

Lesson 6

Food Science and technologies

Objectives

- Summarize the philosophy of ethics
- Define food composition
- Relate food to Maslow's Hierarchy of Needs
- Define GAIN and explain its function
- Describe hydroponics

Objectives (cont'd.)

- Compare and contrast the advantages and disadvantages of aquaculture
- Define biotechnology and its application to food science
- Explain genetically modified organisms
- Identify common food allergens
- Define food irradiation

Objectives (cont'd.)

- Explain cultural heritage
- Summarize ecology and its relationship to biodiversity and monocultures
- Explain sustainable agriculture
- Analyze conservation in food service
- Define organics

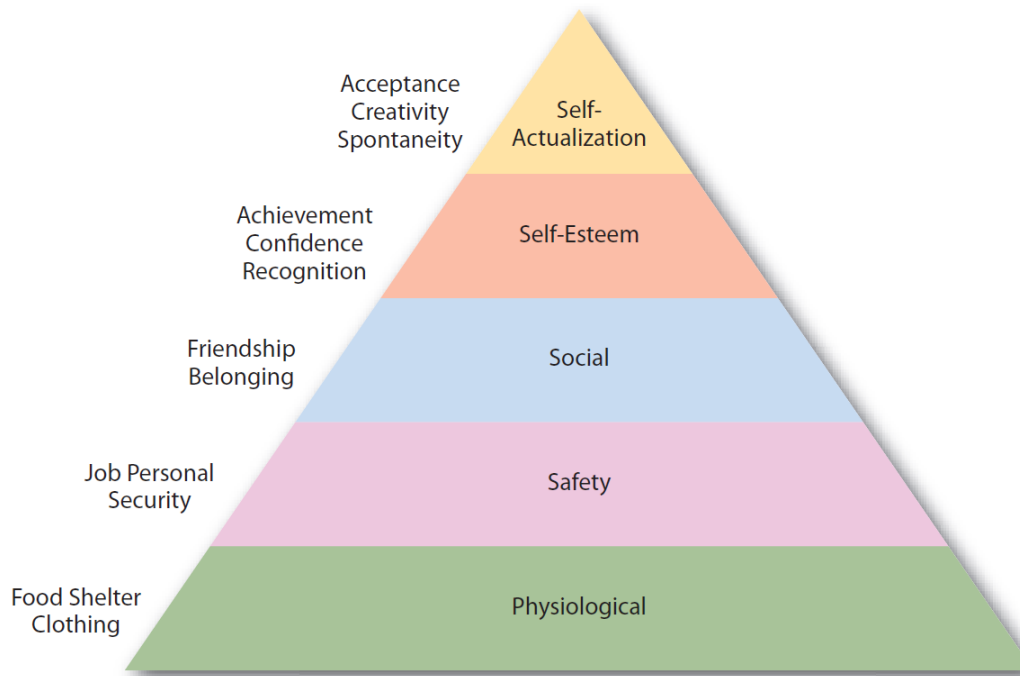
Ethics and Food in Modern Society

- Ethics is the study of right and wrong behavior
 - Divided into metaethics, normative ethics and applied ethics
- In food service purchasing, some topics may require ethical guidance
 - Food irradiation, biotechnology

Food Composition

- A chef must consider food composition in its entirety
 - Organic or inorganic composition
 - Its pedigree
- Foods contain a variety of chemical molecules
 - Water, fats, carbohydrates and proteins

Advancements in Food Science and Technology



4.2 Maslow's Hierarchy of Needs

Combating World Hunger

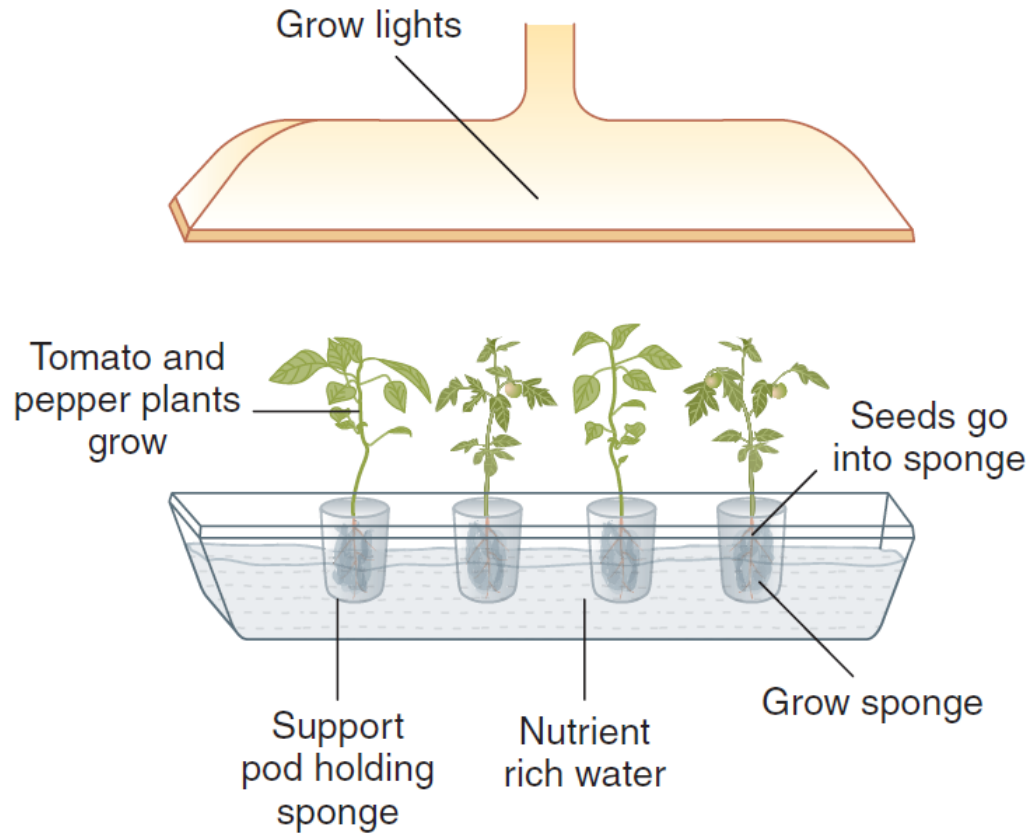
- United Nations has set a goal of reducing the number of hungry people
 - Starvation is decreasing, but undernourished people are increasing
 - Estimates indicate one in seven people do not have enough nourishment on a daily basis

Combating World Hunger (cont'd.)

- Global Alliance for Improved Nutrition (GAIN)
 - Created to combat vitamin and mineral deficiency
 - Leadership hub bringing together different organizations
 - Disburses funds to developing countries to build food markets and fortify foodstuffs

Technological Advances in Food Production

- Methods of increasing agricultural yields
 - Hydroponics
 - Growing plants without using soil
 - Water is medium used to grow the plants
 - Aquaculture
 - Fish farming in specially controlled environment
 - Biotechnology
 - Genetically modified plants



4.4 Drawing of Hydroponic System