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The level of selected microelements (Fe, Cu, Zn) in soil, feeds and blood serum of cows in the area of southern Podlasie

S u m m a r y

The investigation concerning mineral supply of dairy cows was carried on four farms A, B, C and D, located in the region of Southern Podlasie. It was done through the examination of microminerals in the trophic scheme: soil-plant-animal. The content of Fe, Cu and Zn was determined. Soil samples were collected once from a 0-15 cm deep layer (with the help of a probe) at the height of the vegetation period. Additionally, the pH of the examined soil was tested. The feeds were sampled regularly upon their introduction into dietary units (during the year) following the rules of sample representativeness. Blood was collected from urogenital vein 4 times: 60 days before breeding, 10-14 days before breeding, after the first month of lactation and after the second month of lactation. The concentration of examined microelements in soil, plants and blood serum was determined with flame spectrophotometer ASA – Unicam 939. It was found that the soils on the studied farms in the region of southern Podlasie indicated a low content of copper, while the concentration of Fe and Zn did not deviate from the standards in the region. Fodders produced in the region are characterized by low concentration of Cu in relation to animal requirements. Low concentration of copper was also detected in blood serum of cows which confirms their low content in soils and feeds. Therefore, the addition of mineral mixture to dietary units of animals seems to be essential.