

## **Annotation**

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### ***Ecological monitoring of the soil pollution in the area of livestock breeding complex***

*One of the most urgent problems of industrial livestock breeding complexes is accumulation of the large amount of manure. Storing thousands of cubic meters of manure in manure pits the unplanned manure flowing-out into environment is possible because of containment failure, washing-off and exceeding limits for filling manure pits. In this case different substances and organisms can get into the soil, accumulate in toxic concentrations and have a negative impact on the soil, plants and consequently on the human health.*

*The research was conducted in the period over 2013–2015 in “Э у М Красивая Земля” LTD (Cherkasy region, Khrystynivka district, Verkhniachka urban-type village). The objective of the soil monitoring was to estimate the level of its sanitary-bacteriological and sanitary-entomological pollution, namely in determining microbial number, coli-titer, perfringens-titer, number of fly larvae, amount of helminth eggs (the Romanenko method) and Khlebnikov’s sanitary index. Sample collection was conducted according to the established procedures.*

*Analyzing the results of the research it should be mentioned that the soil at the distance of 50m away from the biothermal pit was polluted. The increase in the indicators of sanitary-helminth and sanitary-entomologic estimation of soil quality was observed. In the presence of organic substances alien for the soil and polluting it, the value of the sanitary index decreases.*

*It was found that under manure utilization the soil pollution depends on the distance to the source of pollution. The highest level of the soil pollution is recorded in the samples collected at the distance of 100m away from the systems of manure pits. At the distance of 500m the level of sanitary-bacteriologic, sanitary-helminth and sanitary-entomologic indicators of the soil pollution decreases but at the same time it remains above the established norm.*

*The results of the research show that the level of soil pollution in the area of influence of livestock complex is high according to the indicators of sanitary-bacteriologic, sanitary-helminth, sanitary-entomologic evaluations which shows a threat to the health of people living in this area as well as to the environment in general.*

**Key words:** *ecological monitoring, soil quality, microbial number, coli-titer, perfringens-titer, sanitary-entomologic evaluation.*