RESEARCHES ON AIR POLLUTION IN CEREAL FARMS

Benedicta DROBOTĂ[1], Aurel CHIRAN[1], Elena GÎNDU[1], Ionuţ DROBOTĂ[1]
Email: bdrobota@yahoo.com

Abstract
Worldwide, agriculture has become intensive with an increased specialization of farms and regions. By increasing the productive capacity of soil and crop yields, by using fertilizers and plant protection products, agriculture has reached a stage where it is possible to obtain short term profitability of farms but on a long term, a negative impact on the environment. The main problems encountered are: negative effects on human health, contamination of surface and ground water due to nitrates and phosphates, compaction, soil erosion and degradation of landscape and wildlife habitat as a result of concentration of farms, development of monocultures, dismantling green fences and terraces, wet land drainage, etc. People living near a farm are likely to be exposed to pesticide droplets in the air and the water consumption or contaminated food.
In this paper were identified and analyzed the existing main pollutants factors of air in vegetable farms specialized in cereals. To estimate emissions of greenhouse gases in a cereal farm, it was conducted a case study. The main factors identified as agricultural pollutants are: pesticides, odors, smoke, dust, pollen allergen and waste. The existing corn production technology in the focus company emphasizes the minimizing of CO^2 emissions. Thus, the dose of chemical fertilizer is determined by soil analysis that is performed annually and the recommendations of specialists. Also, vegetal waste are chopped and incorporated, which significantly reduces the amount of CO^2 emissions.
The total amount of emissions is estimated at approx. 2.35 tonnes of CO^2 per hectare of corn and 0.94 tonnes of CO^2 per tonne of corn. Most emissions are from fertilizer, about 56.6% of the total.

Key words: air pollution, cereal farms, CO^2

[1] USAMV Iaşi