**Background**

Buckwheat, which is thought to have originated in the mountainous regions of China, is grown in many parts of the world and has long been consumed as human food and as livestock feed. Early settlers from Ukraine brought buckwheat to Manitoba where it was cultivated and used in traditional dishes, with any surplus buckwheat being fed to chickens. Manitoba has the most acres of buckwheat produced in Canada annually. The buckwheat which is produced commercially in Manitoba is common buckwheat, Fagopyrum esculentum Moeh. Tartary buckwheat, F. tataricum (L.) J. L. Gaertn, is a related species. It is considered a noxious weed in western Canada although it has been grown for feed in eastern Canada. More distantly related is wild buckwheat, Polygonum convolvulus L., which is a common weed. These related species and common buckwheat do not cross.

Buckwheat is a competitive crop because it does not belong to the grass family, but common buckwheat do not cross. Buckwheat starts to bolt by branching out like canola.

**Varieties**

Buckwheat is grown as a cash crop in Manitoba and is intended for the export market. Currently large seeded varieties are recommended. Seven recommended varieties are available. These varieties are Mancan, Manor, AC Springfield, AC Manisoba, Koto, Koma and Horizon.

**Food uses**

Buckwheat grain is milled into flour or dehulled to produce groats. Two types of milling are used to produce flour. One is similar to wheat milling in which the grain is milled into flour. The second type of milling involves milling the dehulled buckwheat groat.

Buckwheat flour and groats are used for a wide variety of dishes. The flour is mixed with wheat flour for the production of buckwheat noodles called ‘soba noodles’ in Japan. The buckwheat flour content ranges from 50 to 80% depending on the type of noodle produced. The groats are utilized in many dishes in through out the world. In Asia they are consumed as noodles, dumplings and as unleavened chapatti. In Europe, Kasha is used in dishes ranging from pilafs to mixtures with meat. In North America, the main use has been in pancakes; however, utilization of buckwheat has been increasing in the form of noodles and various ethnic dishes. Buckwheat is also used in pastries and as a meat extender.

**Market**

Manitoba produces buckwheat primarily for the export market. For the past three decades, buckwheat has been exported mainly to Japan where the flavour and aroma of Manitoba buckwheat meet the requirements of noodle makers. “Soba,” fresh buckwheat noodles, is popular in Japan, accounting for much of the approximately 120,000 tonnes of buckwheat that is consumed annually by the Japanese.

In the 1960s and early 1970s, the export of buckwheat to Japan was an attractive business venture, but the returns for producers were small. Japanese millers’ interest was captured by the development of large seeded buckwheat. The first large seeded variety, Mancan, was released in 1974. Today, traditional small seeded buckwheat is no longer recommended for production in Manitoba. Buckwheat continues to be exported to Japan, as well as to European countries and the United States. Because buckwheat production is market-oriented, efforts are ongoing in Manitoba to develop suitable varieties for foreign markets. The task of improving large seeded buckwheat has been undertaken privately now that Agriculture and Agri-Food Canada has curtailed its buckwheat breeding programme.

So that quality standards for Canadian buckwheat are maintained, statutory grades are established under the Canada Grain Act. As varieties are introduced for commercial production, changes may occur in grade specifications; therefore, when information is needed, the most recent grade specifications should be consulted.

**Bio active components**

**Dietary fibre**

A considerable portion of buckwheat dietary fibre is soluble. Soluble dietary fibre (SDF), due to its high viscosity, slows gastric emptying, reduces adsorption of certain nutrients, and increases transit time in the small intestine. SDF contributes to slowing down of glucose absorption.

**Resistant starch**

Starch is the major component of buckwheat. The so-called resistant starch is another potential source of dietary fibre in buckwheat. Resistant starch is a portion of starch and starch degraded products that escapes enzymatic hydrolysis in small intestine. Consumption of boiled buckwheat groats or bread baked containing 50% of buckwheat flour induced significantly lower postprandial blood glucose and insulin responses compared with white wheat bread.

**Flavonoids**

The buckwheat grain contains a considerable amount of these compounds. Lignans have been shown to reduce mammary tumor size by more than 50% in carcinogen treated rats.