

# Hot Topic:

## WHEAT

**Wheat originated in the Middle East thousands of years ago and has been grown in Canada for at least two centuries. The first record of wheat cultivation dates back to 1812 when Scottish settlers planted the winter wheat they brought from home.** <sup>1,2</sup>

### WHEAT IN CANADA

Canada is the 7th largest wheat producer in the world; nearly 52,000 Canadian farms grow wheat.<sup>3</sup> On an annual basis, Canada exports more than 17,000,000 tonnes of wheat to countries around the world. Canada is not only renowned for the quantity of wheat it produces, but also for the quality of its wheat.

There are two types of wheat cultivated in Canada—winter and spring wheat—grown from British Columbia to Nova Scotia. <sup>4,5</sup> Much of it is used to make bread, pastries and pizza dough. <sup>6</sup> Durum wheat, classed as ‘hard’ because of its high protein content, is used to make pasta.

### WHOLE GRAIN WHEAT AND YOUR HEALTH

Whole grain wheat flour contains a mix of fibres, but has a large amount of insoluble fibre, which is not absorbed or broken down in the gut – but that’s a good thing! <sup>7</sup> Insoluble fibre provides a feeling of fullness as it moves through the small intestine undigested. Plus it increases stool volume, acting as a stool softener and preventing constipation. <sup>8</sup>

One way in which wheat impacts digestion is through its outer layer called bran. Wheat bran increases stool weight more effectively than most fibres and is used by Health Canada as the standard against which other fibres are measured.<sup>9</sup>

In contrast, some other whole grains, such as oats and barley contain a significant amount of soluble fibre. In the intestines, it forms a gel, which slows blood glucose entry into the bloodstream and causes the excretion of substances that can become cholesterol. <sup>10,11</sup> Both types of fibre are important and healthy!



Canadian researchers examined wheat seeds from 1860 and found that **wheat has not changed.**

Wheat also contains a rich store of fructo-ligosaccharide, a prebiotic fibre that isn't digested in the small intestine. Instead, it ferments in the colon and may help reduce disease-causing bacteria, and promote the growth of helpful probiotic bacteria in the digestive tract.<sup>12,13,14</sup> The prebiotics found in wheat may reduce symptoms of inflammatory bowel disease and enhance mineral absorption.<sup>15</sup>

### HAS WHEAT CHANGED?

The wheat grain contains numerous individual proteins. Those that form the gluten complex, glutenin and gliadin, contribute a major part of wheat's protein.<sup>16</sup>

Recently, it has been alleged that wheat varieties developed during the last 50 years are a large contributor towards increased incidences of obesity, diabetes and other lifestyle-related health conditions. According to the claim, a higher grain protein content primarily provided by the gluten components is the main cause of the negative health effects. To test the validity of this claim, researchers in Saskatchewan and Alberta examined the literature regarding changes in wheat protein concentrations since 1860. They found that wheat has not changed. The mean protein content has remained the same, in the 12-15 per cent range (mean is 13.5 per cent), over that time period.<sup>17</sup>

Another study of 37 wheat varieties dating from as early as 1860 showed an average of just 0.01% per year increase in grain protein concentration, resulting in an increase that has no biological importance. A closer look at the gluten proteins (glutenin and gliadin) also disproved a chronological change in their structure. The researchers concluded that the grain composition of present day wheat varieties is very similar to ancestral wheat varieties, thus negating speculation that wheat protein has changed.<sup>18</sup>

Wheat is not the cause of obesity; nor is any other singular food. According to the World Health Organization, weight is influenced by many factors, including genetics, activity level, environment, diet and social-economic status.<sup>19</sup>

Five major recent scientific reviews addressing the impact of grains on health concluded that the consumption of whole grains, of which the most widely consumed in Canada is wheat, exerts positive effects on health when eaten in recommended amounts. An increased intake of whole grain is recommended, in exchange for refined foods, especially those that offer additional calories in the form of sugar and fat and increase the salt intake.<sup>20</sup>



For more information and links to the full studies, please visit [www.HealthyGrains.ca](http://www.HealthyGrains.ca).

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