

Nepalese Persimmon Ginger Jam

Persimmon Ginger Jam

Persimmon ginger jam presents an export opportunity for Nepal. The three main ingredients are sugarcane (*Saccharum officinarum*), ginger (*Zingiber officinale*), and persimmon (*Diospyros kaki*). Pectin is not required, but may be used. All three crops are grown in the Nepal's mid-hills region ^[1]. This preserve has potential to increase bilateral trade between Nepal and western nations, thus bringing mutual benefits ^[2].

Soil Sustainability

The quality of a large portion of Nepal's agricultural soil is deteriorating due to the sloping landscape ^[1]. Erosion and nutrient loss are major issues which need to be addressed ^[1].

A benefit of this particular preserve is that the ingredients may be grown in row intercropping systems. Persimmons grow on trees. The living roots of these perennials create an underground network which "holds onto" and effectively stabilizes the soil ^[3]. Tree roots reduce soil erosion, and intercropping them with other plants (such as sugarcane and ginger) in an alley cropping system can help maintain agricultural soil ^[4]. The canopy cover provided by the persimmon trees also helps proliferate soil. The foliage interrupts raindrops, thus reducing their impact on the soil surface. These resilient trees live for 60 years on average, so they prevent the soil from being completely bare after annual crops are harvested ^[5].

Soil can be improved by leaving crop residues in the ground after harvest ^[3]. The fallen leaves, roots, and stover help maintain soil. Micro- and macro-nutrients are returned to the soil in the form of organic matter. This also helps the ground absorb and retain water, and reduce erosion ^[3].

The stover may be returned to the soil via an alternative method. It can be used as animal fodder, and farmyard manure is a subsequent fertilizer ^[6]. This nutrient-rich by-product can be applied to the soil as a source of fixed nitrogen ^[7]. Animal manure is environmentally and economically sustainable in comparison to solely using synthetic fertilizers. It also integrates more organic matter into the soil ^[7].

Overall, the production of persimmon ginger jam is an excellent opportunity for conservation farming in Nepal's midhills. It can maintain and even replenish hillside soils.

Agronomy

Returning stover to soil in the form of manure fertilizer is not only beneficial to the soil and environment. It also reduces a farmer's expense for synthetic fertilizer ^[7]. All savings are important, as many small farmers do not own their farmland ^[8]. If there is a redistributive farmland reform, agricultural productivity may increase ^[8]. Long-term soil sustainability investments should become more predominant with land ownership.

All three crops do not need to be grown on the same farms, but growing a combination of them can improve productivity ^[4]. The practice of intercropping sugarcane and ginger has shown to enhance yields of partial-shade-loving ginger ^[4].

It takes 7-8 years for a persimmon tree to mature and produce fruit, or 2-3 years after grafting ^[9]. Therefore, expansion of persimmon farming into alley intercropping would take some time to perform. However, once established, the trees live to an average of 60 years ^[5].

Economic Challenges and Advantages

The ingredients must be transported from hillside farms to more urban production centres quickly, as fresh, untreated persimmons have a shelf life of only about five days ^[10]. However, once canned, there is a lot of leeway in the timing and method of getting the product from Nepal to grocery store shelves. A properly canned preserve easily lasts for over a year. Higher sugar content gives an even longer expiry date ^[10]. Therefore, there is freedom to be selective in the mode of intercontinental transportation. People can carefully choose to export when transportation costs are low, thus increasing the profitability of this enterprise.

Partnering with an existing jam processor that already has facilities and health certifications in place eases transition into the market ^[11]. Unique jams can be sold at a high value in western nations. The sale of persimmon ginger jam can expand after initial introduction to these markets. Once established, large scale trade of this product will make the endeavour more profitable. There is room for expansion in the preserve industry for other Nepalese fruit combinations. Production can branch out into jams involving fruit such as antioxidant-rich Himalayan yellow raspberries, and unique chutneys ^[12].

Exporting this jam brings income not only to hillside farmers, but to urban workers as well. In-country processing of the jam dramatically increases the economic impact by creating urban jobs.

There is current popularity of locally-grown food in western nations such as Canada. This presents a challenge for the import of Nepalese food. However, this jam has an “exotic” factor, and it may be marketed as fair trade, or made in a Certified B Corporation, enhancing its attractiveness as a foreign product ^[13].

Health and Nutrition

Health benefits make this jam an attractive product to western nations. Ginger has many beneficial effects on human health, such as acting as an anti-inflammatory, and strengthening the immune system ^[12]. Both ginger and persimmon contain anti-oxidants, which are currently very popular among cancer-fearing North Americans ^[12].

As well, persimmons contain vitamins such as folate and vitamin C. Folate is very important in fetal development ^[14]. This jam provides a tasty source of folate for North American mothers.

Nepalese farming families would also have access to the health benefits of ginger and persimmon. Women who bear children need to have suitable sources of folate or folic acid

available, especially before and during pregnancy ^[14]. Growing persimmons and eating some of the crop supports maternal and child health.

In addition, Nepalese farmers may use sugarcane stover as animal fodder ^[6]. Keeping livestock provides an addition of subsistence agricultural.

However, sugar has an undesirable impact on human health ^[15]. In 2004, the average Canadian consumed 26 teaspoons of sugar per day, more than four times the guideline for sugar intake ^{[16][15]}. Canadians consume far more sugar than they should, but sensible applications of jams or spreads do not comprise a major component of this issue. Therefore, persimmon ginger jam would still be a tasteful addition to Canadian cuisine.

Export Potential

Persimmon ginger jam is a unique opportunity for Nepalese export to a niche Canadian market ^[2]. It could integrate into the President's Choice "Memories of" line ^[17]. Other evaluated Nepalese products could combine to form a "Memories of Nepal" branch. President's Choice is part of Loblaw Companies Limited, which is "Canada's food and pharmacy leader, and the nation's largest retailer." Executive Chairman Galen Weston receives suggestions at ask.galen@loblaw.ca ^[17].

Many North American café chains such as Starbucks serve specialty sandwiches and baked goods, in which persimmon ginger jam could be a novel condiment. Howard Schultz is the chairman of Starbucks, and may be contacted at Howard.Schultz@starbucks.ca, or 206-447-1575 to discuss integration of this product ^{[18][19]}.

Exportation from Nepal will require a Business Registration Certificate and Permanent Account Number Registration Certificate ^[20]. A Phytosanitary Certificate must be obtained for import to Canada ^[21]. The jam must fit the *Processed Products Regulations* under the *Canada Agricultural Products Act*, and each transport needs an Import Declaration form ^[22].

Funding is available from Nepalese agricultural loans ^[23], Global Opportunities for Associations and through the Investment Canada – Community Initiatives program ^[24]. They support new international business activities ^[24]. The non-perishable nature of this product minimizes the cost of storage and transportation.

Further studies can predict the reception of the product in different Canadian demographics to determine if café culture or grocers are ideal preliminary targets. Surveys may be conducted to evaluate the public's desire for antioxidants and maternal health benefits of folate, which will help in marketing the product.

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