Marek KOPACZ, Agnieszka KOWALCZYK, Sylwester SMOROŃ, Zbigniew OSTRACH

SUSTAINABLE MANAGEMENT OF WATER RESOURCES
IN TERMS OF THE WATER NEEDS FOR AGRICULTURAL PURPOSES
IN SMALL RURAL COMMUNES
BASED ON THE EXAMPLE OF THE GRYBÓW COMMUNE, POLAND

Abstract

The article presents the results of the analysis of water needs in agricultural production of the Grybów commune (the district of Nowy Sącz, the Małopolska province). The aim of this study was to determine both the current water needs for agricultural purposes as well as changes in this regard based on structural and production data. The guidelines specified in the Ordinance of the Minister of Infrastructure of 14 January 2002 concerning average norms of water consumption were applied to determine water needs. The average annual water demand of crops together with permanent grassland (meadows, pastures) amounts to 23.7 mln m³, of which about 2.15 mln m³ is for winter wheat, 1.92 mln m³ for potatoes and 17.6 mln m³ for permanent grassland. Significant amounts of water (over 130,000 m³) are used also for watering home gardens and cultivating vegetables in plastic tunnels and greenhouses. Water needs for animals farming reach about 235,000 m³ in a year. Most water is needed for farming the cattle. It is predicted that the demand for water in the agricultural sector of the commune will increase by about 5.5% by 2030. Therefore, the activities monitoring the awareness of water saving and proper water management among the population of the villages are important.

Key words: farm animal population, land use structure, types of sowing, water needs for agricultural purposes, water saving