

عنوان مقاله:

Genome wide association analysis for water soluble carbohydrates and proline content in barley (*Hordeum vulgare* L.) under Mn stress

محل انتشار:

چهارمین کنفرانس معماری، مهندسی عمران، کشاورزی و محیط زیست (سال: 1398)

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خلاصه مقاله:

Manganese is an essential micronutrient for plants. However, an excess of this element is toxic for plants. Plants respond to the adverse environmental conditions including several physiological, metabolic, and molecular response. The present study was focused on the dissection of genetic basis of physiological mechanisms of Mn response/tolerance in barley. In this study, whole genome association mapping was used in a spring barley population with 148 diverse genotypes for physiological traits underlying Mn stress. Association analysis between markers and phenotypic traits was performed with a mixed linear model (MLM with K+Q). A total of 29 significant markers (14 mapped and 15 unmapped) were identified under both normal and stress conditions. For water soluble carbohydrates, five markers were identified on chromosomes 1H, 2H, 4H and 6H in normal condition and six markers were identified on chromosome 2H, 4H, 5H and 6H in stress condition. For proline content, three markers were identified on chromosomes 2H, 4H and 5H under normal condition and two markers were identified on chromosomes 5H and 7H under stress condition.

کلمات کلیدی:

Barley, genome wide association study, manganese, proline content, water soluble carbohydrates

لینک ثابت مقاله در پایگاه سیویلیکا:

