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PERFORMANCE OF SUGAR BEET HYBRIDS IN THE VARIETY REGISTRATION TRIALS IN SERBIA UNDER THE EXTREME CLIMATIC CONDITIONS

ABSTRACT

In the last few years Serbian weather conditions extremely varied from extreme droughts in 2012 and 2015 to enormous rainfalls and flooding in 2014. Newly registered sugar beet hybrids must be highly adaptable to these conditions, so they could be able to provide high and stable yields. In order to approve registration of new sugar beet hybrids, the Ministry of Agriculture and Environment, Republic of Serbia, is performing two-year field trials in the major sugar beet growing areas. In the trials, value and quality of new hybrids are assessed through the basic indicators such as root yield and sugar content, as well as disease resistance. *Cercospora* leaf spot, caused by the fungus *Cercospora beticola* Sacc., is the most important foliar disease of sugar beet in our environmental conditions, so all registered varieties must have a certain level of resistance to be successfully grown in Serbia. The weather conditions in 2014 were characterized by a large amount of precipitation during the vegetation (280 mm more than the sugar beet needs), which led to epidemical attacks and uncontrolled spread of leaf spot. Although these conditions were not favourable for the sugar beet production, it was possible to detect differences in the level of resistance to *Cercospora beticola* Sacc. of the tested cultivars. Conditions in 2015 were characterized by extreme summer drought with high temperatures, which caused decrease in root yield, while leaf spot occurred only sporadically. Production in such harsh conditions enabled the better evaluation and registration of the best new sugar beet hybrids who expressed a high level of tolerance to *Cercospora* leaf spot in 2014 and a good tolerance and broad adaptability to drought in 2015.
