

Zal. 2.

Summary of the dissertation

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„Oilseed rape aminopeptidases - characterization and influence of chosen factors on their activity”

The main objective of this dissertation was to characterize the aminopeptidases from winter oilseed rape, at various growth stages, as well as to determine the changes in their activity, caused by various abiotic and biotic factors. It is extremely important to understand the role of aminopeptidases in various physiological responses to harmful factors, due to the key role that those enzymes play in plant physiology. Factors affecting the activity of these enzymes in plants may also affect similar aminopeptidases in other organisms, especially in humans and other mammals.

The obtained results allowed to draw the detailed profiles of aminopeptidases activity and properties, at different stages of winter oilseed rape development. It has been proven that the majority of studied abiotic and biotic factors, significantly affected the expression/activity of aminopeptidases in winter oilseed rape. The dramatic increase of activity was observed while factors causing physiological drought (reduction of water intake or increase of salinity of the environment) were applied. Also application of fungicides affects the activity of these enzymes. The key role of aminopeptidases in many physiological processes related to stress response of the studied plant was confirmed. Moreover, it was proven that the aminopeptidases participate in preventing wilting and aging processes and are involved in protection against pathogen attack.