PP33: Identification of faba bean lines tolerant to high dosage of Glyphosate

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Orobanche crenata Forsk is a parasitic weed that invades faba bean (*Vicia faba* L.) in the North Africa, East Africa and the Middle East. Several control methods including chemical, mechanical, cultural and even induction of resistance in faba beans have been developed. Presently, an integration approach involving chemical control by glyphosate [N-(phosphonomethyl) glycine] and varietal resistance is the most effective technique. However, phytotoxicity symptoms accompanied by significant yield losses have been reported on faba beans at the recommended dose (200 g a.i./ha). In this study, we evaluated tolerance of 290 mutagenized faba bean lines against three glyphosate treatments; T1: 800 g a.i./ha; T2: 1200 g a.i./ha; T3: 1600 g a.i./ha; under field conditions at the flowering stage. The experimental design used was augmented design with three replicate checks every 9 lines. Observations were recorded on

chlorosis, rolling of apical leaves, reduced growth, lower number of pods and mortality. Some of the mutant lines showed very high tolerance against tested doses of glyphosate; 66 mutant lines against 800 g a.i./ha, 22 against 1200 g a.i./ha and 21 at 1600 g a.i./ha of glyphosate. Two mutant lines, Mu-38 and Mu-418 showed tolerance at the three tested doses of glyphosate in terms of growth and seed yield.