury (painful urination), asthma, colds, coughs, bronchitis, diarrhea and dysentery, gastric disorders, and a variety of skin diseases.<sup>1</sup> It is known to reduce stress and balance the user’s mind, allowing them to “cope with a wide range of physical, emotional, chemical and infectious stresses”.<sup>2</sup> Whether used as a tea to promote over-all health or to fight a specific illness, Tulsi is reported to have numerous beneficial health benefits which is extremely rare to be concentrated within one plant.

Tulsi is an ideal crop for Nepalese farmers to cultivate due to how versatile and easy it is to grow. *Ocimum sanctum* “thrives well on a variety of soils and climatic conditions”<sup>1</sup>, which is perfect for farmers all across diverse Nepal. Perennial in nature<sup>1</sup>, the Tulsi plant enjoys long days and produces best yields in tropical and subtropical climates, but can be cultivated in cooler climates also.<sup>1</sup> Tulsi

should be planted 60 cm by 60 cm apart from each other<sup>1</sup>, but can be inter-cropped with plants that have different root systems that will not compete for water, sunlight or nutrients. Irrigation is only required for year-round growth, especially in the summer months. Watering 3-4 times per month is necessary during the summer season.<sup>1</sup> In terms of weeds, *Cyanodon dactylon*, also known as Bermuda grass, and *Cyperus rotundus*, another weed-like grass, can sometimes be troublesome, requiring 4-5 weeding sessions, making sure to get the weed's roots.<sup>1</sup> *Ocimum sanctum* is "a hardy crop and no serious pests and diseases have been reported."<sup>1</sup> One problem that may occur, if the Tulsi roots become waterlogged, is root-rot. However, if Tulsi plants are cultivated on slight mounds, this problem can be avoided. Tulsi can be grown without chemical fertilizers or pesticides, although, it is common knowledge that adding nitrogen fertilizer to a crop usually produces a higher yield. A study at Southwestern University in Texas showed a positive effect of nitrogen fertilizer "on the phenolic composition and antioxidant properties of basil (*Ocimum*)."<sup>4</sup> It is well known that polyphenolic compounds "play an important function in preventing many chronic illnesses"<sup>4</sup>, and by adding nitrogen fertilizer to the soil, it increases the production of polyphenolic compounds in basil which, in turn, provides larger health benefits. In simpler terms, adding nitrogen to the soil correlates not only with a higher yield and healthier plant for the farmer, but also higher health benefits for the consumer. Nitrogen fertilizer can be expensive, so intercropping Tulsi with a crop that produces its own nitrogen is ideal for lower-income farmers. Adding nitrogen-fixing shrubs that are indigenous to Nepal will enrich the soil for the Tulsi plants and create higher health benefits. Nitrogen fixing shrubs are also incredibly useful for poor soil, restoring what has been degraded during long dry seasons or by erosion on sloped land.<sup>6</sup> *Flemingia macrophylla* and *Desmodium rensonii* are two examples of nitrogen fixing shrubs that could be useful to plant along with Tulsi.<sup>6</sup> Legumes are also an excellent example of a nitrogen-fixing crop that would be beneficial to intercrop with Tulsi. Not only will legumes naturally add nitrogen to the soil, but will also be an available, nutritious source of protein <sup>5</sup> for the farmer and/or family cultivating Tulsi.

Tulsi can be ready for harvest 90-95 days after planting at flower initiation.<sup>1</sup> This is ideal for Nepalese farmers because Tulsi should produce at least 3, if not 4, crops every year, meaning on-going income for farmers. This reduces risks of losing an entire year's income due to adverse weather conditions or pests, etc. The crop should be cut 15-20 cm above ground level, leaving the stems for regeneration.<sup>1</sup> Tulsi then should be dried in the shade for about 8-10 days, thinly spread on burlap or gunny bags. The leaves should be turned frequently to prevent fungal attack.<sup>1</sup> It is expected that a "well managed organically grown" Tulsi crop can produce roughly 12-15 tons per hectare, or 2.4 - 3 tons per hectare of dried leaves, can be obtained per year.<sup>1</sup>

Not only is Tulsi an extremely versatile crop, but input and labour are also minimal and relatively non-strenuous compared to other cash crops, making it an ideal crop for Nepalese farmers. Using Tulsi as a means of income and export takes advantage of Nepal's diverse indigenous plants and preserves local culture and knowledge. Tulsi has been used for centuries in households in Nepal for religious and medicinal purposes, so introducing it to the global market would preserve Nepal's rich historical culture and practices. Encouraging Nepalese farmers to cultivate crops that are indigenous to Nepal empowers them because of the readily available, indigenous knowledge they have in their own culture and creates a niche for them in the hostile and competitive market of international trade.

### **Export potential to Canada**

Nepalese farmers can tap into a market in Canada that is just starting to take wind. In the last decade, Westerners have shifted their attention slightly to alternative medicines and there is a general interest in natural, healthy remedies for common ailments. There has been a definite move towards healthier living and every Canadian trying to find that "miracle product" that leaves them feeling strong and healthy. Tulsi provides consumers with the health benefits that they seek and is

quick and readily available to them in a tea. These days, everything organic is a fad as people move away from processed foods to more natural options. Organic, yet still quick and easy is the name of the game though. People are impatient and Tulsi tea seems to fit the criterion perfectly; a simple, chemical free, organic tea that has compelling health benefits. Nepalese farmers should take advantage of this opportunity.

Large tea companies would be ideal to export to, although these are difficult to access due to competitive prices. Smaller tea companies like Shanti Tea or Mighty Leaf Tea (contact information below), who are committed to organic teas and fostering sustainability around the world, may be interested in a partnership with small Nepalese farmers, as the partnership would align with their mission statements. Smaller gourmet grocery or health food stores would also be a viable option to explore. In Guelph alone, there are numerous stores, like Market Fresh, Stone Store Natural Foods, New Age Health Food, etc who attract consumers who are seeking healthy living and who are enticed by organic products that positively impact farmers abroad. Those are simply a few health food stores in Guelph, but there are thousands of stores Canada-wide that look for unique products like Tulsi tea.

In conclusion, Tulsi may benefit Nepalese farmers as an export crop due to its versatile nature and multiple yields per year. Because Tulsi is reported to provide many health benefits, is grown organically and is simple to use, Canadian buyers may be enticed. Preserving cultural traditions and indigenous knowledge is important, and Tulsi provides Nepalese farmers with a viable income to support themselves and their family. Bi-lateral trade will not only impact Tulsi farmers specifically, but also create opportunities for other Nepalese farmers wishing to export to Canada.

**Contact Information for Tea Companies/ Health Food Stores:**

**Market Fresh**

10 Paisley St  
Guelph, Ontario, Canada  
N1H 2N6  
(519) 823-8046

**Mighty Leaf Tea**

Somerset Distribution  
4000 Ambroise St., Unit 104  
Montreal, Quebec, Canada  
H4C 2C7  
(514) 227-0279  
Email: [customerservice@mightyleaf.ca](mailto:customerservice@mightyleaf.ca)

**New Age Health Foods**  
122 Wyndam St. N  
Guelph, Ontario, Canada  
(519) 763-0763

**Shanti Tea Importers Inc.**  
1501 Sieveright Avenue, Unit 7  
Ottawa, Ontario, Canada  
K1T 1M5  
1(800)974-2684  
(613)706-0672

**Stone Store Natural Foods**  
14 Commercial St.  
Guelph, Ontario, Canada  
N1H 2T7  
(519) 821 - 2120

**Citations:**

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- 3) Kumar, V.; Andola, H. C.; Lohani, H. and Chauhan, N. (2011). Pharmacological Review on *Ocimum sanctum* Linnaeus: A Queen of herbs. *J of Pharm Res*, 4, 366-368
- 4) Nguyen, P. M; Niemeyer, E, D. (2008) Effects of Nitrogen Fertilization on the Phenolic Composition and Antioxidant Properties of Basil. *Journal of Agricultural and Food Chemistry*, 56, 8685-8691
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