

Interference among Lambsquarters and Oil Rapeseed Cultivars

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Abstract : Seed and oil yield of rapeseed is considerably affected by weeds interference including mustard (*Sinapis arvensis* L.), lambsquarters (*Chenopodium album* L.) and redroot pigweed (*Amaranthus retroflexus* L.) throughout the East Azerbaijan province in Iran. To formulate the relationship between four independent growth variables measured in our experiment with a dependent variable, multiple regression analysis was carried out for the weed leaves number per plant (X1), green cover percentage (X2), LAI (X3) and leaf area per plant (X4) as independent variables and rapeseed oil yield as a dependent variable. The multiple regression equation is shown as follows: Seed essential oil yield (kg/ha) = 0.156 + 0.0325 (X1) + 0.0489 (X2) + 0.0415 (X3) + 0.133 (X4). Furthermore, the stepwise regression analysis was also carried out for the data obtained to test the significance of the independent variables affecting the oil yield as a dependent variable. The resulted stepwise regression equation is shown as follows: Oil yield = 4.42 + 0.0841 (X2) + 0.0801 (X3); R² = 81.5. The stepwise regression analysis verified that the green cover percentage and LAI of weed had a marked increasing effect on the oil yield of rapeseed.

Keywords : green cover percentage, independent variable, interference, regression

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