

***SPREADING, VARIABILITY AND HEALTH STATUS OF THE SPECIES OF
GENUS ULMUS IN NORTHERN BULGARIA***

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Summary

In Bulgaria, genus *Ulmus* is represented by 3 naturally spread species: *Ulmus laevis* Pall., *Ulmus minor* Mill. and *Ulmus glabra* Huds. The occurrence of the elm tracheomycosis in the 1920s and 1970s cause strong reduction of the number and density of elm populations in Bulgaria and worldwide. Elm is spread in Bulgaria both as a solitaire and in small groups. Forest management inventories provide scant information about the status of the genetic fund and it is not a practice to stress on this species as a biodiversity element during inventory and management activities in stands. During carrying out of cuttings, due to the poor assortment structure of elm stands and groups, only wood material with low quality and firewood are obtained. The share of the elm in afforestation activities in new forest plantations during the last 40-50 years is minimal. The cotype and form diversity are poorly studied. All this determines the necessity of resumption of breeding activity and developing of a strategy for increasing of the forestry importance and the genetic fund of this autochthonous tree species with the help of breeding of productive elm cultivars resistant to pests and diseases. The main purpose of this study was to determine the share, variability and health status of the elm genetic fund in North Bulgaria, as well as supplementation of the available information with own studies about the opportunities for preservation of the genetic fund of elm through the methods *in situ* and *ex situ*. As a result of the study, a complex investigation on the spread of the species of genus *Ulmus* in North Bulgaria was carried out, which is the first one for the last two decades. Information data base was made through the maps of the location of the representatives of genus *Ulmus* in North Bulgaria. The variability of the studied morphological features of the species from genus *Ulmus* in North Bulgaria was proved and categorised. Complex assessment of the health status was developed for the habitats of the species of genus *Ulmus* in North Bulgaria. Laboratory protocol was developed for *in vitro* propagation of *Ulmus laevis* Pall. and its introduction in the contemporary *in situ* and *ex situ* programmes on propagation was suggested. For the territory of Bulgaria, 170 plus elm trees were permanently selected and marked, including 79 *Ulmus minor* Mill., 51 *Ulmus glabra* Huds. and 40 *Ulmus laevis* Pall. Twelve stands were suggested to be included in the forest seed production base of Bulgaria as stands for seed production. Two sample plots were established and saplings were provided to the Executive Forest Agency for the establishment of a clone archive of the elm species.