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Nepalese Wai Wai Noodle

Product Description

Wai wai (also called chau chau) is an instant noodle that is processed in Nepal. The main ingredient that is in the noodle is wheat (Chaudhary Group, 2014)

Manufacturing

The main company that is involved in the manufacturing of noodles in Nepal is Chaudhary Group Foods (Nepal) Ltd, under which two processing plants exist (Chaudhary Group, 2014). One plant is FUDCO, which is located in Kathmandu, and the other is named Chaudhary Udyog Gram and is located in Nawalparasi (Chaudhary Group, 2014).

Background on Wheat

Wheat in Nepal is grown in two regions, including the Terai region, as well as in the mid-hills of Nepal (Morrison et al., 1992). Rainfall in the mid-hills can vary, from a few hundred mm to over 5000 mm (Shrestha, 1992). The soils in the area include entisols, inceptisols, and alfisols, which are all subject to degrees of soil erosion (Shrestha, 1992) as well as mullisols, which do not experience intense degrees of soil erosion (Shrestha, 1992). Imports for durum wheat in Nepal range from 300,148 kg in 2009 to 88,585 kg in 2010 (UN Statistics Division, 2014), and exports in both years are significantly lower, being valued at 20,600 kg in 2009 and 75,000 kg in 2010 (UN Statistics Division, 2014).

Thus, a market potential exists for increasing wheat-based exports to other countries.

Environmental Sustainability

As climate change accelerates, temperature increases can be shown to affect crop varieties (Nayava et. al., 2009). However, it is estimated that climate change will affect wheat varieties in the Terai region, and a lack of rainfall will affect varieties in the region (Navaya et. al., 2009). As such, there is a potential for new varieties of wheat to be grown and new research to be conducted in accordance with climate change (Navaya et 2009). Furthermore, it is evident that yields for wheat may increase as a result of conducting participatory research (Thapa et. al., 2009) and as such, this may represent increased agricultural potential for Nepal's wheat market.

One aspect of the Wai Wai noodle that is interesting to consider is that the waste that produced from instant noodles can be used towards biofuel and bioethanol production (Yang et al., 2014) This is made possible when the instant noodle is separated into a solid and liquid form (Yang et al., 2014) and both α -amylase and glucoamylase helps to convert the solid portion to bioethanol (Yang et al., 2014). The liquid portion is aided by a lipase by the name of Novozym 435 (Yang et al., 2014) which helps to convert oil to biodiesel (Yang et al., 2014). Figure 1 aims to provide a complete explanation of the conversion process, as cited in the Yang et al., 2014 study.

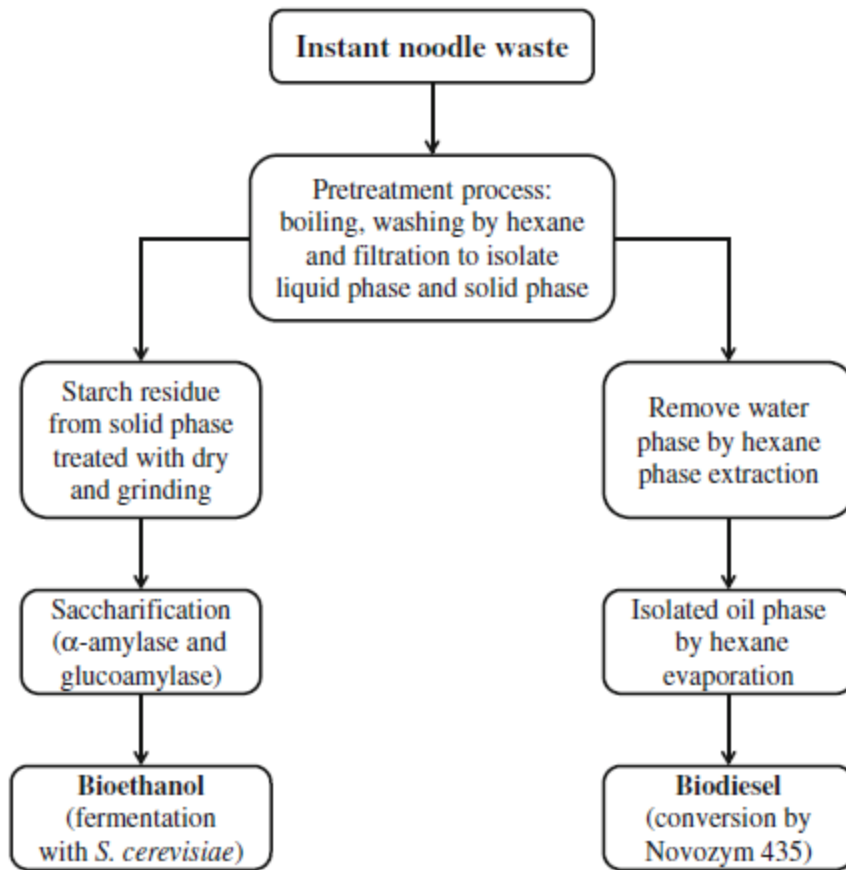


Fig. 1 Schematic diagram of biodiesel and bioethanol production from instant noodle

Source: Yang et al., 2014. Production of Bioethanol and Biodiesel using instant noodle waste

Impacts

In terms of Nepal's infrastructure, there is potential to develop the country's infrastructure, including roads, transportation mechanisms, and other services (Shrestha, 2011). Thus, having a product such as the Wai Wai noodle, that is not only easy to transport but is considered a non-perishable food item, may have a positive impact on any communities that lack food access. Furthermore, the Wai Wai noodle has the potential to be fortified with micronutrients, and as such, can help to improve the nutrition of communities (Gulia et al., 2014). While this may not solve all micronutrient deficiencies,

it begins to add essential micronutrients such as iodine, iron, and vitamin A to diets (Gulia et al., 2014). In terms of preserving culture, the Wai Wai noodle can be eaten with other vegetables, and as such, would not be replacing pre-existing indigenous vegetables or crops in the area.

Economic Benefits

The first economic benefit that is present because of the Wai Wai noodle is that if the noodle market in Nepal expands, there may be a potential to invest in more climate-adaptable varieties of wheat. Currently, studies have been conducted to select for certain genotypes that can aid with drought or lodging (Thapa et al., 2009), however, there is still potential to improve varieties. Furthermore, there is potential for more participatory approaches to include farmers in selecting genotypes (Thapa et al., 2009). Secondly, there may also be potential to conduct research towards foliar blight, which is a stress factor for wheat in Nepal (Mahto, 2012). Foliar blight can lead to significant crop loss, and as such, there is potential to research ways in which foliar blight can be eradicated or reduced significantly (Mahto, 2012). Last but not least, farmers themselves may generate more income if more wheat is being used to produce noodles, provided that the noodle companies source wheat from within Nepal.

Export Potential

The import of processed food is on the rise in Canada (Agriculture and Agri-Food Canada, 2014). From 1997 to 2010, global imports of snacks increased from \$123.3 million to \$384.7 million (Agriculture and Agri-Food Canada, 2014). A product such as

Wai Wai is needed in the Canadian market because there already exists a noodle niche in which Wai Wai can compete with (i.e., Mr. Noodles, Maggi to a lesser extent).

Furthermore, studies have been conducted to sustainably convert noodle waste to biofuel and biodiesel (Yang et al., 2014) and as such, this could also represent a huge market potential for Canada. Furthermore, if the noodles are fortified with micronutrients, this could also appeal to consumers in Canada (Gulia et al., 2014).

In terms of appropriate documentation, the Canadian Border Services Agency and the Canadian Food Inspection Agency have appropriate regulations on what products one can import (Canadian Food Inspection Agency, 2014). For example, to import instant noodles, a Canadian Customs Invoice is required (code 28) as well as an importer attestation (code 953), (Canadian Food Inspection Agency, Electronic Data Interchange, 2014). Future studies that are required to evaluate the export potential of the product is how well ethnic brands of food compete with non-ethnic brands, such that the full potential of Wai Wai can be known, or compared against statistics.

List of Potential Grocery Stores:

Fresh Co, Metro (both have international food sections), variety stores (such as convenience stores), Oceans, Al Premium (Toronto), Arora Foods Market (Toronto).

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