

PLIJESNI I MIKOTOKSINI U ZAČINIMA

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Plijesni su velika grupa mikroorganizama koji mogu uticati na zdravstvenu ispravnost namirnica, bilo svojim prisustvom, bilo sposobnošću da proizvede sekundarne metabolite – mikotoksine. Neophodno je provoditi redovnu mikološku i mikotoksikološku kontrolu sirovina koje se koriste u prehrambenoj industriji, kako bi se smanjio rizik po zdravlje ljudi, ali i štete koje mogu nastati u procesu proizvodnje. U ovom radu je na prisustvo plijesni analizirano ukupno jedanaest vrsta začina (origano, karanfilić, crni i bijeli biber, crni i bijeli luk, kim, muskatni orah, ljuta i slatka crvena začinska paprika i korijander). Izolacija i identifikacija plijesni je izvršena Sabouraud maltoznim agarom (SMA). Prisustvo mikotoksina aflatoksina (B1+G1), ohratoksina A i zearalenona je ispitano metodom ELISA testa. U svim ispitanim uzorcima začina utvrđeno je prisustvo plijesni. Izolovane plijesni su pripadnici sedam rodova i to: *Penicillium* spp., *Aspergillus* spp., *Eurotium* spp., *Paecilomyces* spp., *Fusarium* spp., *Mucor* spp. i *Rhizopus* spp. Najzastupljenije su vrste roda *Penicillium* spp., *Aspergillus* spp. i *Fusarium* spp. Ispitivanjem mikotoksina utvrđeno je prisustvo aflatoksina B1 u jednom uzorku mljevenog bijelog bibera. Mikotoksikološka kontrola začina izuzetno je rijetka, te je neophodno uvesti organizovanu kontrolu začina, ali i preventivnih mjera u toku skladištenja biljne sirovine, što je od velikog značaja za zdravlje potrošača.

Ključne riječi: začini, plijesni, mikotoksini

MOULDS AND MYCOTOXINS IN SPICES

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Moulds are a large group of microorganisms which could influence the food quality, either by their presence or ability of producing secondary metabolites-mycotoxins. It is necessary to perform permanent mycological and mycotoxicological control of basic commodities which are used in food industry in order to reduce risk for health and losses in food production. The total number of moulds in 11 different spices samples (oregano, clove, black and white pepper, garlic, onion, cumin, nutmeg, coriander, red paper spice and sweet chilli) was analyzed. Isolation and identification of moulds were done on Sabouraud/malt agar (SMA). The presence of aflatoxins (B1+G1), ochratoxins A and zearalenone was done using ELISA test. Mould was found in all tested spices. Isolated moulds belonged to 7 genera *Penicillium* spp., *Aspergillus* spp., *Eurotium* spp., *Paecilomyces* spp., *Fusarium* spp., *Mucor* spp. and *Rhizopus* spp. The most frequent were *Penicillium* spp., *Aspergillus* spp. and *Fusarium* spp., respectively. The presence of aflatoxin B1 was found by testing mycotoxins in one ground white pepper sample. Mycotoxins analysis of spices is incredibly rare, thus it is necessary to implement organised control of spices, but also preventative measures during the storage of plant mass, which is of great importance to the health of the consumer.

Key words: spices, fungi, mycotoxins