Orobanche tolerance in faba bean and lentil

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No Comments

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Broomrapes (*Orobanche* spp and *Phelipanche ssp*), parasitic weeds, are a serious threat to legumes cultivation in North and East Africa. The estimated yield losses in faba bean and lentil due to *Orobanche* spp, are as high as a complete loss of a crop in Morocco, Egypt, Tunisia and Ethiopia. Among various species prevalent in the region, *O. crenata* is most widespread. Integrated management revolving around tolerant varieties is the only option to manage the weed menace. To identify resistance sources, 216 lentil and 194 faba bean elite lines and 280 recombinant inbred lines (RILs) of a faba bean cross (BPL710 x ILB4347) were screened against *O. crenata* in a sick plot at Douyet experimental station, Morocco during 2013/14 and 2014/15. Observations were recorded on the number of emerged heads and underground tubercles per host plant, orobanche dry weight, and per cent infestation. Based on these parameters, a severity score on a 1-9 scale was worked out. Two-year results indicated a wide range of responses from 1 (immune to no infection) to 9 (susceptible). Of total lines tested, 40 lentil and 49 faba bean lines showed high tolerance with no emergence of orobanche heads. The spatial model analysis revealed significant variation among RILs for number of emerged orobanche heads per host plant. Some of tolerant lines of lentil (ILL4164, ILL7701, ILL6783 and ILL10952) and faba bean (F402, ILB4338, ILB4357, ILB4358, Sel F5/3382/2003-4, Giza843, Najah, Amcor, Hend) are being utilized in the breeding program to combine orobanche resistance in desired agronomic background. Recently, two

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faba bean varieties, Hashbenge in Ethiopia and Misr 3 in Egypt, have been released for cultivation in orobanche infested lands.