عنوان مقاله:

Effect of Salinity on the amount of compatible osmolites of three Grape Cultivarsin Vineyards of Urmia, Iran)Vitis vinifera L.)

محل انتشار:

بیست و یکمین کنگره ملی و نهمین کنگره بین المللی زیست شناسی ایران (سال: 1399)

تعداد صفحات اصل مقاله: 1

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خلاصه مقاله:

Salinity is one of the important environmental factors that limits plant growth and production. Grapes are classified as salt sensitive plants.The aim of this study was to investigate the effect of salinity on the content of compatible osmolytes (carbohydrates, proline, glycine betaine) in three grape genotypes Vitis vinifera L. (Gharashani, GhezelUzum and Chawga) grown mainly in the lands around Lake Urmia. Increasing the synthesis and accumulation of osmolytes is one of the methods that reduces osmotic stress and salinity. Soluble sugars and propylene can be used in osmotic regulation as compatible solutes.The experiment was performed in three replications as a factorial in a completely randomized design. The results showed that by increasing the salinity level from ۰ to ۱۰۰ mM NaCl, the total carbohydrate content in the roots and leaves of all genotypes increased significantly (p <۰.۰۵) which was higher in GhezelUzum than the other two genotypes. The proline content of Gharashani was highest and GhezelUzum was the lowest compared to other genotypes. Salinity had a significant effect on the accumulation of glycine betaine content, so that Gharahshani had the highest and GhezelUzum had the lowest content of glycine betaine at ۱۰۰ mM salinity. Accumulation of soluble sugars and compatible osmolites increase plant resistance to salinity stress. Glycine betaine appears with stress crisis in plants and is considered as an effective osmotic regulation solution in plants.Considering the results of this study, it seems that Gharashani is more salt tolerant than GhezelUzum and Chawga.

کلمات کلیدی:

Vitis , Salt stress, Compatible osmolytes