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Persistent organochlorine pesticide residues in animal feed

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Abstract Animal products like milk and meat are often found to be contaminated with residues of persistent pesticides and other toxic substances. The major source of entry of these compounds to animal body is the contaminated feed and fodder. So, unless the residues are managed at this stage, it is very difficult to prevent contamination in milk and meat. Therefore, the status of residue level of most persistent organochlorinated pesticides (OCP) in feed and fodder should be monitored regularly. The frequency of occurrence and contamination levels of OCP residues in different kinds of animal concentrate feed and straw samples collected from Hyderabad region of India were determined. Out of 655 total samples, 395 i.e. 60.3% samples were positive containing residues of different OCPs like hexa chlorocyclohexane (HCH) isomers, dichloro diphenyltrichloroethane (DDT) complex, endosulfan and dicofol. Among different HCH isomers, the mean concentration of β -HCH was highest, and total HCH varied from 0.01 to 0.306 mg kg⁻¹. In case of DDT complex, i.e. DDD, DDE and DDT, the concentration ranged between 0.016 and 0.118 mg kg⁻¹ and the pp(()) isomers were more frequently encountered than their op(()) counterparts. Endosulfan was also found in some samples in concentration ranging from 0.009 to 0.237 mg/kg, but dicofol could be recorded in very few samples. Although feed samples were found to contain OC residues, after comparing their levels in positive samples with the limiting values of respective pesticides, only very few were found to exceed the threshold level. Otherwise, they were mostly within safe limits.

Keywords milk and meat;organo chlorinated pesticides (OCP);feed samples;safe limits