

## Study of the hydrolysis time of anise (*Pimpinella anisum* L.) polysaccharides

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**Introduction.** Anise (*Pimpinella anisum* L.) - a plant of the Umbrella family (Apiaceae). Cultivated in Holland, Mexico, China. The fruits contain essential oil (the main component is trans-anethole), flavonoids, coumarins and are part of laxative preparations.

Polysaccharides are an integral part of the plant kingdom, as they perform protective, structural functions in plants. Plant polysaccharides have an immunomodulatory, antiulcer effect. Common representatives of plant polysaccharides are water-soluble polysaccharide complexes (WSPC), pectin substances, and hemicellulose.

The time of hydrolysis of polysaccharides makes it possible to fully identify their monosaccharide composition. Hence, the study of the time of hydrolysis of anise polysaccharides is relevant.

**The aim.** Study of the hydrolysis time of anise polysaccharides.

**Materials and methods.** The research materials were WSPC, pectin substances and hemicellulose isolated from raw anise. In order to study the time of hydrolysis, quantitative determination of the content of monosaccharides in the hydrolyzate was carried out by spectrophotometry, obtained in 0,5, 1, 1,5, 2, 2,5, 3, 3,5 hours of hydrolysis. The determination of monosaccharides is based on their reaction with picric acid.

**Results.** According to the results of the study, the time of complete hydrolysis of WSPC, pectin substances and hemicellulose was 2 h, 3 h, 1 h, respectively, and the maximum content of monosaccharides during hydrolysis of WSPC, pectin substances and hemicellulose was 17,80±0,36%, 44,91±0,21%, 87,24±1,14%, respectively. As the results show, pectin substances are hydrolyzed longer (3 h), followed by pectin substances are WSPC (2 h) and hemicellulose (1 h).

**Conclusions.** The time of complete hydrolysis of WSPC, pectin substances and hemicellulose was established. The data obtained can be used in the standardization of the listed polysaccharides.

### References

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