

Adaptive strategy of plants growing under influence of chronic irradiation

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Plant adaptive strategy is based on the specific features of plant genotype and the interaction between plant genotype and environment. Cross-pollinators belongs to those organisms that can easily adapt to any changes of environment because of high level of diversity. On account of wide range of genetic polymorphism cross-pollinators can survive under stress conditions including chronic irradiation and propagate themselves. However apomictic plants which don't have a vast range of genetic variety such as cross-pollinators cover large areas. We analyzed groups of three plant species with different type of reproduction: *Onagra biennis*, *Hypericum perforatum* and *Hieracium pilosella* growing under influence of chronic irradiation in Chernobyl region. The mean of variation coefficient calculated on the base of morphological features was rising with the increasing of the level of contamination for *enotera* and *St.-John's wort* while for hawkweed apomictic plants the index was nonvarying. The same pattern was displayed using PCR analysis with RAPD and ISSR-markers. Level of polymorphic loci depended on level of contamination and tended to the increasing for *enotera* and *St.-John's wort* plants growing at the most contaminated region whereas there was no changes in the pattern of PCR fragments with DNA from hawkweed. It maybe explained by the fact that hawkweed is known as obligatory apomict. Results obtained by using morphometric and molecular-genetic analysis demonstrated that the increasing of adaptive characteristics of such plant as *enotera* and *St.-John's wort* occurs with the increasing of genetic variability. We suppose that genetic variability among apomictic plants caused by switching-over to sexual reproduction