

Another rebuttal to *William Davis* and his book: *Wheat Belly*

Perhaps like me, you are still meeting people who are aghast at the words of William Davis in his book "Wheat Belly", which was published in 2011. Many others have written rebuttals, but in desperation I wrote yet another. Here it is for you to use as you wish when you too are asked whether you agree with William Davis.

This was written for a friend who had only recently read William Davis "Wheat Belly" for the first time:

It is very distressing to me to find that people are still being misled by this physician, William Davis, who must have made a huge amount of money from his book "Wheat Belly". The mistake in his story is in his description of wheat processing. He failed to understand the history of wheat processing and the effects of modern wheat processing. Instead of being helpful he has created an awful lot of misinformation.

The real history of wheat is that it is an ancient grain appreciated by many successful civilizations dating from the beginning of agriculture. However, when flour is made from grain by stone-grinding, the endosperm or middle of the grain makes a white powder while the germ and bran skin, make brown flakes. Humans have been trying to remove the bran and germ flakes by sifting them out since the beginning. For the poor and those without the tools the process was not easy or even possible. Most people ate all three parts of the grain routinely, and so maintained their good health.

Around 1800, people in Europe and America learned how to make very efficient sieves (bolting cloths) to remove almost all the bran and germ from stone milled wheat on a large scale. The result was that a significant number of people began to eat wheat with most of the bran and germ removed. Beginning at that time there was a resultant increase in diseases such as appendicitis, peptic ulcer and constipation.

In 1880 engineers devised a large-scale process for wetting the grain so that the bran could be completely removed in the first stage of a milling process with metal rollers. In the second stage the rollers were designed to completely cut off the germ from the end of the grain. The endosperm could then be milled into a white refined flour that contained absolutely no bran, no germ and even no aleurone if chosen to do so, for the whitest of wheat flour. This was hailed as a magnificent achievement, because everybody could from that time onwards eat wheat without the bran and germ, they could eat the endosperm all by itself as white refined flour. At the same time, large scale methods for polishing rice free from bran and germ, were also perfected. Corn too was de-germed with newly invented equipment. In each case the grain was supplied to rich and poor alike in the refined form with bran and germ removed. This has been the case since 1880, and this is the wheat flour that we have in huge supply, ubiquitously all over the world today, over 130 years later in 2018. We desperately need to educate ourselves regarding this modern grain processing. The flour refining process preferentially removes the bran and germ, so that a 75% extraction rate for a flour means that no bran and germ remain. A sieving or bolting system results in an 85% extraction rate with almost all the bran and germ removed. Practically all the B-vitamins, vitamin E, minerals, dietary fiber and phyto-nutrients essential to the proper

assimilation of the starch and protein in the endosperm are absent in these flours. William Davis shows no sign of having understood this.

The immediate result after 1880 was that people all over the world who were depending on these grains as the base of their diet, especially the poor, became sick and died in epidemic numbers. Their diseases were new, and it was not until about 1940 that the actual cause of these diseases was fully recognized and understood. Eventually it was learned that the diseases were caused by the lack of B-vitamins in the refined wheat flour, polished rice or de-germed corn. These B-vitamins are plentiful in the bran and germ of these grains but are removed together with the bran and germ in the grain refining processes.

Therefore in 1940 governments all over the Western World asked millers to enrich their flour and grains with these B-vitamins before selling their refined flour and polished grains. Since then, the major epidemic B-vitamin deficiency diseases (Beri-Beri and Pellagra) have been mostly eliminated. Only in some countries are these added vitamins and minerals declared and listed on the label as an enrichment.

However, we need to note very particularly that soon after 1990, UN-enriched refined flour became popular and was made available for artisan bread-making and among people who thought these vitamins were “additives” that they did not want. I believe it is as a result of people depending on this UN-enriched refined flour since 1990 that many did indeed become sick; as a result of eating refined flour without any compensating B-vitamins. This I believe is why so many people are ready to blame wheat itself for their problems.

In the 1970s dietary fiber was recognized as a nutrient that was deficient in our diet as a result of removing the bran from our flour. But dietary fiber is just one part of the bran and germ. The bran and germ together contain many nutrients that are absolutely essential to our health as well as dietary fiber: B-vitamins, vitamin E, minerals, anti-oxidants, soluble proteins and no doubt much more that we do not yet know about. Disease due to the lack of most of these nutrients does not become obvious so quickly as does the lack of B-vitamins. But since the 1970s good scientists have realized that the diseases that result from the lack of grain bran and germ in the diet really do include those very conditions and diseases that William Davis mentions: constipation, diverticular disease, appendicitis, peptic ulcer, pre-diabetes, diabetes, overweight, cardiovascular disease, irritable bowel syndrome, colon cancer, Alzheimer’s disease; in fact, the whole group of diseases referred to as the Western diseases. **THE MAIN CAUSE OF THESE DISEASES IS A DEFICIT OF GRAIN BRAN AND GERM IN THE DIET OVER A LIFE TIME.** We cannot properly assimilate the endosperm of grains without these parts. Similarly, neither can a new plant grow from the wheat grain unless all parts of the seed grain are present and intact.

It is for this reason that I work to find ways to make 100% whole grain foods both appealing and available, and why I investigated old fashioned wheat varieties that people were enjoying before the invention of refined flour milling in 1880.

Ever since 1880, wheat breeders have been aiming new varieties towards this refined flour milling. Then in the 1950s the breeders also aimed their breeding towards

making short wheat for heavy fertilizer and irrigation input for higher yields. Here William Davis has some credence since newly developed varieties may contain faults that are not revealed until at least 5 seasons of cultivation pass. However, the new varieties on the whole are produced by making crosses between old landrace varieties of wheat. The risk comes when new mutations are made using radiation or chemicals to induce changes. My own preference was to investigate the use of wheat varieties appropriate for organic agriculture, for a sustainable system and the production of whole grain products, i.e. the unchanged landrace varieties that have been grown in their original climatic region of the Old World for centuries, and possibly millennia. These landrace varieties have been the basis for long established local cuisines and bread styles. There can be no doubt that the landrace varieties of all wheat types have safely satisfied many generations of people.

We do not live on grains alone, so it is also necessary to choose all our food wisely.

William Davis disregards the fact that truly 100% whole grain foods are very rare in the marketplace. In general people are obliged to make them for themselves. Commercial whole grain breads are usually leavened with modern yeast, together with refined sugar to feed the yeast. Thus, refined sugar is present in most breads. Also, government labelling regulation is misleading. Bread and other grain food labels can contain the words *whole grain* even when only 51% of the grain is present as truly whole grain; the rest can be made up of refined grain products. However, I have seen new stone millers who sift their flour, think that sifting away 25%, results in 75% whole grain: this is an awful fallacy because the sifting process preferentially takes out bran and germ. We need instead to aim to make products with 100% whole grain and only then refer to them as “whole grain”. The prime need is good nutrition; millers and bakers should feel an obligation to present that good nutrition in the form of appealing 100% whole grain products.

The modern refined flour milling system of wetting the grain to remove the bran, means that recombining the grain parts to make whole grain flour is virtually impossible. Wet whole grain flour at 14% moisture, will spoil very quickly due to the growth of molds. Drying the various parts with heat before recombining creates a whole wheat flour that is somewhat shelf stable, but the flavor is off. The current refined flour milling industry is just not set up to produce fresh whole grain flour (with just 10% moisture, which is ideal). We can never experience fresh whole grain flours unless we stone mill grain for ourselves, or have a local stone miller-baker doing so. In other words, available commercial products labelled as *whole grain* are generally less than pleasing in flavor and may not even contain very much truly whole grain. When William Davis writes that whole grain wheat is no better for us than refined wheat breads, he reveals that he has never understood, or experienced products made with freshly stone milled 100% whole wheat, without any added refined sugar or refined grain product. By the way, vital wheat gluten also needs to be recognized as a refined wheat product. In his lack of knowledge of grain processing, William Davis is a typical modern consumer.

Refined flour milling and baking has also led to a limitation on the types of wheat chosen to make bread. The modern refined flour milling process works best with

hard red wheat, which actually is best grown only in a continental climate such as that experienced in the Mid-West. Wheat breeders early aimed to create new hard red wheat varieties that could be grown in other climate zones. Returning to the landrace varieties enables a return to the use of durum, emmer, spelt and soft white wheats for stone ground 100% whole wheat bread, that are likely to be far more pleasing than whole wheat breads made with recombined refined hard red wheat flour.

The modern yeast – refined sugar leavening system for breads was designed in the 1800s, specifically for use with refined flour to conveniently make the whitest of breads with the mildest of flavor. The old system of a sourdough, which consists of compatible yeasts and lactic bacteria in a batter of whole grain flour was not commercially exploited for refined flour bread making. Exceptions are San Francisco sourdough, which is a refined flour sourdough bread and the refined flour artisan breads that have been in vogue since the 1990s. Whole grain breadmaking is best with a sourdough capable of working on the many components of the whole grain, including the starch, soluble fiber and proteins. The sourdough microorganisms themselves are also useful as a probiotic in the human digestive tract. Thus, another aspect of modern breadmaking that makes the wheat less valuable nutritionally is the use of the modern yeast-refined sugar leavening system.

The partially hydrogenated fat ingredient long used in many commercial breads has now been recognized as a source of the dangerous trans-fats. These trans-fats have been shown as a major cause of cardiovascular disease, and obesity. The WHO suggests that each country should ban their use in food. These partially hydrogenated fats are by now not generally used, but it is still wise to read and check that the ingredients in a commercial bread do not include this fat.

This is my rebuttal to William Davis. It's good that you gave me the chance to write this out. Now I shall not need to attempt to explain all this when we meet over coffee!