Abstract
A 2-year study was carried out on a cambic phaeozem (RSTS-2003) at ARDS Suceava to asses the effect of 3 tillage treatments (moldboard plough – MT, chisel – CT, disc-harrow – DT) and 50 rapeseed cultivars (41 hybrids and 9 open-pollinated varieties from 10 seed companies) on yield for highlighting the most effective tillage treatments, and for selecting the most adapted and high yielding cultivars in the area. The effect of tillage was significant and the ranking of the treatments was MT>CT>DT in both years and in terms of the annual mean yield. The differences between treatments were significant ($p \leq 0.05$) in 11 out of 12 pairwise comparisons (Duncan test). The yield was almost 35% higher in the first year and the effect of cultivar within the same seed company varied on a yearly basis. In 2010/2011, there were more than one homogeneous yield subset ($p \leq 0.05$) in 8 out of 10 companies, showing a higher variability of data than in 2011/2012, when the variability of the data was diminished, and significant differences among cultivars existed only within 1 out of 10 companies. Further research is needed to estimate the combined effect of tillage and cultivar and its impact on yield and costs.

Keywords: tillage, cultivar, yield