

Abstract

Lawns are established with perennial grass species and varieties mixed in different proportions, to create various types of turfgrass mixtures that meet certain requirements of utilisation or can adapt to specific climatic conditions such as excessive drought or strong shading. In our study were analyzed the nitrogen content in plant tissue and visual quality of three different turf mixtures under the influence of differentiated fertilization and the pedoclimatic conditions in the NE region of Romania. The first mixture (M1) was composed of *Festuca arundinacea* 80% + *Lolium perenne* 10% + *Poa pratensis* 10%. The second mixture (M2) consisted of three varieties of *Lolium perenne* mixed in equal proportions. The third mixture (M3) was composed of *Festuca rubra* 60% + *Lolium perenne* 20% + *Festuca ovina duriuscula* 10% + *Poa pratensis* 10%. Three types of fertilizers were applied: ammonium nitrate, a complex fertilizer with nitrogen and phosphorus and a commercial lawn fertilizer with macro and micronutrients. The experimental design was a split plot design with three replicates. Mixtures reacted positively to all three types of fertilizers. The highest nitrogen content was registered at the mixture M2 (2.33% nitrogen in DM). Considering the fertilizer used, the highest nitrogen content was determined at the fertilization with ammonium nitrate (2.32% nitrogen in DM) and the lowest concentration was registered at the control plot where fertilization was not applied (2.09% nitrogen in DM). Statistical interpretation of the data was done by analyzes of variance and limit differences.

Key words: nitrogen content in plant tissue; turfgrass quality; turfgrass mixtures