Nutritional value and immunogenic potential of ancient wheat species

**Bioactive compounds**

- Act as e.g. antioxidants or provitamins.
- Have positive effects on human health.
- The high content of lutein leads to a yellow colour.

**Minerals**

- Are important for e.g. bones.
- Wholegrain flour was analysed.
- Einkorn has very small kernels, common wheat has large kernels.

**Ancient and modern wheat species**

- **Einkorn**
  - *T. monococcum* A²A²²
- **Emmer**
  - *T. turgidum ssp. diococcum* AABB
- **Durum wheat**
  - *T. turgidum ssp. durum* AABB
- **Spelt**
  - *T. aestivum ssp. spelta* AABBD
- **Common wheat**
  - *T. aestivum ssp. aestivum* AABBD

**Wheat sensitivity**

- Is triggered by amylase/trypsin-inhibitors (ATI).
- Has a prevalence of up to 6%.
- Evolution of common wheat did not lead to an increase of ATI.

**Celiac disease**

- Is triggered by gluten.
- The 33-mer is one of the most immunodominant gluten peptides.
- 33-mer is only present in common wheat and spelt.

**References:**

- Geisslitz et al. (2020): doi: 10.1038/s41598-020-71413-z
- Schalk et al. (2017): doi: 10.1038/srep45092