

E2-47 Cadmium contamination in Shii-take mushroom

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Cadmium residues have been detected in Shii-take mushrooms exported from Sri Lanka. This was confirmed by analysing several fresh samples collected from a factory producing Shii-take mushrooms by flame atomic absorption Spectrometry. Rubber wood saw-dust, the growth medium used in the cultivation of Shii-take mushroom, when analysed indicated the presence of cadmium residues ranging from 0.035-0.14 mg/kg (wet basis). Cadmium entry into mushroom is therefore most probably *via* rubber wood saw-dust. At the levels present in saw-dust, it is shown that cadmium residues can accumulate in mushroom above the tolerance limit of 0.05 mg/kg set in some developed countries.

Cadmium can enter the rubber plants from soil contaminated by industrial emissions/effluents/solid wastes containing cadmium residues or through the applications of phosphate fertiliser which invariably contains cadmium as an impurity. It can also enter the plants, if cadmium ores are present in areas where rubber is grown. Available evidence however precludes the presence of such ores in rubber growing areas in Sri Lanka. Analysis of several samples of

imported phosphate fertiliser, both rock phosphate and triple super phosphate, revealed the presence of cadmium residues ranging from 5 - 15 mg/kg. Local Eppawala rock phosphate however had no detectable cadmium when this method was used. Since majority of the rubber plantations are away from major industrial zones and since cadmium residues were found in all saw-dust samples analysed irrespective of the locations, phosphate fertiliser appears to be the most probable source for soil contamination. Analysis of soil samples did not show any detectable cadmium, probably due to the technique used for the analysis.