Suitability of Food Additives: Combating Chemophobia and Consumer Misunderstanding

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Safety of Food Additives

• Food additives have been used safely for decades.

• Food additives are thoroughly studied, including extensive toxicological testing and consideration of quality and specifications, before they are approved for use in food.

• Testing includes short-term and long-term toxicity studies, including carcinogenicity studies with a built in safety factor to account for uncertainties.
Suitability of Food Additives

• Food additives afford us the convenience and enjoyment of a wide variety of appetizing, nutritious, fresh and palatable foods.

• Food additives are critical to safe and nutritious foods and beverages.

• Food additives used for technical purposes in finished foods fall into four main categories:
  ➢ Support nutrition delivery
  ➢ Support the maintenance of food quality and freshness
  ➢ Aid in processing and preparation of foods
  ➢ Make foods appealing to the consumer
Feeding the World

• Global Population Growth:
  ➢ 7 billion by 2010
  ➢ 9 billion by 2050

• That is 75 million more people to feed each year.
• Almost 1 billion don’t have enough food today.
• Food additives provide a solution to keep food safe and minimize food waste.
Food Additives Have Many Technological Functions in Foods

- Codex International Numbering System (INS) lists 23 functional classes for food additives, such as gelling agent, emulsifier, anticaking agent, etc.

- System is hierarchical in that each of the 23 functional classes has sub-classes with additional functions.
Good Manufacturing Practices (GMP)

- GMPs state the lowest level of food additive necessary to achieve technological function should be used in finished foods and beverages.

- Manufacturers apply this principle in finished foods and beverages.
IFAC’s Good Manufacturing Practice and Quality Assurance Guide

• The food additive industry is significantly different than the food industry (e.g., production, packaging, etc.).
• Food additives undergo further downstream processing by customers/manufacturers.
• GMPs for finished foods are not necessarily relevant to food additives.
IFAC GMP and Audit Guides

- Guides developed by IFAC Food Safety Committee
  - Ashland
  - Chr. Hansen
  - Colorcon
  - CP Kelco
  - Danisco (DuPont)
  - Decernis
  - FMC Corporation
  - ICL Food Specialties
  - Innophos
  - Kerry Ingredients & Flavours
  - Lubrizol Advanced Materials
  - Pinova
  - Prayon

- Represent voluntary guidance
- Provide GMP and quality assurance principles to ensure safe manufacture of food additives and GRAS substances
- Incorporate FDA Food Safety Modernization Act requirements and may be used to inform existing regulations in other countries
IFAC GMP and Audit Guides

Available at: www.foodadditives.org/foodsafety
Food Additives are Self-Limiting

- Inherent properties of food additives (such as taste or technological functions) limit the amount that can be added to foods.
- Too much of an additive can result in undesirable effects or off-taste.
- Example: food gum in salad dressing is self limiting because at high levels, gums become viscous and thick and block flow of salad dressing.
- For these reasons, manufacturers use no more of any food additive than absolutely necessary in finished foods and beverages.
“Chemophobia”

• Chemophobia: “fear of chemicals”
• Emerging trend that consumers are afraid of ingredients in food, due to the perception that they are “unnatural.”
• Consumers more than ever want to know what’s in their food.
• However, most consumers have a fundamental misunderstanding of the role of food additives:
  ➢ Do not understand safety evaluations;
  ➢ Do not understand benefits;
  ➢ Do not understand food additive names
Example: “Ascorbic Acid” vs. "Vitamin C" on a Product Label
Chemophobia perpetuated by the media and food advertisers

Chemophobia is perpetrated by the media and even food advertisers.

- “Is Pink Slime in the Beef at Your Grocery Store?” (ABC News)
- “Diet Soda is doing these 7 awful things to your body” (Today Health)
- “13 Scary Food Additives to Avoid” (ABC News)

- No artificial ingredients or flavors on labels
Misunderstandings of Safety

• Natural ingredients and food itself (i.e., grain, meat, vegetables) are “substances.”
• Food additives are “substances” too.
• Natural ingredients have no inherent safety that is any different than for food additives.
• Each “substance” has it’s own safety profile which is dependent on that substance regardless of it’s source (natural or synthetic).
• Natural ingredients can be toxic and harmful:
  ➢ Just because something is “natural” doesn’t mean it is safe.
  ➢ Just because something is “synthetic” doesn’t make it unsafe.
Role of Manufacturers and Regulators

• Educate consumers about food additive safety.
• Provide simple, clear messages about the role and necessity of food additives (e.g. create stable safe food supply for all to enjoy.
  ➢ www.makingfoodbetter.org
• Create and maintain standards based on science.
• Create and maintain standards based technological need/function.
Questions?

Thank You!

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