ABSTRACT

DETERMINATION OF MORPHOLOGICAL, PHENOLOGICAL AND POMOLOGICAL CHARACTERIZATION OF BLACK MULBERRY (*Morus nigra* L.) GROWN IN ULUBEY VICINITY, USAK PROVINCE

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This study was conducted on 15 different black mulberry (Morus nigra L.) genotypes in Ulubey vicinity in Uşak provence in 2013 and 2014. Morphological characteristics were in range as plant age 4-91 years, trunck circumference 61-187 cm; one-year-old branch diameter 0.30-0.95 mm, length 5.60-9.73 mm, node number 2.5-5.0, internode length 1.43-2.40 mm; two-year-old branch diameter 0.60-1.08 mm, length 16.83-18.50 mm, node number 4.5-6.0, internode length 3.03-4.98 mm; leaf width 8.1-11.9 mm, length 8.7-12.1 mm, leaf blade length 1.8-2.8 mm; leaf fresh weight 2.93-1.25 g, leaf dry weight 0.37-0.77 g, moisture ratio 69.3-78.4%. While in color measurement, L value 41.14-43.42, a value 8.20-10.70, b value 7.01-9.04, chroma 10.76-14.01, hue -0.81- -1.00 were observed in leaf lower side, L değeri 32.44-35.11, a değeri 7.60-9.62, b değeri 4.23-7.55, chroma 7.96-15.62, hue -0.98- -1.39 were determined in leaf upper side. Chlorophyll content were 0.67-0.69 and 0.57-0.60 in leaf upper side and lower side, respectively. Physiological characteristics were in range as leaf bud swolling time 17-22 April, blooming time 5-9 May, and harvest beginning time 28 June-1 July. Pomological characteristics were determined as fruit width 13.03-16.56 mm, length 16.70-23.47 mm, fresh weight 2.87-4.30 g, dry weight 0.90-1.22 g, color L 15.21-21.45, a 6.13-21.69, b 2.86-9.44, chroma 6.76-23.67, hue 1.98-2.70, titratable acid (TA) 1.37-2.24 g/100ml in citric acid equivalent, water-soluble acid solids (TTS) 11.55-19.04°Brix, pH 3.63-4.18, vitamin C amount 15.37-16.70 mg/100ml, total phenolic substance 132.41-147.16 mgGAE/100g, antioxidant capacity 15.04-24.44 µM TE/g. According to weighted-rankit method for pomological data regarding fresh consumption, genotypes were received scores between 210 and 440. Genotype 4 had the highest score in this selection for recommendation to growers.

Key words: Morus nigra, branch, leaf, flower, fruit characteristics, selection