

## GRAIN YIELD AND YIELD COMPONENTS IN TRITICALE ON ACIDIC SOILS DEPENDING ON MINERAL FERTILIZATION AND LIMING

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A field experiment with triticale cultivars 'KG-20', 'Odyssey' and 'Tango' was set up at the Secondary School of Agriculture in Kraljevo in 2011 and 2012 to evaluate the effect of mineral fertilization and liming on grain yield and yield components. The soil used in the trial was a vertisol undergoing degradation, characterized by a heavy texture, a coarse unstable structure, poor physical properties and an acid reaction ( $\text{pH}_{\text{H}_2\text{O}} = 4.5$ ). Results were subjected to a three-factor analysis of variance (year, fertilization, genotype), and interdependence of the traits was measured by the simple correlation coefficient using SPSS software (1995). Mineral fertilization and liming led to an increase in yield components, notably grain number per spike and grain weight per spike, with grain yield being significantly higher in fertilization treatments. Grain yield showed the strongest correlation with spike number  $\text{m}^{-2}$  ( $r=0.75$ ), plant height ( $r=0.69$ ) and grain number per spike ( $r=0.63$ ) ( $P \leq 0.01$ ). Spike number  $\text{m}^{-2}$  was positively correlated with grain number per spike and thousand grain weight, and negatively with overall tillering. A negative correlation was observed between tillering and thousand grain weight, and plant height was positively correlated with spike length and grain number per spike. Spike number  $\text{m}^{-2}$  is a yield limiting component in winter triticale. The significant values for the coefficient of correlation between grain yield and plant height, and between grain yield and spike length suggest that these yield components can serve as additional criteria when selecting triticale for grain yield.

Key words: triticale, acid soils, correlation coefficient, grain yield

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