FIELD NITROGEN, PHOSPHORUS AND POTASSIUM BALANCES IN A FARM:
AN EXAMPLE OF EXPERIMENTAL FARM AT FALENTY

Key words: field nitrogen, phosphorus and potassium balances, utilization and excess of nutrients

Summary

Experimental Farm of Land Reclamation and Grassland Farming at Falenty managed 80.0 ha of arable lands and 100.0 ha of grasslands producing fodder for cattle breeding. Nitrogen, phosphorus and potassium balances were made for three years (1998-2000) on selected representative fields of this farm.

From among five chosen fields, three were arable lands and two were grasslands (meadows and pastures). Arable lands were primarily limed according to their fertility and pH to mobilise soil phosphorus and limit phosphorus fertilisation. Mineral and organic fertilisation was applied on both types of fields. Field balances of N, P and K in subsequent years showed significant differences in nutrient uptake by particular crops from the same fields. The differences resulted from plant requirements and from the level and type of fertilisation.

Nutrient uptake significantly exceeding mineral fertilisation indicated its utilisation from the formerly applied manure. Summarised excess of a nutrient during three years pointed to a possibility of limiting fertilisation which would improve the effectiveness of production with obvious benefits for the environment.

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