



FORTIFY means...to **strengthen**
FOOD FORTIFICATION means...to “**strengthen**” food with
vitamins and **minerals**

WHY DO WE NEED TO FORTIFY (“STRENGTHEN”) OUR FOOD?

Background

In 1999 the Department of Health went around South Africa speaking to people living in different cities, towns, informal settlements and farms. The Department of Health wanted to find out what types of food people were eating, how often they were eating and how much money they could spend on food each week. This information would allow them to see if South Africans were eating healthily.

What did they find?

The most important findings were that:

- most **children** do not get enough food and micronutrients in their daily meals, and because of this, many children are **underweight** and are **too short** for their age (i.e. they have stunted growth);
- most of the families do not have enough money for food and often go **hungry**;
- maize meal, white sugar, tea, whole milk and bread are the most popular bought and eaten foods.

Government realised that they had to do something to help South Africans, especially our children, to become healthier. They decided that the best way to do this would be to **fortify** (strengthen) the most **commonly eaten** foods i.e. **maize meal** and **white and brown bread flour** (and bread baked with this flour), with **vitamins** and **minerals**.

What are micronutrients (vitamins and minerals)?

When people talk about “**micronutrients**” they are talking about **vitamins** and **minerals** which are found naturally in food.

Vitamins are needed to keep you **healthy**. Most vitamins are made by plants. People get vitamins by eating plants and animal products.

Minerals are used for **building bones** and **teeth**. They give you the **energy** to work, learn and play. Minerals are found in vegetables, milk products, eggs, seafood, leaves and seeds of plants and in organ meat such as liver, kidneys and hearts of animals.

Look at the **table** on the **next page** to find out in which foods you can **find** the **micronutrients** you need to stay healthy!



WHY ARE MICRONUTRIENTS IMPORTANT?

Micronutrient deficiency means you **don't get enough** micronutrients (vitamins and minerals) in your **daily meals**.

Micronutrients are vitamins and minerals that people need to keep their **minds strong**, and their **bodies healthy** to **fight off diseases** and have **healthy babies**. If you do not have enough of even one micronutrient, you will get a deficiency and become sick. Most South Africans do not have enough money to eat **enough** of a **variety** of **foods** to provide **all** the **micronutrients** they need. The only way that they can get extra micronutrients is if they eat foods that have been fortified (strengthened). By the end of 2003 all **maize meal** and **white and brown bread flour** (and bread baked with this flour) will be **fortified** with the following micronutrients: **vitamin A, thiamin, riboflavin, niacin, pyridoxine, folic acid, iron and zinc**.





THE MICRONUTRIENTS USED IN FOOD MICRONUTRIENTS THAT WILL BE USED TO FORTIFY MAIZE MEAL AND WHEAT FLOUR

Micro-nutrient	Why do I need it?	Where can I find it?	How can a deficiency affect me?
Vitamin A	Essential for eyesight, growth and to fight illnesses	Carrots, yellow and dark green leafy vegetables, pumpkin, apricots, melon, liver, egg yolk, fish, whole milk, butter, cheese and fortified foods	Night blindness, partial or total blindness, skin sores, loss of appetite, higher risk of illnesses including measles and diarrhoea
Thiamine (Vitamin B1)	Healthy blood and helps digestion	Bread, cereals, pork and fortified foods	Extreme tiredness, irritability, constipation, loss of appetite
Riboflavin (Vitamin B2)	Healthy blood, fighting illnesses and growth	Nuts, dairy products, meat, fish, legumes (beans, lentils), whole grains, green leafy vegetables and fortified foods	Eye problems, skin sores, inflammation of the mouth and tongue, hair loss and slow growth
Niacin	Essential for the metabolism of carbohydrates, fatty acids and amino acids and for respiration within cells	Meats, poultry, fish, peanuts, brewer's yeast and fortified foods	Muscular weakness, indigestion, skin sore and diarrhoea
Folic acid	Needed for the formation of DNA and RNA, the body's building blocks and plays an important role in forming and developing white and red blood cells	Dark green leafy vegetables, liver, kidney, whole grain cereals, nuts, legumes and fortified foods	Weak blood (anaemia), babies born with spinal (back) problems
Pyridoxine (Vitamin B6)	Healthy blood, helps the body to use proteins as building blocks and to maintain a healthy nervous system	Fortified cereal, dried beans, peanut butter, potatoes, liver, milk and fortified foods	Depression, nausea, skin problems, irritability, heart disease, problems with concentration
Iron	Helps fighting illnesses and helps brain development and function, and helps in carrying oxygen from the lungs to the tissues	Fortified cereal, dried beans, meat, chicken, liver, kidney, egg yolks, seafood and fortified foods	Weak blood (anaemia), tiredness, reduced concentration, irritability
Zinc	Maintains a healthy immune system, reduces the risk of skin problems (acne, boils)	Meat, fish, poultry, milk products, whole grain cereals, dried beans and fortified foods	Slow growth, delayed wound healing, loss of taste and appetite, hair loss, immune deficiencies



FOOD FORTIFICATION IS...

not the **only way** to combat micronutrient deficiencies. Eating different types of foods (*dietary diversification*) or taking vitamin and mineral pills (*supplementation*) play an **important role** in **fixing** these deficiencies and should **not** be **ignored**.

PROVEN BENEFITS OF FOOD FORTIFICATION

- Fewer children **get sick** or **die** at an **early age**.
- Children's **growth** (physical and mental) **improves** leading to **better performance** at school.
- **Adults** experience **increased strength** and can **work longer** and **harder**.
- A healthier population leads to **more work being done**.



FREQUENTLY ASKED QUESTIONS

- **From when will the law require that all white and brown bread flour and maize meal be fortified with specific micronutrients?**
 - It will be compulsory from October 2003. But you will start seeing fortified white and brown bread flour and maize meal in the shops from April 2003 as the millers and bakers start to introduce it to the market.



One of the *South African Food-based Dietary guidelines* for healthy eating is to make **starchy foods** the basis of **most meals**



This is the official food fortification logo, approved by government. If a package carries this logo, it means it is fortified in line with the food fortification guidelines.

- **Does food fortification change the colour, texture or taste of food?**
 - No.
- **How much will fortification cost me, the consumer?**
 - Only about 1c per loaf of bread and 2c per kilogram of maize meal.

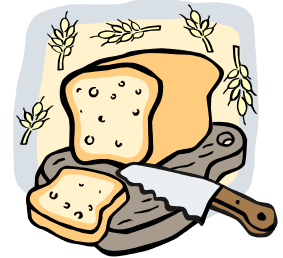


FOOD FORTIFICATION HAS...

been **practised** for over **80 years** internationally and is proven to be **completely safe** and **very effective**.

▪ Why is it necessary to add micronutrients to white and brown bread flour and maize meal?

○ The daily meals of most South Africans are deficient in micronutrients essential for good health. It is possible to fortify the most commonly eaten foods: maize meal and white and brown bread flour (bread baked with this flour). Food fortification restores micronutrients to the white and brown bread flour and maize meal that may be lost during the manufacturing process, as well as adding additional vitamins and minerals. It also adds vitamin A which is not naturally present in the food.



Samp, grits, maize rice, maize flour, cake flour, self-raising flour and semolina (or goods baked with these products) are **not fortified**.



▪ Why do we need it now?

○ The main reason is that the daily meals today do not contain enough Vitamin A and other essential vitamins and minerals needed for maximum health. When your grandparents were growing up, the world was cleaner and life quite different. People were better able to live off the land and had more access to animals, fruits, vegetables and medicinal plants.

▪ How does baking or cooking influence the micronutrients in white and brown bread flour and maize meal?

○ Experts who worked out how much of the micronutrients have to be added in food fortification have been careful to make sure that even after baking or cooking the maize meal or white or brown bread flour, you will still get enough of the micronutrients into your body.

▪ How will the food be fortified?

○ A mixture containing six vitamins and two minerals will be added to the white and brown bread flour and maize meal at the mill.

▪ Once our staple foods are fortified, we don't have to buy vegetables, fruit or meat anymore.

○ No, it is very important that you and your family keep on eating other types of food. Fortified white and brown bread flour (from which bread is made) and maize meal cannot supply all the micronutrients your body needs for optimum health. It is very important to eat a variety of food, including plenty of vegetables and fruit every day – they provide lots of micronutrients and fibre that is necessary for regular bowel movements and the prevention of diseases such as colon cancer.

For further information on the **National Food Fortification Programme** please contact your local Department of Health representative or contact the Department of Health directly:
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