

Comparative Analysis of Productivity Traits in Proanthocyanidin-free Barley Mutants and Their Parental Varieties

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One of the main problems in the production of beer is colloidal haze, which leads to reduced storage stability of the beer. It is caused by binding proteins by proanthocyanidins. Chemical stabilizers and beer filtering are used to prevent colloidal haze. Breeding barley varieties that lack proanthocyanidins can also be used to overcome this problem. The aim of our work was to study a number of proanthocyanidin-free mutants with impairments at the *Ant25*, *Ant26*, *Ant27* loci and to identify promising donors for breeding proanthocyanidin-free malting barley with high economically valuable traits. The weight of grain, root and shoot, “harvest index”, length of the main stem, number of secondary stems were measured. During study, it was found that the *ant26.486* mutant is the most promising sample for use in breeding, because it is proanthocyanidin-free and does not differ from the parent variety Grit in all traits, including surpassing the original variety in mass of roots.

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