

Budakli Carpici E. and M.M. Tunali, 2012. Effects of the nitrogen and phosphorus fertilization on the yield and quality of the hairy vetch (*Vicia villosa* Roth.) and barley (*Hordeum vulgare* L.) mixture. African Journal of Biotechnology, 11(28): 7208-7211.

Abstract

This study was intended to determine the effects of nitrogen (0, 30, 60 and 90 kg N ha⁻¹) and phosphorus rates (0, 30, 60, 90 and 120 kg P₂O₅ ha⁻¹) on dry matter yield, hairy vetch ratio, crude protein yield, acid detergent fiber (ADF), neutral detergent fiber (NDF) and total digestible nutrient (TDN) of hairy vetch-barley mixture (50:50) in Bursa-Turkey in 2009 to 2010 and 2010 to 2011 growing years. Dry matter and crude protein yields were affected by nitrogen rates, and the highest dry matter and crude protein yields were determined at 30 kg N ha⁻¹. Phosphorus rates significantly affected most of the components determined in this study. The highest values of dry matter and crude protein yields, hairy vetch ratio and TDN and the lowest value of ADF content were obtained at 30 kg P₂O₅ ha⁻¹. 30 kg N ha⁻¹ and 30 kg P₂O₅ ha⁻¹ may be recommended to be applied on hairy vetch-barley mixture in the similar experimental ecologies in order to produce economically high and quality forage product.

Key words: Hairy vetch, barley, mixture, nitrogen, phosphorus, dry matter yield, crude protein yield.