

## ASSESSMENT OF CONTAMINATION OF DRIED THYME BY AFLATOXIGENIC FUNGI IN PERIOD FROM 2012 TO 2017

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### **Biography:**

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**Introduction:** *Thymus vulgaris* and other *Thymus* species are widely used not only for medical purposes but also in food and aroma industries due to their well-known aromatic compounds. Therefore the microbiological and mycological quality of thyme is an essential issue.

**Purpose.** The purpose of this work was to perform a comparative analysis of mycoflora of thyme (*T. vulgaris*) at different stages of its processing (drying, grinding, packaging) from 2012 to 2017, to establish the percentage content of potentially aflatoxigenic species.

**Methods:** The analyses were carried out with direct and dilution plating methods [1]. Fungi were identified morphologically based on their macro- and microscopic characteristics [2], [3], [4].

**Results:** Over 123 samples of thyme were analyzed after drying in production and farming conditions. 1430 strains were isolated. In analyzed thyme samples during 2012-2014 the dominance of potentially aflatoxigenic strains from genus *Aspergillus* was observed. No aflatoxins were found in packaged tea samples. There was a noticeable increase in frequency of occurrence of aflatoxigenic strains during processing and storage. Frequency of occurrence of aflatoxigenic fungi was changed before and after processing, as well during storage. This is because of cross contamination and noncompliance of hygienic conditions during grinding and packaging of dried thyme.

In thyme samples analyzed from 2016 to 2017 there was a dominance of fungi belonging to Dematiacea family from genera *Alternaria*, *Stemphillium* and *Cladosporium*. There was a significant decrease in contamination level of tea by aflatoxigenic species from 85% to 6% and strains from section A. Flavi.

**Conclusions:** Decrease of contamination degree of thymus by aflatoxigenic fungi is associated with climatic changes. There is a tendency to increase summer aridity, which leads to the dominance of fungi from family Dematiaceae in the mycoflora of thymus.

### Literature:

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