

THE BIOMETRIC AND MOLECULAR PROFILE OF M₂ AND M₃ GENERATION OF BRISTLE OAT
AVENA STRIGOSA SCHREB.

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Bristle oat (*Avena strigosa* Schreb.) is one of very old crops which contains valuable genes. In spite of the high nutritive values of this corn, it belongs to neglected species. That's because of the considerable height of *A.strigosa* connected with susceptibility to lodging on the field and losses during harvest. Widening genetic variability would be especially desirable in order to obtain lower plants with good qualities. Therefore in Department of Genetics, University of Warmia and Mazury mutagenesis is applied for the induction of genetic diversity in *A.strigosa*.

This work contains biometric profile of M₂ generation of *A.strigosa*. the studies also include molecular analysis of selected M₃ plants with usage of twelve DNA markers (ISJ markers, SSR markers, sequences specific to *M.tuberculosis* and *L.perenne* genes).

The studies materials were M₂ and M₃ generation derived from three ecotypes of bristle oat (IHAR 51730, IHAR 51733, *A.strigosa* var. *glabrescens*) and control plants.

The seeds of the three ecotypes of bristle oat were treated with two combination of chemomutagens: 1.0mM NaN₃ x 0.75mM MNH and 1.5mM NaN₃ x 0.75mM MNH.

On the basis of the biometric measurements of the M₂ generation of bristle oat the increased genetic variance of all analyzed traits was ascertained and the possibility if the selection of lower, high-yeldind specimens was proved. The obtained results also showed differences in reaction of three bristle oat ecotypes after applied treatments.

The analysis with the usage of DNA markers didn't show significant diversity between selected plant of M₃ and control.