

The impact of soil liming on the productivity of grass-legume mixture of red clover (*Trifolium Pratense* L.) and italian ryegrass (*Lolium Italicum* L.)

Dalibor Tomić, Vladeta Stevović, Dragan Đurović, Đorđe Lazarević
University of Kragujevac, Faculty of Agronomy – Čačak, Serbia

Abstract: Grass-legume mixtures are of great importance in the production of high quality forage, both in terms of factory farming and free range livestock. The paper investigates the effect of cultivation of red clover (pure crop and mixed with Italian ryegrass) and liming application (control – without CaO; 3t ha⁻¹ CaO) on acid soil with a pH of 4.8, to green forage yield, hay yield, the share of red clover, Italian ryegrass and weed in the total hay yield. Growing of red clover in mixture with Italian ryegrass, achieved significantly higher yield of green forage and hay, in relation to the pure crop of red clover. Irrespective of the method of cultivation, liming significantly affected the increase of green forage and hay yield. In the variant with red clover and Italian ryegrass, the red clover proportion in total hay yield decreased as a result of the application of liming to increase the share of Italian ryegrass.

Key words: red clover, Italian ryegrass, liming, forage yield

Introduction

Production of the sufficient amount of high quality forage is one of the prerequisites for the intensification of livestock production. This production is mainly based on the natural meadows and pastures, and partly on the growing fields of red clover, alfalfa, mixtures of grasses and legumes and others. In the Republic of Serbia under the grassland is over 27% of agricultural land (SGS 2011). In the period of 2001-2005, the average hay yield on meadows ranged

