

THE ASSESSMENT OF THE INFLUENCE OF THE GROWTH REGULATOR *Reglalg* ON THE RESISTANCE OF BEECH SEEDLINGS OF „PLAIUL FAGULUI” SCIENTIFIC RESERVE

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On the background of global climate changes with arid lasting periods there is an acute arising problem of forest, including beech (*Fagus sylvatica* L.) forests, degradation, not only in the Republic of Moldova, but throughout the European continent. In order to restore beech plantations in the Republic of Moldova, there were sown seeds from different growing zones (Băiuț, Suceava, Gilău, Hârlău (Romania); Chernivtsi; Ivano-Frankivsk (Ukraine), Ciorăști, Hîrjăuca and the Codrii, and Plaiul Fagului scientific reserves (Republic of Moldova)) in the „Plaiul Fagului” scientific reserve.

The purpose of these studies was to determine the most resistant genotypes to adverse environmental factors as well as the possibility of using the biological preparation *Reglalg* for reducing abiotic stress. The seedlings were processed during the vegetation period 2 times (on 20 May and 13 June), by spraying with a water solution with the concentration of the *Reglalg* of 0.5%.

The main criterion for assessing the state of beech seedlings was the index of chlorophyll, which was determined by a non-contact optical method. Total chlorophyll content in leaves was measured in field conditions using a portable chlorophyll meter: Chlorophyll Content Meter Model CCM-200 plus (Opti-Sciences, Inc). This instrument measures the optical absorbance in two different wavebands: 653 nm (Chlorophyll) and 931 nm (Near Infra-Red) providing CCI value).

The chlorophyll index made it possible to identify variants with the best integrity of the leaf apparatus in seedlings treated with *Reglalg*. Variants not treated with *Reglalg* had a chlorophyll index of 7.5-8.0 CCI, while those treated with *Reglalg* had 8.7-10.0 CCI. The use of the drug *Reglalg* can increase the chlorophyll index by an average of 13%. The options with the best integrity of the leaf photosynthetic apparatus and chlorophyll index are genotypes from the Chernivtsi and Băiuț growing zones.

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