INFLUENCE OF THE ADDITION OF YEASTS AND NUTRIENTS ON THE COURSE OF ALCOHOLIC FERMENTATION AND SENSORY QUALITY OF CIDER

Univerza v Ljubljani
Biotehniška fakulteta

ŠOLSKI CENTER POSTOJNA

SKOZ

Authors: Anika Sedmak in Karolina Mulec
Supervisors: Magdalena Klasinc, *univ. dipl. inž. kem. inž*
dr. Zala Zorenč
prof. dr. Tatjana Košmerl

Apple wine (cider)

- Alcohol fermentation:

  Sugar→ alcohol+ carbon dioxide + energy

  $C_6H_{12}O_6 \rightarrow 2\ C_2H_5OH + 2\ CO_2$ + energy

- *Saccharomyces* yeasts and non-*Saccharomyces* yeasts.

Research question

- Which combinations of yeasts and yeast nutrients are optimal for the quality of apple wine in terms of chemical composition and sensory quality?
- How does the temperature and addition of different yeasts affect the course of alcoholic fermentation?

Methods of work

- Fermentation temperatures: 15 and 20 °C.
- Weighing of released CO_2.

Fermentation bottles (Sedmak, 2019)

Analysis

CHEMICAL ANALYSIS

- ✓ pH value,
- ✓ titratable acids ,
- ✓ total acids,
- ✓ sugar content,
- ✓ alcohol,
- ✓ volatile acids and
- ✓ total dry extract.

Apple juice

Apple wine

SENSORY ANALYSIS

- ➢ rapid profiling method,
- ➢ 9-point hedonic scale

Results

Alcoholic fermentation curves

Alcoholic fermentation kinetics

Conclusions

- Faster and more intense alcoholic fermentation at higher temperature.
- More volatile acids at higher temperature.
- **Spontaneous alcoholic fermentation** in control samples - residual reducing sugars and minimum alcohol production

Thank you for your attention!