Overview of Flour Fortification

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What is Food Fortification?

- Food fortification is adding vitamins and minerals to food.
- Restoration (or enrichment) replaces vitamins and minerals lost in food production.
- Fortification adds higher levels of nutrients or adds nutrients that are not in the food originally.

Fortification is recommended as part of a comprehensive program that may include dietary diversification, supplementation, and other interventions.

Fortification History

- Margarine fortified with vitamin A in Denmark in 1919.
- Iodization of salt began in early 1920s in Switzerland and US
- Milk products fortified with vitamin D since the 1930s
- Cereal products fortified with thiamine, riboflavin and niacin common practice since the 1940s
- Wheat flour fortified with iron since the 1940s
- Dehydrated potato products fortified with vitamin A and vitamin C in US commodity distribution since 1968.
- Flours fortified with folic acid since 1996
- Edible oils and sugar now commonly fortified with vitamin A

Sources:
Wheat and maize lose much of their nutrients in the milling process. Fortification replaces those and can add other vitamins and minerals as needed.
How Does Flour Fortification Work?

Wheat is milled to remove the outer layers.

Feeders add vitamins and minerals as the flour is milled.

Staff conduct quality assurance tests.

Flour is packaged for distribution.

Staple foods made with fortified flour provide more nutrients to consumers.

Photos at OCRIM flour mill in Manaus, Brazil. Copyright David Snyder / CDC Foundation.
Food Vehicles

When staple foods are made with fortified flour, they become vehicles for vitamins and minerals. This improves a person’s nutrient status does not require the consumer to change their behaviors.
FFI is a network of partners working together to make flour fortification standard milling practice so that people worldwide are smarter, stronger and healthier.
FFI Stimulates Partner Interaction

Disability groups, advocacy associations, other civil organizations

Civic Sector

Millers, equipment and flour-product companies, wheat traders and baking organizations, other affiliated businesses

Private Sector

FFI

Public Sector

Agencies of the United Nations, government agencies and other national entities, non-government organizations, academic organizations
Challenges

- Making sure flour fortification is driven by national leaders
- Getting multiple sectors to work together
- Establishing national standards in each country
- Reaching the top decision makers
Benefits of Mandatory Fortification

- Essential nutrients provided to largest number of people
- Equitable distribution of health benefits
- Facilitates quality assurance and quality control
- Equitable costs for flour millers

Voluntary fortification does not achieve these objectives.
Best Practices for Legislation

• Make fortification mandatory, including:
  – Type or grade of flour to be fortified
  – Regulations for imports

• Create supporting regulation for:
  – Type of iron
  – Range of nutrients allowed
  – QA/QC processes
  – Monitoring procedures and enforcement

Photo: United Nations World Food Program, Egypt
Recommendations on Wheat and Maize Flour Fortification
Meeting Report: Interim Consensus Statement

This statement is based on scientific reviews prepared for a Flour Fortification Initiative (FFI) technical workshop held in Stone Mountain, GA, USA in 2008 where various organizations actively engaged in the prevention and control of vitamin and mineral deficiencies and various other relevant stakeholders met and discussed specific practical recommendations to guide flour fortification.

THE FFI SECOND TECHNICAL WORKSHOP ON WHEAT FLOUR FORTIFICATION

Nearly 100 leading nutrition, pharmaceutical and cereal scientists and milling experts from the public and private sectors from around the world met on March 30 to April 3, 2008 in Stone Mountain, GA, USA to provide advice for countries considering national wheat and/or maize flour fortification. This Second Technical Workshop on Wheat Flour Fortification: Practical Re
Wheat Flour Fortification Mandates

May 2012: Legislation to fortify with at least iron and/or folic acid
Flour Fortification Progress

Since 2004:

✓ Growth in fortified flour from industrial mills increased from 18% to 30%

✓ Number of countries with documented national regulations for mandatory wheat flour fortification increased from 33 to 68

✓ Combined population of these 68 countries is more than 2 billion
Thank You

Let’s move forward to make our countries smarter, stronger, and healthier through flour fortification.

www.FFInetwork.org