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**The Thesis Submitted for the Degree of M.Sc (in the field of
Agronomy Science)**

**Study of effect of iron deficiency on
physiological properties and electrophoretic
pattern of polypeptides in two chamomilla
genera under salt stress**

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In order to study the effect of salinity on some of physiological characteristics and poly peptides electrophoresis pattern of two of chamomile **genera** in the presence and absence of iron, was performed Factorial experiment based on completely randomized design with three replications in 1388 in Zabol University Biotechnology Research Institute. experiment Treatments were including both genus of German and Roman Chamomile as factor A, four levels of salinity including 0, 50, 100 and 150 mM NaCl as factor B and iron treatment including 0 and 100 micromolar as C factor. Results obtained in this experiment showed salinity factor had a significant difference on dry weight of shoot and root of chamomile plant and decreased dry weight and humid of shoot and increased dry weight and humid of roots. Lack of iron was declined dry weight and humid of shoots and roots. Treatment of salinity and iron deficiency was increased both osmotic regulation such as carbohydrate and proline. This was more German chamomile than Roman chamomile. Salinity conditions in the absence of iron element were decreased levels of photosynthesis pigments chlorophyll a and b. The higher levels of salinity (150 mM) to control was reduced content of Fe and potassium and increased amount of sodium in the shoots. In spite of Treatment of iron hadn't significant effect on sodium levels, but decrease the amount of iron in both genus of Chamomile. German Chamomile was produced, fewer protein bands Compared with Roman chamomile and had low variation its electrophoresis pattern. Roman Chamomile lost his many bands Under salinity stress and iron deficiency while the German chamomile under the same conditions did not remove any band.in the Roman Chamomile roots was synthesized band in 26 kDa that called Smotin. In Roman Chamomile shoot under salinity stress and iron deficiency were synthesized bands of 42, 40, 37 and 15 kDa. In The German chamomile shoots was removed no bands under salinity and iron deficiency but were synthesized the two bands 18 and 14 kDa.

Key words: electrophoretic pattern, chamomilla, physiological parameters, Salt stress, Iron element.