ABSTRACT

Fungi grow everywhere in agricultural produce, food and surface of indoor and outdoor environment. The aim of this paper is to expand the growth and synthesis contributing factors and prevention mechanisms of fungi and its metabolites. Fungi, grouped as hydrophilic, mesophilic and xerophilic, grow under a wider range of water activity, temperature, pH, gases and substrate. Besides the beneficial properties, the harmful fungi species are gaining attention due to their toxicity effect on consumer and economic losses. Taking into consideration their prevalence, food group, daily intake, sampling, analytical techniques and consumer type's regulatory limit have been established and promising prevention mechanisms discovered. Prevention of growth and production of toxic metabolites includes good practices, use of plant extracts/probiotics, oxygen-reactive scavenging substances and molecular silencing technology for a wide range of commodities. Nevertheless, application and commercialization of those techniques are limited.