The pattern of pathogen diversity and abundance in lentil (*Lens culinaris*) fields in Constantine region, Algeria.

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Lenses are a group of pulses having a socio- economic and nutritional significance. The study we conducted on two fields of *Lens culinaris* in Constantine region contaminated with molds, had the objective to put a relationship between pathogenic molds associated with these plants and their environment. This study revealed the presence of 20 genera in soils (*Absidia*–, *Acremonium* , *Alternaria* , *Aspergillus*, *Bysochlamyces* , *Chaetomium* , *Cladosporium* , *Emericella* , *Eurotium* , *Fusarium, Mucor, Paecilomyces* , *Penicillium* , *Peronospora* , *Phytophotora* , *Pseudalesheria* , *Scopulariopsis* , *Scytaldium* , *Trichoderma* and *Ulocladium*) and 20 genera also in plants (*Absidia* , *Acremonium* , *Alternaria* , *Aspergillus* , *Botrytis*, *Chaetomium* , *Cladosporium* , *Cylindrosporium* , *Curvularia* , *Eurotium* , *Fusarium, Myrothecium* , *Onychocola* , *Phytophthora* , *Pseudalescheria* , *Penicillium* , *Peronospora* , *Rhizoctonia* , *Trichoderma* and *Ulocladium*). They contribute to approximately 54 % of the total micropopulation enumerated in studied samples. The development of these pathogenic strains is governed by environmental conditions namely the chemical elements in soil, pH, electrical conductivity, Nitrogen, Carbon and saturation. The results we have obtained shows that the chemical variations ground contribute the right development fungi and their transfer to plants

Key-words: *Lens culinaris*, soil, fungi.

Exogenous proline application on durum wheat under saline conditions.

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Salinity is one of the main environmental problems affecting wheat growth and productivity particularly in arid and semi-arid areas. At the physiological level, it imposes an osmotic stress, ion toxicity, nutrition deficiency and oxidative stress in plant. Under these conditions, plants accumulate a number of compatible solutes such as a proline which has been reported to be increased naturally in most crop species in response to salt stress including durum wheat. Hence, a large number of efforts have been experimentally devoted to produce genetically modified plants for the increased synthesis of proline, however a little success is achieved. Alternatively, another strategy has been proposed is the exogenous application of proline. The effect of exogenous proline (20 mM) on the physiological and biochemical behavior of durum wheat seedlings subjected to a salt constraint induced by 10 g/l of NaCl was studied. This effect was evaluated through the determination of seedlings water status (relative content water), the content of chlorophyll and carotenoids, of soluble sugars, of endogenous proline and glycine betaine, of proteins and the enzymatic activity of catalase. The results obtained show that the saline stress affects the majority of the studied parameters. In the other hand, the exogenous proline seems to attenuate the negative effects of the saline stress by the improvement of the content of total chlorophyll, the content of proteins and the content of glycine betaïne. These results suggest the capacity of the exogenous proline to improve the tolerance of the plants subjected to salt constraint.

Key-words: exogenous proline, salt stress, durum wheat, NaCl.