Morphological characteristics and seed yield of East Anatolian local forage pea (*Pisum sativum* ssp. *arvense* L.) ecotypes

Mustafa Tan, Ali Koc, Zeynep Dumlu Gul

* Atatürk University Faculty of Agriculture Department of Field Crop, Erzurum, Turkey
  *(mustan@atauni.edu.tr)*

**Summary**

Local forage pea ecotypes, (*Pisum sativum* sp. *arvense* L.) have been cultivated by farmers in the Northern part of the Eastern Anatolia region of Turkey for years and there has not been any breeding regarding these materials up to now. Thus, the material shows great variation with respect to morphological and agronomical characters compared to commercial forage pea cultivars. The objectives of this study was to evaluate yield and some traits of promised local pea ecotypes which was selected previous year’s screening study material collected from 61 different location in the northern part of the Eastern Anatolia in 2007. All seed materials were sown with randomized complete blocks design with three replicates in Atatürk University Faculty of Agriculture Experimental Station in 2009 and 2010. There were considerable variations with respect to investigated characters among the ecotypes and also significant interactions over the years. According to two years results, investigated properties were varied from 83.5 to 126.5 cm for plant height, 102 to 116.5 days for days to harvest, 10.4 to 15.5 for pod number per plant, 3.5 to 5.6 for seed number per pod, 3.0 to 4.4 for lodging score, 67.3 to 227.4 g for 1000 kernel weight, 3.37 to 4.57 t ha\(^{-1}\) for straw yield, 1.50 to 2.21 t ha\(^{-1}\) for seed yield and 27.5 to 35.9 % for harvest index. As a result, Avcilar and Ortakent ecotypes were considered to be tested in location experiment for new variety development because these ecotypes performed more stable results across the years and higher yield performance.

**Key words:** forage pea, ecotypes, seed yield, plant traits