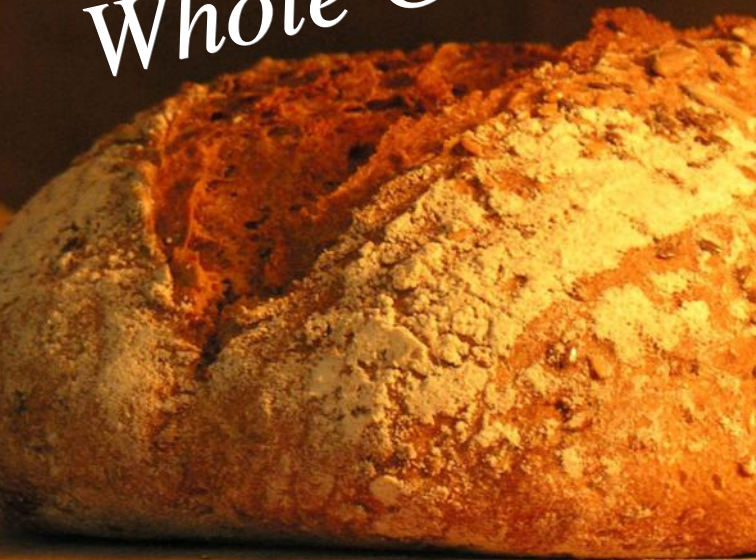
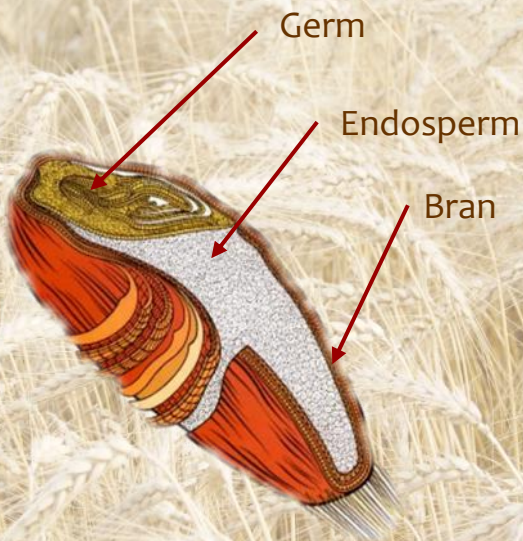


Why
Whole Grain?



A whole grain kernel



Why Whole Grain?

An essential part of the human diet

Since the earliest days of history, humans have used grain as a basic ingredient of their diet. Wheat (einkorn and emmer), barley, and millet are reckoned to be the oldest forms of grain that were cultivated. Barley and emmer, for example, have been found in the burial chambers of Egyptian pyramids. Rye was only cultivated later, as were oats, in any significant way. But during the Middle Ages rye was more widespread than wheat on account of its resistance to disease.

What did our ancestors do with grain?

Grains and milling both have a long history. A large stone was often used to crush or pulverize the grain with the aid of a smaller stone. This simple mill belonged to the basic equipment of each household.

The flour was used to make porridge or unleavened bread by many nations. In some cases it was baked on stones that had been warmed by the sun. The Egyptians were especially interested in the production of yeast and sourdough breads.

But not only have the baking methods changed over the years, the form and appearance of the ovens and the mills have been developed and changed repeatedly.

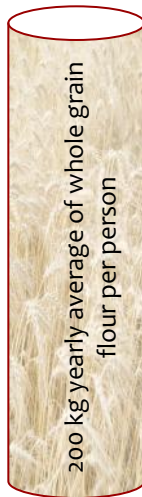
White = Good?

Both the Greeks and the Romans sieved out the rougher parts of the flour. However, the fine, white flour was usually reserved for the higher classes. The lower classes ate dark bread.

This distribution changed after the French Revolution. For one thing, everybody wanted to enjoy the “luxury” of white flour, and for another, as industrialization and urbanization



gained ground there was an increasing call for flour that would keep longer. The small household mills were used less and less, and the local miller gave way to the large mills. But a problem had to be solved: when grain is ground, the germ, which contains a lot of valuable oil, is broken down as well. This oil reacts with air and soon becomes rancid. So



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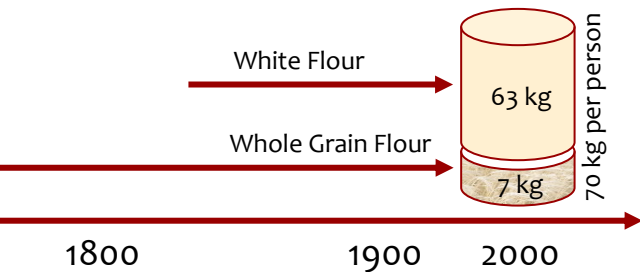
1700

Why Whole Grain?

the solution was to sift out the nutritious germ over several phases using modern mills.

Many people associate white with something good, healthy, and beautiful. We have white sugar, white salt, white rice, and so on.

Therefore not only the germ, but also the dark outer layers of the grain were sieved out so that the flour would sell more readily.



There is a reason why grain plays such an important part in the history of humanity: grains contain almost everything that the body needs for food—carbohydrates in the form of starch, protein, fat, vitamins, and almost all the necessary minerals.

However, these nutrients are not equally distributed throughout the grain. The fat (or oil), vitamins, and minerals, as well as roughage are found mainly in the germ and outer layers.

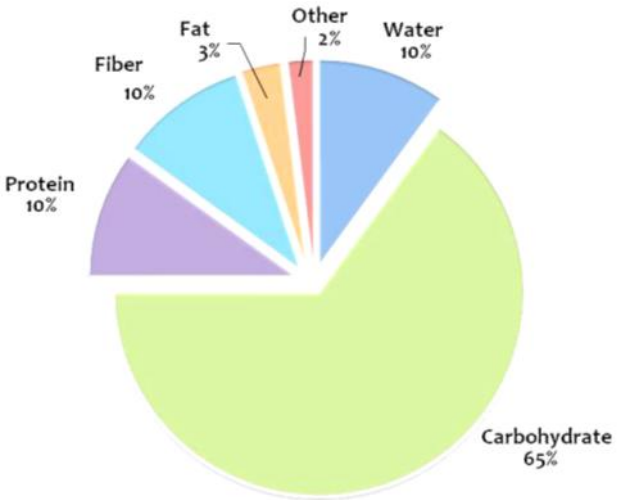
The following chart shows some typical examples of how protein and ash (or mineral) content relate to each other in wheat flour:

What is lost in the extraction process?

In the production of fine white flour the germ and outer layers are deliberately removed so as to give the flour a longer shelf life. The endosperm is retained, which however contains relatively few minerals and little fat.

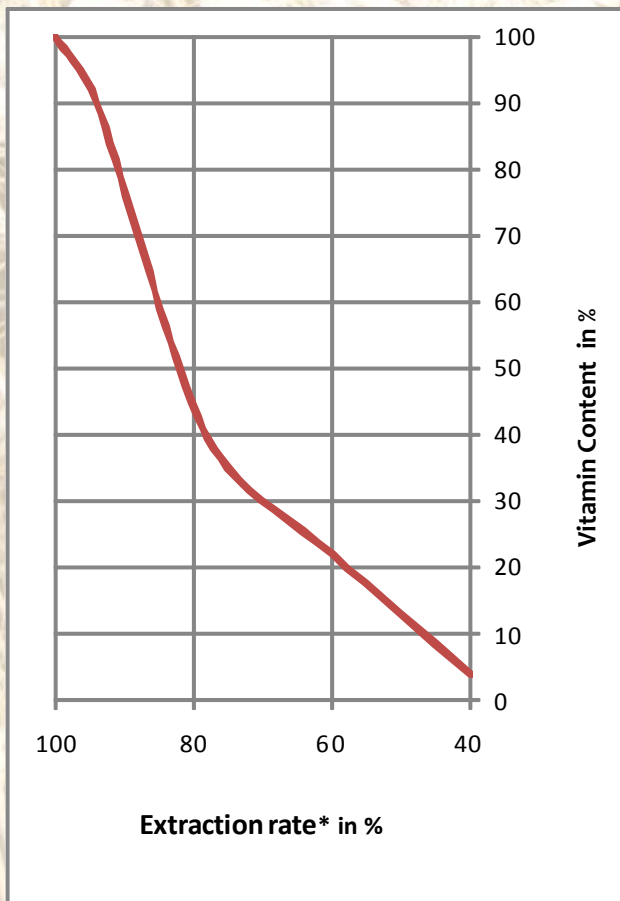
Why Whole Grain?

For example, in order to obtain the same quantity of iron and Vitamin B1 contained in two slices of wholegrain bread it would be necessary to eat ten white rolls made from pastry flour.



Contents of Whole Grain Flour

Vitamin Content



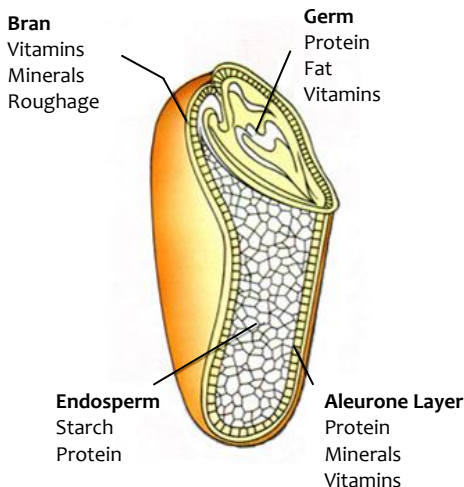
Vitamin content in relation to extraction rate

Why Whole Grain?

Wheat Flour Type		
U.S.A.	Germany	Extraction
Pastry Flour	405	40 – 42%
All-purpose Flour	550	60 – 65%
First Clear flour	1050	82%
White Whole Wheat	1600	94%
Whole Grain	Vollkorn	100%

Extraction rate = the quantity of flour produced in relation to the quantity of grain milled.

Properties of Grain



Roughage

The largest amount of roughage is contained in the outer layers of the grain and is lost in the production of white flour. Roughage enhances bowel movement and therefore improves the circulation and resistance of the bowels. It also binds carcinogenic and toxic substances as well as bile. Cholesterol is used in the formation of bile, and so roughage serves to reduce cholesterol levels in the body.

Lowered risks

According to the EUFIC (European Food Information Council), wholegrain products have been clinically proven to be beneficial in working against heart attacks as well as certain forms of cancer, in particular, intestinal cancer.

Observations have shown that whole grain also reduces the risk of strokes and Type 2 diabetes.

These are only a few examples of the numerous beneficial things that God has placed in the whole grain. And in doing so He has shown us that He loves us one hundred percent, and not just in part.

“For God so loved the world that He gave His only begotten Son [100%], that whoever believes in Him should not perish but have everlasting life.”

John 3:16

One gift? Many gifts!

A father wanted to give his oldest son a special surprise and packed a lot of gifts for him together—large and small. Then he called his son and said, “Look, all these are for you!” But his son only took one or two presents and replied that he did not need more.

The father was really surprised and called his younger son to take the gifts, but he too took only one packet from the rich choice before him!

A strange story?

This is exactly what we do with grains. The whole grain contains a lot of gifts for us, but we only take a small part—the part which contains the least valuable substances for our health!

Not only that, we often use only one kind of grain, although there are many grains to choose from.

A variety of choice

In fact, there is a wide variety of grains, even though, strictly speaking, some of them do not really belong to the grain family. As far as possible, it is advisable to vary the grains we eat because each has its own special mixture of vitamins and minerals. Many grains contain gluten (a protein which is important for baking yeast breads, but which can be problematic for those who are allergic or intolerant to it), and others do not.

The next pages show the wide variety of grains in picture form.



Grains containing gluten:



Wheat



Spelt



Barley



Durum Wheat



Rye



Kamut



Oats

Why Whole Grain?

Grains which do not contain gluten:



Buckwheat



Rice



Millet



Corn



Quinoa



Amaranth

Grain Products

What can I make with whole grain?

Bread

Rolls

Cooked dishes

Flat bread

Cakes

Pasta

Pizza

Biscuits

Granola or muesli

Crackers

Wafers

Puddings



How appetizing that is!

Why Whole Grain?

For further information about a healthy diet using whole grain products see our website:

www.sag-gesundkost.de

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