Title Pathogenic fungi on wheat grain in Serbia

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Abstract

Wheat is one of the most important crops in Serbia, grown on approximately 600,000 ha with average yield of 3,600 kg/ha. Wheat is mainly used to make bread and in human nutrition. For livestock nutrition wheat grain can be used as concentrated livestock feed, and the whole plant can be used as fodder. Considering the economic importance of wheat, primarily in human nutrition, but also in livestock nutrition, the microflora of the wheat grain harvested in 2007 in the vicinity of Belgrade in Serbia was investigated. Wheat grains (3,300) were examined in regard to presence of potentially toxigenic fungal species, especially of genus Fusarium. After surface disinfection in sodium hypochlorite, wheat grains were placed on 2% water agar, 10 grains per Petri dish, and incubated for 7 days at 26°C. According to methods by Ellis (1971), Burgess et al. (1994) and Watanabe et al. (1994), fungal genera were determined with special focus on species of *Fusarium*. The presence of seven fungal genera was established, *Acremoniella* (0.09%), *Acremonium* (0.06%), *Alternaria* (96%), *Dreschlera* (0.3%), *Fusarium* (3.5%), *Nigrospora* (0.03%) and *Penicillium* (0.03%). Within *Fusarium* eight species were identified, *F. graminearum* (63.5%), *F. oxysporum* (1.7%), *F. poae* (0.9%), *F. proliferatum* (5.2%), *F. semitectum* (2.6%), *F. sporotrichioides* (20.9%), *F. subglutinans* (3.5%) and *F. verticillioides (*1.7%). High presence of species *F. graminearum* and *F. sporotrichioides* indicated potential danger of presence of mycotoxins zearalenone and trichothecene.