

THE PHENOLOGICAL AND POMOLOGICAL TRAITS OF BIOTYPES OF SERVICE TREE (*SORBUS DOMESTICA* L.) IN THE AREA OF DONJA MORAČA IMPORTANT FOR THE PRODUCTION OF GENERATIVE ROOTSTOCKS

Gordana Šebek¹

¹Centre for continental fruit Bujelo Polje, Biotechnical faculty Podgorica, University of Montenegro, 84000 Bijelo Polje, Montenegro

*e-mail:sebek@t-com.me

Abstract

The service tree can be used for ornamental purposes, wood and fruit production. The fruits can be eaten when bletted (over-ripe), or are used to produce marmalades, jams, jellies, juices, fruit wine or other alcoholic drinks. Although common fruit such as plums, apples, pears, or cherries are usually employed, unconventional fruit such as those of the service tree (*Sorbus domestica* L.) are also fermented. Unfortunately, contrary to France and Germany, where the service tree fruit is very important for the food industry, in Montenegro, that is not case. In those countries, the service trees are grown in orchards, for the maintaining the sufficient amount needed for further production. In Montenegro, the service tree grows sporadically and rarely solely in the region of Donja Morača. Service tree is the endemic fruit species in the area of Donja Morača. The aim of this work is to produce the seedlings for the service tree. The initial material is the small population of service tree in the area of Donja Morača.

A study conducted over a period of 3 years in Donja Morača area included in situ identification of biotypes of service tree. The study focused on few segments. Very first one included recording of the phenological traits - first flowering, full flowering, end of flowering and harvest period. The other segment comprised pomological, i.e. physical traits - fruit weight (g), fruit size (mm), mass of dry seed (g), and number of seed in 1 kg of the fruit. Fruit mass and mass of 1000 pieces of dry seeds were determined by measuring via the electric scale Metler 1200. The result is shown in grams with the accuracy of 0.01g. Fruit dimensions - length and width were measured by Vernier scale. Seeds from 5 selected biotypes of service tree were planted in the nursery and raised seedlings (generative rootstocks) were evaluated for nursery characteristics: germination, seedling verdure, uniformity and branching. Obtained results were statistically processed by the method of variance analysis and checked by LSD tests.

The highest average fruit mass of selected genotypes of service tree was recorded with the Biotype 1 (9.06 g) and the lowest with the Biotype 2 (15.65 g). Mass of dry seed (1,000 pieces) was 19.23 g with the Biotype 5, up to 31.35 g with the Biotype 1. The average seed germination of the selected genotypes of service tree was in the range from 22% (Biotype 4) to 42.3% (Biotype 1). The results of this research show that the: fruit mass, seed germination, plant height and stem diameter (corpulence) of seedlings of selected biotypes of service tree are genetic characteristics of selected biotypes of service tree.

We recommend Biotype 1 as potential generative rootstock due to the following characteristics: a) considering the aspect of generative rootstocks production, the mass of the fruit is on a satisfactory level (29.06 g). When it comes to this small fruits, we can obtain out of their relatively small total fruit mass the largest quantity of seeds needed for the production of generative rootstocks; b) high mass of 1,000 pieces of dry seeds (32.04g), as well as very good seed germination. The average germination of seeds for this genotype of service tree was 42.3 %.

Key words: Service tree, Endemic fruit species, Generative rootstock, Selected biotypes.