

## **Comparative characteristics of phenological phases of intraspecific taxons of genus *Corylus* L. in conditions of Right-bank Forest-steppe of Ukraine**

**Goal.** Study of peculiarities of the phenotypes of Footkurami and Funduk-85 varieties in the conditions of the Right Bank Forest-steppe of Ukraine. **Methods.** Phenological observation. **Results** The varieties are proto-genic, which can cause over-burning at simultaneous digestion. Their adaptability is similar. Fructose fructose in the Funduk-85 is not as prolonged as in Futkulami, which indirectly suggests better nonspecific resistance and productivity. **Conclusions** A more prospective Variety of Funduk-85 is favorable for the conditions of the Right Bank Forest-steppe of Ukraine.

*Key words: phenophase, genus Corylus L., non-specific resistance, adaptability, introduction, productivity.*

Formulation of the problem. Among the promising plants of natural and cultivated flora, special attention is paid to native plants, namely representatives of the genus *Corylus* L., in particular the hazelnut (*Corylus domestica* Kosenko et Opalko), which not only has a nutritional purpose, but also has a positive effect on health a person is used in the gardening industry, in various industries, in the expansion of the breeding genetic fund for the creation of new varieties, forms and hybrids [1].

The area of the walnut in the world is very narrow (about 7% of the earth's surface). Therefore, an extremely effective direction of scientific activity is the introduction of these plants into the soil-climatic conditions of Ukraine, which is very favorable for them, which will enable not only to expand plant biodiversity, but also to introduce especially valuable economic characteristics [1].

Reliable data for the analysis of adaptive properties of plants can be obtained by visual field methods [2], in particular - by phenological observations. With a high degree of probability, it was found that bushes [3, 8] are the most adaptable from biomorph of plants to xerotic conditions of existence. The common wood, for example, is characterized by relatively good tax indicators in chernozems southern [5, 9]. Based on these indicators, it is possible to make predictions about the non-specific resistivity of plant organisms, their adaptogenic potential, and, consequently, productivity.

The purpose of the research is to study the peculiarities of the phenotypes of the Fukutrami and Funduk-85 varieties for breeding in the conditions of the Right Bank Forest-steppe of Ukraine.

**Research methodology.** The study of the phenolic characteristics of the *Corylus* L. varieties - Fukutrami and Funduk-85 - was conducted during 2013-2015 under conditions of the experimental production area of the National Dendrology Park "Sofiyivka" of the National Academy of Sciences of Ukraine in accordance with the method approved by the Council of Botanic Gardens of the USSR [4 ] The material of the mother plants of the National Dendrology Park "Sofiyivka" of the National Academy of Sciences of Ukraine was used. The work is an integral part of comprehensive research on the peculiarities of reproduction, cultivation and introduction of *Corylus* L. genus intrinsic taxa in Ukraine. The results of observations on the development of flowers and fruits of varieties *Corylus* L. of Georgian and Ukrainian breeding are given.

**Research results.** The study of the flowering phases of *Corylus* L. intraspecific taxa (Table 1) found that both varieties studied in the study were proto-genic, since female flowers bloom earlier than men (2-5 days depending on the variety and period of research), which prevents self-burning. This property is conditioned by fundamental environmental laws aimed at the conservation of biological diversity, in particular the diversity of genes - the guarantees of homeostasis of the bio-sphere [7].

However, both female and male inflorescences of both varieties bloom almost in the same period with a minimum interval (1 day in 2013) or without it (2014, 2015). This should be taken into account in the

conditions of breeding different varieties in one site, since there is a high probability of their re-winding, which will damage the purity of the genotypes.

Fetal phases (see Table 1) start practically simultaneously (April 29, April 30, depending on the year of the study). Significant variations were detected at the stage of abandonment of ripe fruit. In all years, the fruits of the Footukami fruit dropped 4 days later. Significantly more informative to reveal certain patterns is data about the duration of phenophase (Table 2).

It has been established that female flowers have practically the same period of flowering, which in both varieties in 2013 lasted somewhat less than in other years. Obviously, such differences are primarily due to weather conditions. Thus, according to the Cherkassy Regional Hydrometeorological Center, in 2013 the average air temperature in the third decade of March was only  $-0.7^{\circ}\text{C}$  (in 2014 -  $9.2$ , in 2015 -  $21.6^{\circ}\text{C}$ ). That is why in 2013 female and male flowers of both varieties bloom later (see Table 1) than in other years, which led to shortening the duration of this phenophase. This tendency may indicate the similarity of the adaptive capacity of varieties in response to changing environmental conditions, in particular air temperature.

In general, despite a slight difference in the lines of the beginning of fruiting stages (April 29, April 30 - see Table 1), the fruiting phase in the varieties of Funduk-85 lasted 4-5 days less than that of the Footukami variety. This indirectly indicates a higher level of its nonspecific resistance and productivity.

### Conclusions

It has been established that female flowers of *Corylus L.* (*Couturus L.*) and Footukami (85) bloom more often than men (2-5 days depending on the variety and period of research), which indicates their protogyny and prevent self-sowing. This should be taken into account in the conditions of breeding different varieties in one site, since there is a high probability of their re-sealing, which will damage the purity of the genotypes.

The female flowers had practically the same flowering period, which in both varieties in 2013 was less prolonged than in other years. This is due to weather conditions and can testify to the similarity of the adaptive capacity of the varieties in response to changing environmental conditions, in particular air temperature.

In general, despite a slight difference in the periods of the beginning of the fruiting phases (29, 30 April), this phase in the Phyllum-85 variety lasted 4-5 days less than that of the Footukami variety, which indirectly indicates a higher level of its nonspecific resistance and performance.

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