

APOMIXIS IN GRASSES OF SARATOV REGION FLORA

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Goals and objectives of the study: The identification of apomictic species and the study of their distribution is relevant for solving theoretical issues of plant evolution and practical problems in plant breeding, biodiversity conservation, plant introduction and reintroduction. The purpose of the study was to diagnose the mode of seed reproduction in wild grasses of the Saratov Region flora and to identify apomictic species.

Methods: The structure of ovules and embryo sacs was studied in the plants of 117 natural populations of 71 grass species of the Saratov Region flora. The inflorescences of 10–15 plants in each population were fixed with acetoalcohol (3 : 1). The ovule preparations were prepared by clearing-squash technique and analyzed using a phase-contrast microscope.

Results: The obligate sexual mode of seed reproduction was registered in 51 (71.8%) of the 71 species. Embryological signs of gametophytic apomixis were found in 20 (28.2%) species of 8 genera: *Agrostis*, *Anthoxanthum*, *Bromus*, *Dactylis*, *Festuca*, *Koeleria*, *Lolium* and *Poa*. The *Hieracium*-type of apospory combined with pseudogamy is predominant in the studied grasses. For the first time, the type of apomixis was identified in three species: *Agrostis stolonifera* (*Taraxacum*-type of diplospory and pseudogamy), *Bromus inermis* and *Dactylis glomerata* (*Hieracium*-type of apospory and pseudogamy).

Keywords: apomixis, apospory, diplospory, pseudogamy, plant embryology, embryo sac, grasses, Poaceae

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