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Czech J. Genet. Plant Breed.

Svobodová L., Kučera L.:

Microsatellite analysis indicates the specific genetic basis of Czech bolting garlic

Czech J. Genet. Plant Breed., 50 (2014): 226-234

Garlic, Allium sativum L., is a vegetable long used for culinary and medical purposes. A certain level of garlic quality is required by the local consumers, which is usually preserved by the varieties grown in that region. The aim was to establish an assay offering fast and inexpensive differentiation of garlic varieties. Length polymorphism of microsatellite loci (SSR, ILP markers) is often used in such a case. No assays have been described earlier. A set of SSR and newly used ILP markers has been assembled and verified. SSR loci ASM53, ASM072, ASA08 and ASA17 were the most polymorphic. Up to 18 alleles were

scored per these loci. Monomorphic loci were identified, and excluded from the assay. The assay allows for the authenticity and confirmation of Czech garlic varieties. Moreover, a cluster analysis separated the Czech bolting varieties, indicating their specific genetic basis. The breeding potential of contemporary garlic varieties and lines is discussed.

Keywords:

Allium sativum L.; diversity; genotyping; SSR markers; variety testing

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