CHARACTERIZATION OF HELIANTHUS TUBEROSUS L. ACCESSIONS FROM VIR COLLECTION

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ABSTRACT

The Jerusalem artichoke *Helianthus tuberosus* L. is distributed throughout the European part of Russia up to about 630 N in gardens and orchards. The population uses its tubers as food (for diabetes prevention), for fodder and as an ornamental plant. Varieties of grown material are not known for sure. Seven accessions of *H. tuberosus* collected in Pskov, Leningrad regions and St. Petersburg were collected and planted in the nursery of perennial wild species in Kuban experimental station of VIR in the Krasnodar region (KES). In the same nursery five accessions of *H. tuberosus* obtained in different years from various habitats in the USA are maintained. We had an opportunity to compare the development of Jerusalem artichoke plants from different places of origin in 2014 and 2015. Spring growth of plants originating from the North-Western of Russia started a little later (April, 15-25) compared with accessions from the USA (April, 4-10), but they flowered earlier: on June, 15 - 26 in 2014 and on June, 20 – July, 14 in 2015. In the maternal populations of these accessions in Leningrad and Pskov regions flowering started on August, 5-10. Accessions of Jerusalem artichoke, grown in KES started flowering on September, 4-20. All the accessions had normally formed flowers. Cytological study showed that anthers produced more than 70% of normal pollen both in Krasnodar region and in the North-West of Russia. For their size the pollen grains were divided into three groups, which may be a consequence of their different ploidy. Study of ovules was not carried out. The seeds were formed only in the conditions of Krasnodar region. In the North-West of Russia plants of Jerusalem artichoke are able to reproduce only vegetatively by tubers.

Key Words : Helianthus tuberosus, Krasnodar region, North-West of Russia, flowering, cytological study