

POSSIBILITY OF PRODUCING ONE-YEAR OLD SEEDLINGS OF THE AUTOCHTHONOUS APPLE VARIETIES IN THE REGION OF NORTH MONTENEGRO

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Abstract

The aim of this paper is to determine morphological characteristics of autochthonous apple seedling sorts (Senabija, Arapka, Pašinka, Šarenika, Dapsićanka and Bjelija) with the vegetative rootstocks MM106 and wild apple seedlings (*Malus sylvestris Miller*) and water attaining capability of the leaves in one-year old seedlings of autochthonous apple cultivars .

Budding of sleeping bud was conducted in the fall (late August) during the years of 2009, 2010 and 2011. Due to poor production results there were other graftings that took place in the spring of years 2010, 2011 and 2012, in which the method of 'English linking' was used. Grafting height is 10 cm from the root collar of wild apple generative rootstock or vegetative rootstock for apple (MM106). Scions for grafting were collected in the spring before the abrupt movement of buds and stored in the basement until the proper grafting conditions. Acceptance of grafting was monitored during three years of production. The study (2010 - 2012) includes those morphometric characteristics of plants that are used as basic parameters for their classification according to outward, phenotypic characteristics. Determination of seedling growth indicators was done with a sample of 80 rootstocks. One-year seedling height was measured with a meter. The diameter of seedlings on 3 cm from the seedling grafting point was measured with a micrometer of 0.01 mm precision. The dynamic of evolution of the one-year seedlings (seedling height and thickness) was followed during the growing season treatments: June, July, August and September. The results were analyzed using one-way analysis of variance (statistical program Systat 11) where the middle of treatment compared to the LSD test. Examples of leaves for analysis will be taken when it is dry weather: three times a year - at the end of June, the end of July and the end of August. The dynamics of leaf dehydration per measured interval was determined by method of Eremeev 1964.

The study was conducted in three successive years to examine the possibility of producing in nursery one-year old seedlings of autochthonous apple cultivars grafted on vegetative rootstocks and wild apple seedlings (*Malus sylvestris Miller*) during the first year after bud grafting.

The results of this research also showed that the water attaining capability of the leaves in one-year old seedlings of autochthonous apple cultivars as an indicator of their resistance to drought was genetic characteristics of the cultivars.

Production of seedling material of autochthonous sorts with vegetative rootstocks MM 106 will be enormous contribution for even partially saving of fruit genofund that is the unity product of our ecological environment and autochthonous biocenosis.

Key words: *Autochthonous cultivars, Grafting, Morphological characteristics, One-year old seedlings, Resistance to drought, Water attaining capability.*