

## **Some aspects of clinical manifestations due to 2,4-D contaminants action**

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Chlorphenoxy herbicides are the most important sources of dioxins. Annually more than 50 million kilograms of 2,4-D are produced all over the world.

Dioxins have been detected in ammonium salt and ethers of 2,4-D. Chemical composition and quantity of contaminants in commercial herbicides depended on the technology and contaminants of parent compounds. The toxicological property of commercial herbicides will be dependent on quality and quantity of the pollutants, too.

Toxicology of dioxins and other 2,4-D contaminants has not been investigated to such an extent as the herbicides themselves. Some of the contaminants such as dioxins have toxicological actions at picogram concentrations.

In April 1991 in a beet field in the south of the Ukraine 44 agricultural workers were intoxicated with 2,4-D and complex products of pesticides and fertilizers interaction. This case was investigated in the Clinical Department of the Ukraine Research Institute Ecohygiene and Toxicology of Chemicals.

Neurological disorders were described in all cases of poisoning with 2,4-D. Among them 35 (89.74 %) were marked with asteno-vegetative syndrome, – 26 (66.67 %) of the cases showed vegetative-sensoral polyneuropathy and 4 (10.26 %) – toxic encephalopathy.

22 (56.49 %) persons have skin and mucosa disorders. Highly demonstrative clinical manifestations due to 2,4-D acute contaminants action were determined such as erosive gastritis in six (15.38 %) patients.

Immunological troubles are manifested with hyposuppressive syndrome and connected with small immunological complexes – causing autosensibilisation.

The biochemical blood tests showed short-termed depression activity of cholinesterase; the decrease of bilirubine concentration in serum; in considerable increase of aminotransferases activity; rise of middle-weight polypeptide content.

Various forms of anaemia in eight (20.52 %) cases were also described.

Some cases of benign tumors (four, 10.26 %) were determined following this observation.

Taking into consideration the dioxins concentration of 2,4-D herbicides formulations one can consider the significance of its influence in clinical manifestations with intoxicated patients.