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The Dynamics of RNA synthesis depending on the degree of resistance of plants to drought

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Abstract

In an unfavorable situation, the rapid response of plants is gene expression. It is known that the expression of potential defense reaction genes in a stress-resistant cotton variety occurs faster than in a sensitive one. In this regard, it seemed important to us to study the nature of changes in RNA synthesis under drought conditions in cotton varieties, characterized by varying degrees of resistance.

The degree of resistance of varieties to drought was studied by the method of seed germination in a sucrose solution that mimics physiological drought. According to the results of the study, under stress, the activity of RNA synthesis in experimental plants of drought tolerant varieties of cotton 9732I, 5010-V, S-6022 exceeds the control plants by 10.0%, 12.3% and 35.6%, respectively. Stress-sensitive cotton samples under stress show a decrease in RNA synthesis. So, for example, in the cotton variety Senare, the decrease in RNA synthesis in comparison with control plants was 12.2%, in the variety 5904-1 – 14.1%. Moreover, the higher the depression of the physiological parameter under stress, the greater the decrease in RNA synthesis. So, the smallest depression of the physiological parameter was noted for the variety S-6040-1 – 14.8%, in which the depression of RNA synthesis was 10.7%. In variety 741, characterized by the highest degree of suppression of seed germination under the influence of drought stress (75%), there is a significant decrease in RNA synthesis (35%). The data obtained indicate that stress factors affect the functional activity of the plant genome.

Biography:

Mammadova Afet at the age of 35 received a Ph.D. (Higher Attestation Commission, Moscow) at 37 years old - associate professor, at 65 years - doctors of biological sciences (Higher Certification Commission of Baku). She is the main researcher at the Institute of Genetic Resources of the National Academy of Sciences of Azerbaijan, is the chairman of the seminar at the Council for the Defense of the dissertation.

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