

2. Human nutrition

Addition material for this chapter

Chapter 2 - Human Nutrition (ppt)

This chapter discusses aspects of human nutrition in relation to the nutrients presented in Table 1.2

In §2.1 a general introduction on human nutrition is given. This paragraph also describes the nutritional needs of humans. However, even if these needs are met based on absolute numbers of food content one could still suffer from malnutrition. This is because not all nutrients can be extracted from the food we eat as is discussed in §2.2 on bioavailability. If over a longer time period our body is not able to take up all essential nutrients or takes up too much, due to a poor diet, lack of bioavailability, or over-supplementation we speak of "Malnutrition". This condition is discussed in §2.3. Regulating the nutritional value of crops can help to mitigate the effects of malnutrition. In §2.4 some strategies to help prevent and globally lower incidences of malnutrition are discussed.

Note that when reading this chapter with a background in plant science, one has to realise that there are several differences in terminology between human nutrition and plant science, as is explained in Table 1.1 and Textbox 2.1.

Phytochemicals, macro- and micronutrients in human nutrition

Phytochemicals

Compounds (metabolites) naturally occurring in plants, thus including so-called primary and secondary metabolites. Phytochemicals in food can assist (dietary fiber) in- and exert various essential and non-essential bioactivities in the human body. Many macro- and micronutrients required by humans are phytochemicals. (<https://www.dictionary.com/browse/phytochemical>)

Macronutrients

A nutrient required in relatively large amounts (in grams) by the body, such as carbohydrates, fats and proteins. (<http://www.fao.org/faoterm/en/>)

Micronutrients

Vitamins, minerals and certain other substances that are required in small amounts (milligrams or micrograms) by the body for normal physiological

Textbox 2.1: short explanation on how macro- and micronutrients are defined in human nutrition

References

The definition of phytochemical. (n.d.). Retrieved from <https://www.dictionary.com/browse/phytochemical>