

## APPLIED AGROECOLOGICAL METHODS FOR EVALUATING THE AGROECOSYSTEMS OF FIELD CROPS

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Researchers in the agroecological field, due to the symbiotic structure of the relationships in the agroecosystem, have developed cross-sectoral methods of evaluation and study, where the central element is focused on the correlation between the environment and the activity of human society. The potential and effective productivity of the agro-ecosystems of field crops was researched on the fertility and soil properties monitoring polygons (no. 11, 12, 14) of IPAPS „Nicolae Dimo”, (2012-2014).

The structural evaluation of the agroecosystems of the studied crops, which occupy 83% of the arable surface of 1,219,000 ha and according to the respective components: 346 thousand hectares for the wheat crop (23% of the total); 373 thousand hectares for sunflowers (25% of the total); 500 thousand hectares for grain maize crops (33% of the total), reveal an inefficient using of agricultural potential at the national level.

The other 28 field crops, out of the total of 33 included in the statistical record, for the year 2021 occupied an area of only 86356 ha of the total arable area.

The difference in harvest highlighted in the research and analysis of the harvest indicators in the field and in the statistics, influences other criteria of agro-ecosystem structure - soil resources and their fertility, amplifying dehumification (humic degradation) and agrochemical degradation of soils, but the evaluation of the export of biophile elements and the depletion degree of soil fertility remains incomplete.

The comparative evaluation of the NPK exports according to the average harvest values in the field and the statistical harvest values, reveal that annually approx. 66.1 kg/ha in the case of wheat; 47.0 kg/ha in the case of sunflower and 47.4 kg/ha of N in the grain corn crop are not included in the evaluations of the extraction and export of nutrients by the researched agrocenoses.

In 2021-2022 agricultural year, exports of wheat crop according to the NBS data constituted abt. 1038 thousand tons, which represents the extraction and export from the soil of abt. 26026,0 t of N; 10068.6 t of P<sub>2</sub>O<sub>5</sub> and 20760.0 t of K<sub>2</sub>O. the export of the sunflower constituted abt. 500 thousand tons, being extracted 25,000.0 t of N from the soil; 7500.0 t of P<sub>2</sub>O<sub>5</sub> and 48500.0 t of K<sub>2</sub>O. Export amount of corn was abt. 1457 thousand tons, which constitutes abt. 31 908.3 t of N; 12 980.0 t of P<sub>2</sub>O<sub>5</sub> and 30 451.3 t of K<sub>2</sub>O extracted and exported from the soil.

**Keywords:** *agroecosystem, effective fertility, dehumification, field crops.*