

Nicotine in dried boletus mushrooms: Causes for contamination must be determined

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Recently, nicotine has been detected in samples of dried boletus mushrooms. In large doses, nicotine is a strong neurotoxin and natural component of the tobacco plant. Yet food supply plants such as potatoes, tomatoes, aubergines and cauliflower also contain very small amounts of the substance. The cause of nicotine contamination in dried boletus mushrooms has thus far not been determined since nicotine has not been established as a naturally occurring component in mushrooms. Whether the nicotine is the residue of pesticide application has not yet been clarified. In cases where the country of origin was known, the mushrooms in question have originated in China.

Due to their strong aroma, dried boletus mushrooms are used in small amounts especially in soups and sauces. Yet they can also be ingredients in main dishes such as boletus mushroom soup or boletus mushroom risotto. Thus, the Federal Institute for Risk Assessment (BfR) has assessed whether or not the consumption of one meal of dried boletus mushrooms with thus far determined levels of nicotine constitute a health risk. The assessment showed that the consumption of one meal of standard serving size does not constitute a health risk.

Irrespective of this assessment concerning the immediate health hazard of already distributed dried boletus mushrooms, the question arises to what extent nicotine residues in boletus mushrooms can be deemed tolerable in regard to risk assessment concepts used in the EU and for a deduction of acceptable maximum residue levels. The BfR has deduced such a maximum residue level, and has determined that – according to the data at hand – dried boletus mushrooms imported from China predominantly exceed this level. The causes for this nicotine contamination must be clarified. Based on these causes, concepts for a reduction in nicotine residues must be developed.

The full version of the BfR Opinion in German is available on http://www.bfr.bund.de/cm/208/nikotin_in_getrockneten_steinpilzen_ursache_der_belastung_muss_geklaert_werden.pdf