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Increasing of immune-protective properties of plant varieties of genus *Aesculus* L. to horse chestnut leaf mine (*Cameraria ohridella* Deschka et Dimic) using biostimulant Regoplant

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The leaves of plant genus *Aesculus* L. observed varying degrees of resistance to horse chestnut leaf mine that can serve as an indicator of climate change and ecological state of the environment.

Using DOT-blot method hybridization si/miRNA at leaves of different for resistance varieties plants of genus *Aesculus* L. to horse chestnut leaf mine it is set the first the more than 50% homology in spectrum (sets) of si/miRNA – the base constituents of regulation of genetic processes at posttranscriptional – translation levels. This confirms the existence substantial intraspecific and intergeneric relationships. It is found that intrageneric differences in hybridization of si/miRNA with mRNA at plant leaves are counted 8-13 %, and intergeneric – 18-22 %. In particular, a set of si/miRNK in leaves of genus *Castanea* Mill., not affected horse chestnut leaf mine, in terms of molecular hybridization of mRNA compared with plants genus *Aesculus* L., associated largely with generic differences in nucleotide mRNA transcripts sequences in these genotypes.

At leaves of resistant plants to horse chestnut leaf mine the percent of homology in si/miRNA populations is decreased in 30-34% comparing with nonresistant plants. Using of biostimulant Regoplant inducts increasing level of plant resistance to horse chestnut leaf mine by the way of stimulation synthesis of specific immune-constituents si/miRNA. The level of synthesis antipathogenic or antiparasitic si/miRNA at cells is recommended to use as genetic marker for indentifying of plant resistance to horse chestnut leaf mine.

In our studies, the sensitivity of resistant species genus *Aesculus* L. to chestnut leaf mine of biostimulant Rehoplant to the changing population parameters mRNA and thus protective si/miRNK had not differ from those in the leaves of plants that are not subjected to exogenous preparation treatment. In contrast, leaves of plants genus *Aesculus* L., that largely affects horse chestnut leaf mine, influenced biostimulant Rehoplant hybridization parameters changed significantly and approaching to those specified in horse chestnut leaf mine unaffected plants.

Thus, antiparasitic action biostymulant Rehoplant is functioning at the level of molecular genetic processes in cells of plant genus *Aesculus* L. (amplification of defense reactions and providing genetic stability of unstable species to horse chestnut leaf mine). Available integral indicators of homology can be used as genetic markers for determining the stability of plant species and genus *Aesculus* L. possibility of providing reliable plants to horse chestnut leaf mine using biostymulant Rehoplant and methods of genetic engineering.