



ALLELOPATHICAL ACTIVITY OF PELARGONIUM LEAVES'S WATER INFUSIONS

Finogenova K.

Mechnikov Odessa National University, Odessa, Ukraine

The study of allelopathical activity of decorative plants allows not only to determine possibilities of their application in the interiors design but also features of their influence on the different character biological tests. The object of our researches were the plants widely used in the internal greendesign - Pelargonium: *P. grandiflorum* Andr. Willd., *P. odoratissimum* L., *P. zonale* Hort.

We have investigated the influence of water infusions from leaves on a germination and energy of wheat's seeds germination - *Triticum vulgare* L., and also seeds of garden radish, sorts "Red with a white tag". The water infusions activity of leaves was determined in a concentration 1:2, 1:5, 1:10. Consider the initial concentration of solution we mention that the most inhibitory activity (47%) was shown by the leaves of *P. grandiflorum* Andr. Willd., while the leaves infusions of *P. odoratissimum* L. and *P. zonale* Hort. repressed the germination of radish seeds on 26% and 27% accordingly. The comparative higher allelopathical activity of water infusions of *P. grandiflorum* among the other sorts is explained, in our view, by a few factors: there are more active matters contained in the leaves of *P. grandiflorum*, or these matters are contained in a greater concentration. In addition, solutions with the various concentration of initial infusion have different influence on intensity of test-object's germination.

So under influencing of infusion in initial concentration the energy of wheat's seeds germination was 84%. She has rose with the lower concentration of initial infusion in a such way: in a dilution 1:2 the germination became 86,7% and in 1:5 - 90,7%. Much stronger influencing of infusions in different concentration showed up at the study of their effect on growth of roots and seedings's coleoptiles of wheat. Middle length of roots on 7 day in the different variants of experience (an initial concentration and dilution 1:2, 1:5, 1:10) was 3,47c, 12,41c, 11,5c, 7,2c, the control was 8,5c. Length of coleoptiles made according to 1,9c, 7,5c, 7,5c, 3,9c as compared to 6,36c in control. Thus, the high concentration of extracts brakes the growth of roots and seedings's coleoptiles, while there is a paradoxical effect at the further dilution: length of the indicated organs is enlarged at first, and then at the utmost dilution the length falls.

The results got by us are confirmed by conclusions with A. Chasovenaya (1957) and G. Grummer /1961/ that high concentrations chemically of active matters are rendered by the strong oppressing or death of living object, and at the gradual decline of concentration oppressing diminishes to the certain point, when a germination have no differs with control. With the further lowering of matter's concentration cause stimulation of vital processes which after go down to the norm at endless dissolution of infusion.



АЛЛЕЛОПАТИЧЕСКАЯ АКТИВНОСТЬ ВОДНЫХ НАСТОЕВ ЛИСТЬЕВ ПЕЛАРГОНИЙ

Финогенова Е.

Показано тормозящее и стимулирующее действие водных настоев разных видов пеларгоний на прорастание семян и рост проростков пшеницы и редиса.