POSTER ABSTRACT – 2.18

DETECTION AND CHARACTERIZATION OF A MUTAGENIZED PEA LINE RESISTANT TO POWDERY MILDEW

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resistance gene, powdery mildew, Pisum sativum

Powdery mildew caused by Erysiphe pisi is one of the most widespread fungal disease in pea. Following mutagenesis induced with diethyl sulphate, we identified a M2 line showing complete resistance to E. pisi. Occurrence of resistance was confirmed in the generations M3 and M4. We are currently developing a segregating F2 population in order to study the inheritance of the resistance and to develop a linkage map useful for marker assisted selection and positional cloning of the gene(s) responsible for resistance. Furthermore, we are studying the histological events associated with the failure in inducing disease of E. pisi. Powdery mildew resistance in pea cultivars is currently achieved through the exploitation of the recessive genes er-1 and er-2. Future analysis will reveal whether the resistance source identified in this study is allelic to the two genes above mentioned.