

IMPORTANCE OF ALLELOPATY IN NURSE GARDEN

Čaboun V.

Forest Research Institute Zvolen, T. G. Masaryka 22, 960 01 Zvolen, Slovakia,

With the aim to find the effect of precipitation water falling through crowns of tree species on the growth of 2 years old plants we excluded atmospheric precipitation and we watered by water macerates, it means by water in which we macerated for 18 hours foliated twigs of pine, fir, spruce, larch, beech, oak and locust, the plants of the same tree species, which were growing in sand, soil and peat. We established an experiment to find out the influence of water macerates from vegetation organs of grown-up trees on young plants of forest tree species. Five plants of one tree species were planted in three substrates - sand, peat, soil. Two years old spruce (*Picea abies* Karst.), pine (*Pinus silvestris* L.), fir (*Abies alba* Mill.), larch (*Larix decidua* Mill.), beech (*Fagus silvatica* L.), oak (*Quercus petraea* Liebl.) and one year old acacia (*Robinia pseudacacia* L.) plants were used for this experiment. Some effects of substrate and single macerates on height and diameter growth, development of root and weight of vegetation organs of plants of the same tree species are statistically evaluated and shown in graphs. Different effect of macerates concentration on the growth of plants was observed too.

Interrelations appear also with common growth of the seedlings of various tree species. After the assessment of two year long experiments with the seedlings of tree species we found the greatest negative effect of locust seedlings on Scots pine. Inhibitory effect of volatile substances of aboveground part of locust tree on the seedlings of pine was so strong that in the distance of 15 cm from locust tree any seedling of pine was not growing. Big attention was payed to influence of black pine (*Pinus nigra* Arnold) on Spruce seedlings (*Picea abies* Karst.).

