Pollen Performance of Lentil Genotypes under High Temperature Condition

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Abstract—*Lentil is an important grain legume crop that faces terminal heat stress during its flowering under late sown condition in India. Heat stress and terminal drought due to high temperature during reproductive phase reduces crop production and productivity by decreasing the amount of fruitful fertilization, less amount of pod set, reduced seed weight and seed yield per plant. It is well known that male reproductive development is more susceptible than the female reproductive organs as pollen has to interact with external environment after releasing from anther. So living in the edge of climate change when we always facing the threat of daily rising temperature, it is important to examine pollen quality of lentil not only for screening the heat -hardy crop but also for breeding programme for future assurance of food legume supply. Five lentil genotypes subrata,WBL-77,PL-406.ILL-6002 and KLS-218 are evaluated in the study and their pollen viability ,pollen germination rate and pollen tube growth are investigated in vitro. Giving high temperature treatment. Among these genotypes ILL-6002 and WBL-77(Moitree) performed well in high temperature condition(32°C). It can be suggested that they produced heat tolerant pollen leading to higher fruit set and eventually greater yield.*