

BIOCHEMICAL PROPERTIES OF HYDROPONIC STEVIA REBAUDIANA EXTRACT IN THE STRESS CONDITIONS

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Due to the high content of diterpenoid glycosides (stevioside, rebaudioside A) the leaves of *Stevia rebaudiana* (SR) are used to regulate glucose metabolism. This plant has attracted scientific interest for its potential use as sweetener, at the same time it has antihyperglycemic effects [1]. Stevioside demonstrate increases insulin secretion and sensitivity in different animal models [2]. The wild species of this plant do not grow in the territory of Armenia, so we are interested in investigation of hydroponic *Stevia* properties for commercial aims.

In the present study we have evaluated some biochemical properties, especially the antihyperglycemic and antihyperlipidemic activities of hydroponic SR aqueous extract in a hyperglycemia induced by immobilization stress in rabbits after oral treatment.

The biochemical analysis was performed to measure the serum level of glucose and lipids profile. All parameters were assayed using enzymatic kits.

The results showed that the group of rabbits which got the aqueous extract of SR glucose levels is invariable compared to the hyperglycemic rabbits (6.89 ± 0.24 mmol/L, 14.9 ± 1.71 mmol/L, respectively). Treated animals also corrected lipids profile it decreased LDL-cholesterol and increased HDL-cholesterol levels. The treated group indicated significant increases in the liver glycogen levels (4.2-fold, $p < 0.01$) compared to the untreated group.

The mechanisms by which *stevia* leaves exert antihyperglycemic effect in the rabbit models will be studied in the future.

References

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