

DETOXIFYING OF DDT IN BIOSPHERE

R. Bliumbergas, B. Staniškienė, H. Medekšienė

Summary. During the period of intensive use of DDT a large amount of it was released into the environment. The use of DDT was banned in many countries more than 20 years ago, however due to its persistence DDT and its decomposition products are still present in the biosphere. The present article summarizes the published results related to the toxicity and the ways of detoxifying of DDT in the environment, food, human beings as well as the methods of determining DDT and its metabolites. The rate of DDT decomposition in the biosphere is very slow and the mechanisms of these processes in the air, water, soil, microorganisms, insects and warm-blooded animals differ. The formation of DDT metabolites occurs when biodegradation, photooxydation, dechlorination or dehydrochlorination of DDT takes place. DDE, DDD and DDA are the main DDT metabolites. DDT and its metabolites are determined as mutagenic and possibly carcinogenic compounds possessing bioaccumulating ability. Gas chromatography is the main method of their determination.

Keywords: DDT, metabolite, detoxifying, bioaccumulation, gas chromatography.