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Accumulation of adenosine phosphates in plant leaves *Aesculus* L. stable and unstable to chestnut leaf miner moth (*Cameraria ohridella* Deschka et Dimič)

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Research the level of adenosine monophosphates (AMP, ADP, ATP) in the leaves of the stable and unstable to horse chestnut leaf miner plants of the genus Aesculus L. Provides a method for assessing the sustainability to horse chestnut leaf miner in plants genus Aesculus L. by energy charge adenozinphosphat's system.

In horse chestnut, Baumannii horse chestnut forest or wild horse chestnut leaves the highest concentration of AMP and least low - ATP and energy charge adenozinphosphat's system have been identified. It confirms the high level of spending spare energy processes in plant adaptation to the horse chestnut leaf miner. Decrease of the value energy charge adenozinphosphat's system in the leaves of plants activates the biosynthesis of adenosine from AMP. We have shown that the leaves of plants to the horse chestnut leaf miner is unsustainable imbalance of power generation processes and inhibition of the total pool of energy in the form of ATP. The hydrolysis of phosphate bond ATP which is spent on released free energy is spent on the operation of adaptive processes.

Above data shows that adenozinphosphat's system in horse chestnut, Baumannii horse chestnut, forest or wild horse chestnut leaves are fill in high-energy phosphate bonds and less than half its energy charge is 0.14, 0.21 and 0.33. It's giving reason to take this species of horse chestnut to the unstable of the horse chestnut leaf miner. The main factor that causes low resistance to these species of

horse chestnut of the horse chestnut leaf miner is a fast disintegration of ATP to ADP and AMP, it’s causing a decrease energy charge in plants leaves.

The adaptive mechanisms of plant resistance to the genus *Aesculus* L. against horse chestnut leaf miner dependents of degree accumulation and utilization of energy. Established that plants hybrid or yellow horse chestnut, meat-red horse chestnut, pavia horse chestnut, small-flower horse chestnut, eight-stamens, smooth leaf or naked horse chestnut and neglected horse chestnut are observed high level of ADP, especially ATP and energy charge adenozinphosphat’s system (0.68, 0.67, 0.62, 0.62, 0.60, 0.54, 0.53). These species of horse chestnut era resistant to destruction of horse chestnut leaf miner in vivo. In this case adenozinphosphat’s system in the leaves of plants available full high-energy phosphate bonds more than half, which means much lower level of spending and high speed generate pools of energy in the form of ATP during the primary reactions of photosynthesis.

So, in resistant plants leaves *Aesculus* L. powerful emerging bioenergy potential through more active and longer operation "programs stress the genome" and speed the transition to energy saving mode. The effect is a more adaptive properties caused by high amplification processes biosynthesis of ADP and ATP, which is confirmed significant increase in the value energy charge adenozinphosphat’s system. Identified starting mechanisms that provide in resistant species *Aesculus* L. of horse chestnut leaf miner effective synthesis of ATP and ADP and accumulation the sufficient number of energy against horse chestnut leaf miner.