



The Use of Secondary Metabolites *Heracleum Sosnowskyi* Manden in Agriculture

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Key words: *Heracleum sosnowskyi*, furanocoumarin, bergapten, xanthotoxin, oxycoumarin umbeliferon, sfondin, angelicin

The composition of secondary metabolites *Heracleum sosnowskyi* include: tannins, essential oils, furanocoumarin and other agent. The greatest interest is the phenolic compounds coumarin furanocoumarin order which is known for their photosensitizing effect. Coumarins are part of hogweed. The greatest number of different kinds of coumarin was found in fruit. Researchers from the Far Eastern Branch of the RAS have been identified series of angelicin furocoumarins (sfondin, angelicin) and psoralen (bergapten, xanthotoxin, oksikumarina umbeliferon) furocoumarins. In our research we have identified the influence of active substances hogweed on growth and development of different groups of plants.

So experiment with biotest *Heracleum sosnowskyi* sap (with concentration are 1:1, 1:4, 1:16, and control - H₂O) stimulates energy germination of pea seeds (*Vicia sativa* L.) - 6%, wheat (*Triticum aestivum* L.) - 1,2%, barley (*Hordeum vulgare* L.) - 5%, and tutsan (*Hypericum perforatum* L.) - 3,5% at a concentration of 1:16. The same concentration has an inhibitory effect on radish (*Raphanus sativus* L.), chamomile (*Matricaria chamomilla* L.) and oregano (*Origanum vulgare* L.).

In the experiment on the effect of active substances contained in the soil under hogweed (the control is the soil where wasn't *Heracleum sosnowskyi*) we observed a stimulatory effect on plant growth and development of wild chamomile. So biometric indicators chamomile plants was grown in the A1 horizon (topsoil) differ significantly in all indicators of underlying horizons and from controls.

So *Heracleum sosnowskyi* possessing high photosensitizing effect due to content in the bergapten, psoralen, xanthotoxin can be used for medicine along with Ammi majus as the raw material for the preparation of herbal remedies in dermatology. Also in our studies we have shown the use of active substances hogweed in agriculture as regulators growth of some plant species: chamomile, wheat, pea, barley, tutsan.

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This study was presented at 2nd International Symposium Secondary Metabolites Chemistry, Biology and Biotechnology, 19-23 May 2014, Moscow