LONG-TERM TIME-COURSE OF FLAVONOIDS ACCUMULATION IN BOREAL PLANTS AS BIOINDICATOR FOR SOLAR ACTIVITY

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The problems of bio indication of the weak environmental effects of physical factors on living organisms stipulated by the lack until recently of advanced and reliable theoretically proved base for the explanation of the mechanisms for their reception. Meanwhile, some last experimental results obtained elsewhere on the cellular and subcellular levels including plasma membranes (Weaver, Astumian, 1990), at least partly, allow one to approach to understanding the physiologo-biochemical mechanisms of reception of the physical fields effects energetically compared with kT, including so called heliogeophysical factors. One part of the findings concerns the relation thiol (-SH) to disulfide (-S-S-) group pools in cell which was shown to be sensitive to the both the weak and industrial electromagnetic fields (Gall, Sokolovsky, 1997). Here we demonstrate the further number of demonstrations that the some kind of the secondary metabolites related to protein synthesis may be used as an informative cell constitute in relation to the environmental background changes. In accordance with traditional scheme of pare-wise temporal correlation analysis, it is shown that the flavonoids pool in plants is capable to response on the solar activity. On the example of typical representatives of boreal flora *Salix caprea*, *Betula nana,* etc. we found that the multiannual time-course of flavonoids accumulation within the period considered 22-nd peak of solar cycles to now is correlates with Wolf's numbers. The some data regarding the 1989-1991 vegetative seasons which include the monthly changes of flavonoids accumulation in local aborigenal plants in comparison with solar indices are presented also.