Isolation, Identification, and Comparison of Microfungi on Stored Commercial Wheat and Siyez Wheat in İhsangazi District of Kastamonu

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Summary

Siyez (*Triticum monococcum L.*) wheat, the most primitive form dating back to approximately 10,000 years ago, is an integral part of cultural heritage. Siyez wheat is mainly produced in the İhsangazi district of Kastamonu province and is a traditional product for the people of this region. With the demand for healthy foods and local products in recent years, the demand for Siyez has also increased. The wheat obtained after harvest is stored in warehouses in villages for specific periods. Storage moulds cause significant losses in wheat quality and economic terms by causing problems such as reduced germination, undesirable odour formation and colour loss. In addition, mycotoxins produced by microfungi such as *Aspergillus*, *Penicillium*, *Fusarium* and *Alternaria*, which can be pathogenic before and after harvest, cause significant health problems. Although Siyez and commercial wheat varieties have been compared regarding many characteristics, they have not been compared regarding microfungus formation. This study aimed to determine the distribution of microfungi in stored siyez and commercial wheat varieties. For this purpose, 20 commercial wheat and 20 site wheat samples were collected from different warehouses in the İhsangazi district of Kastamonu province in the 2022 harvest season and stored in warehouses. The temperature and humidity of the warehouses where the samples were taken were measured, and the microfungi carried on the wheat grains were isolated and identified using cultural methods. As a result of the identifications, 22 different species were identified in the analysed siyez wheat samples and 28 different species were identified in commercial wheat samples. Ten genera (*Penicillium*, *Mucor*, *Aspergillus*, *Cladosporium*, *Geotrichum*, *Alternaria*, *Rhizopus*, *Ulocladium*, *Trichoderma* and *Epicoccum*) were identified from siyez wheat samples and 11 genera (*Penicillium*, *Acremonium*,

Aspergillus, *Cladosporium*, *Mucor*, *Alternaria*, *Ulocladium*, *Geotrichum*, *Phoma*, *Fusarium* and *Rhizopus*) from commercial wheat samples.

Key Words: Stored Wheat, Einkorn Wheat, Microfungus, Cultural Identification.