



Physiological role of yeast extract and nicotinamide on *Pisum sativum* L. plants under heat stress

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Abstract : Two pot experiments were carried out during two successive seasons and sowing at two dates, early date and normal date to study the effect of early sowing date at high temperature and presoaking in yeast extract (0.1%, 0.2% and 0.3%) and nicotinamide (2.5, 5.0 and 7.5 mg/l) on growth, yield components and some biochemical aspects of *Pisum sativum* L. plant. The early date of sowing at high temperature in general caused significant decreases in shoot length, number of shoot and leaves per plant, fresh and dry weights of shoots. Also, high temperature caused reductions in yield components (number of pods/plant, pods wt/plant, seeds wt/pod, seeds wt /plant and 100 seeds wt), photosynthetic pigments and indole acetic acid (IAA) content concomitantly with increases in total soluble sugars (TSS), free amino acids, proline and phenolic contents. Soaking of *Pisum sativum* L. seeds in yeast extract or nicotinamide at the two date of sowing significantly increased growth and yield components concomitantly with increases in the amounts of IAA, photosynthetic pigments. Moreover, these treatments caused more significant increases in TSS, free amino acids, proline and phenolic contents.

Key words: Heat stress, IAA, Nicotinamide, Pea, TSS and Yeast extract.

Mervat Sh Sadak /International Journal of PharmTech Research, 2016,9(9): 170-178.
