Impact of weeds like Orobanche (Orobanche spp.) and Phelipanche (Phelipanche spp.) on the yield, quality and marketing prices of Lentil (Lens culinaris medic)

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This study aimed to assess the impacts of severe parasitic plants (O. crenata, P. ramosa, P. aegyptiaca) on the grain yield, some quality characteristics and marketing price of Red Lentil in the South-east Anatolia. Farmer field trials were carried out in the Adiyaman and Viransehir locations in 2010-11 and 2011-12 crop growing seasons, respectively. Randomly distributed twin plots throughout the field relaying on required number of broomrape infestation in Adiyaman field trial in 2010-11 (1+1 m² each) as experimental units were nominated as follow; A0B0: control, A1B1: 30-39 broomrape flowering in twin plots; A2B2: 40-49 broomrape flowering twin plots; A3B3: 50-59 broomrape flowering plots and A4B4: over 60 broomrape flowering plots. 4 treatments in twin plots (2 replications) in Viransehir in 2011-12 (1+1 m² each) as experimental units were nominated as follow; A1B1: 2-3 broomrape flowering in twin plots; A2B2: 4-5; A3B3: 6-7 and A4B4: 8-9 broomrape flowering plots. Grain yield, hectoliter weights and 1000 kernel weights were scored. All grain samples were presented to randomly chosen grain purchasers in local commodity market and the marketing price offers were scored respectively. Results revealed that broomrape infestation under both low and high levels of epidemic reduced the grain yield significantly ranging from 51.5% to 97.7%. Some visual purchasing criteria such as hectoliter and 1000 kernel weights were not affected seriously. Purchasers offered very similar marketing prices for pulse grains with all severity levels. Economic losses were huge varying from $396.77 to $678.50 ha⁻¹. It was concluded that regression equations derived from grain yield vs. infestation densities were found to be reliable with high coefficients of determinations and can be perfectly used for yield estimates under various levels of broomrape infestations.

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