

COMPLEX STUDYING AND EVALUATION THE MORPHOLOGICAL FEATURES OF PEONY (*PAEONIA* L.) DURING INTRODUCTION PROCESS

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55 morphological and ornamental features of 17 species and 200 varieties of *Paeonia* genus introduced in the Botanical Garden of MSU were studied. Certain characters including diagnostic were chosen to be use for estimation of peonies for identification, classification, selection and use in ornamental gardening. Advisability of complex research was shown.

As material for the present study of species and varieties of *Paeonia* L. we used the collection of this genus growing in the Botanical Garden of MSU. More than 200 varieties received on the basis of the following species: *P. lactiflora* Pallas, *P. officinalis* L., *P. peregrina* Miller, *P. mascula* (L.) Miller, *P. daurica* Andrews, *P. anomala* L., *P. tenuifolia* L., *P. mlokosewitschii* Lomakin, *P. wittmanniana* Hartwiss, *P. suffruticosa* Andrews, *P. delavayi* Franchet, *P. lutea* Delavay ex Franchet were studied.

Study of initiation and differentiation of embryonic flowers in a bud and analyses of their parts structure was carried out with the means of scanning electron microscopy.

The analysis of peonies morphology allowed to reveal the amplitude of their variability. The analysis of alternation of flower parts did not reveal dependence of its

type from an origin of cultivar and from which parental species it derives. Our researches have revealed significant polymorphism in alternation of flower parts, and also the modifications concerning reproductive organs.

Besides flower structure, many conservative features of peonies, such as ploidy, ultrasculpture of pollen grains and surface of seeds are subjected to variability. As a result of the work we recorded direct dependence between loss of reproductive function and occurrence of atypical structures (doubleness, fragrance) which occurs because of the increase of flower apical meristem sizes during the formation of plant organs.

Thus it is important to keep and study collections of forms and varieties of plants with atypical structures in botanical gardens since in the wild they are sporadic and solitary.

Representing a unique combination of genes, any loss of a variety is irreplaceable. Therefore conservation of cultivated plants is one of the aims of botanical gardens along with conservation of wild species.

Keywords: genus *Paeonia*, morphological features, introduced, variability, evaluation, ornamental features.

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