

早熟甜樱桃新品种‘状元红’的选育

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摘要: ‘状元红’是从‘红灯’嫁接苗无性系中发现的早熟芽变品种。果实肾形, 果皮紫红色, 色泽鲜艳, 有光泽, 果肉较软, 肥厚多汁, 风味甜酸可口, 平均单果质量 11.3 g, 最大单果质量 14.3 g。可溶性固形物含量 20.7%, pH 值 3.5, 干物质含量 22.1%, 可溶性糖含量 13.8%, 总酸含量 0.75%, 维生素 C 含量 118 mg·kg⁻¹。品质上。果实发育期 42 d 左右, 比‘红灯’早熟 3~5 d, 在大连地区 6 月上旬果实成熟。‘状元红’早果性好, 栽后 3 a 见果, 丰产性好。树体和花芽抗寒力均较强, 抗细菌性穿孔病、叶斑病及早期落叶病能力较强; 与生产上常用品种对比, 其树体抗流胶病能力较‘佳红’‘红蜜’‘红艳’‘美早’品种强。较耐贮运。适合在山东、山西、陕西、四川、河南、河北等甜樱桃适栽区种植。

关键词: 甜樱桃; 新品种; ‘状元红’; 早熟

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Breeding report of a new early- ripening sweet cherry cultivar ‘Zhuangyuanhong’

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Abstract: ‘Zhuangyuanhong’ is a good-quality mutation selected from sweet cherry ‘Hongdeng’. In 1999, an original plant was selected from the bud mutation of ‘Hongdeng’. It was found that its characteristics on the property and the quality were different from the former ‘Hongdeng’ fruits. Furthermore, it expressed some good characteristics such as big size, early ripening and good tasting. In 2002, the result indicated that the clone propagated by top graft has the same characteristics as its mother plants. We compared its characteristics with ‘Hongdeng’ in detail. The results showed that ‘Zhuangyuanhong’ is really a bud mutation. After years of observation, the comprehensive characters both top graft and grafted seedlings were always consistent with the mother plant. It was showed that it has stable genetic traits. It was released as ‘Zhuangyuanhong’ after the validation by the Committee of Liaoning Cultivar Registration in 2016. The trees have a half open gesture. Young trees grow strongly. After entering the fruit stage, the vigor of growth of the trees is middle. The leaves are elliptic, 16.6 cm long, 8.2 cm wide. The flower characteristics are as follows: petals suborbicular, overlapping, stamens lower than pistil, stamens are 33, average longitudinal diameter of petals is 1.4 cm, average horizontal diameter of it is 1.4 cm, and the average length of the flower stalk is 1.0 cm. Fruit shape is reniform with an early season cultivar. Average weight is 11.3 g and maximum weight is 14.3. The skin of the fruit is mauve. The content of soluble solid is 20.7%, the content of soluble sugar is 13.8%, the content of total acid is 7.5 g·kg⁻¹, dry matter content is 22.1%, vitamin C is 118 mg·kg⁻¹ et al. Quality is excellent. The fruit development period is 42 d and it matures at the early June in Dalian area; the ratios of the fruiting branch of the 6 year-old plant are as follows: long branches is 11.2%, middle branches is 12.8%, short branches is 10.9%, flower bundle and cluster is 59.5%. Open pollination fruit rate is 44.2%. This variety can bear fruits after three years from the planting, and it has high yield potential. During the period of growth, diseases and insect pests are necessary to be controlled. The trees and the flower buds have strong cold hardiness, disease resistance such as bacterial perforation, leaf spot, and the strong ability of early deciduous. Compared with the usual varieties such as ‘Jiahong’ ‘Hongmi’ ‘Hongyan’ ‘Tieton’, it has stronger resistance of the flow gum disease.

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The fruit is suitable for storage and transportation. The adaptability of the variety is strong, and the suitable planting range is wide. Orchard should choose neutral sandy soil and has ability of moisture and fertilizer retention; spacing in the rows and spacing between rows are 3 m×4 m or 3m ×5 m. The configurations of pollinizer are ‘Summit’ ‘Lapins’ ‘Ranier’ and ‘Wanhongzhu’ et al.

Key words: Sweet cherry; New cultivar; ‘Zhuangyuanhong’; Early-ripening

甜樱桃是我国近 20 a 来发展最快的果树树种之一,2001 年我国甜樱桃栽培面积约 1.2 万 hm²,产量 0.8 万~1.0 万 t;至 2013 年,甜樱桃栽培面积 13.48 万 hm²,产量 52 万 t^[1]。随着甜樱桃大面积发展和市场的变化,品种结构不尽合理、果品质量较差等因素制约了我国甜樱桃产业的发展。因此,调整樱桃的品种结构,消减老劣品种,加快育种进程,选育高产、大个、品质上等、硬肉、抗性强等综合性状优良的新品种,是现阶段甜樱桃生产上亟待解决的问题。大连市农业科学研究院是国内最先开展甜樱桃育种的科研单位,先后选育出一批具有国内或国际先进水平的优良甜樱桃新品种^[2-6]。笔者经过多年努力,选育出早熟甜樱桃优良新品种‘状元红’(图 1)。2016 年 4 月通过辽宁省非主要农作物品种备案委员会备案(辽备果 2015011)。



图 1 早熟甜樱桃新品种‘状元红’

Fig. 1 A new early-ripening sweet cherry cultivar ‘Zhuangyuanhong’

1 选育经过

‘状元红’是大连市农业科学研究院从‘红灯’嫁接苗无性系中发现的早熟芽变品种。1995 年,课题组在苗圃内繁殖‘红灯’樱桃苗,并定植于当时的樱桃品种圃内,1999 年见果,在试验调查中发现其中一株与其他‘红灯’樱桃在结果性状及果实品质上表现不同,表现出果个大、成熟早、口感好等特点。次年,剪取接穗,高接到已结果的树体上进行观察,结果后发现该株系平均单果质量仍在 10 g 以上,成熟期早于‘红灯’,口感甜酸可口;另外在高接的同时,繁殖一批苗木,田间调查发现该品种在苗圃地中的表现与‘红灯’品种相比生长势偏弱。经过多年的连续观察,该品种无论是高接树还是嫁接苗繁育的大树其综合性状同芽变母株一致,遗传性状稳定,确定其为‘红灯’芽变品种。近几年,在大连地区陆续推广苗木 7 万余株。

2 主要特征

2.1 果实经济性状

‘状元红’果实肾形,整齐,果柄短粗。果皮紫红色。果肉较软,肥厚多汁。平均单果质量 11.3 g,最大可达 14.3 g。果实平均纵径 2.4 cm,平均横径 3.1 cm,果肉厚度达 1.2 cm,果柄长度 3.2 cm,平均粗度 0.2 cm。可溶性固形物含量 20.7%,pH 值 3.5,干物质含量 22.1%,可溶性糖含量 13.8%,总酸含量 0.75%,维生素 C 含量为 118 mg·kg⁻¹,果实可食率可达 92.8%(表 1)。核卵圆形,较大,黏核。较耐贮运。

表 1 ‘状元红’与对照品种果实主要经济性状比较

Table 1 Comparison of fruit characteristics between ‘Zhuangyuanhong’ and controls

品种 Cultivar	果实发育期 Time of fruit development/ d	平均单果质量 Mean fruit mass/g	最大单果质量 Maximum fruit mass/g	ω(可溶性固形物) Soluble solid Content/%	ω(可溶性糖) soluble sugar content/%	ω(总酸) Total acid content/ (g·kg ⁻¹)	ω(维生素 C) Vitamin C (mg·kg ⁻¹)	果实可食率 Edible rate/%	肉质 Flesh texture	风味 Flavor	品质 Quality
状元红 Zhuangyuanhong	42	11.3	14.3	20.7	13.8	7.5	118	92.8	较软 Slight soft	甜酸可口 Sweet and sour tasty	上 Superior
红灯 Hongdeng	45	9.6	15.0	17.1	12.5	8.1	109	92.9	较软 Slight soft	酸甜,略偏酸 Sweet and sour slightly	中上 Middle
早红珠 Zaohongzhu	42	9.0	10.6	19.0	12.5	7.1	92	89.9	较软 Slight soft	酸甜适中 Moderate sweet and Sour	上 Middle

2.2 植物学特征

‘状元红’树姿半开张,幼树生长健壮,进入结果

期后,树势中庸。‘状元红’樱桃叶片大,叶片阔椭圆形,平均叶长 16.6 cm,宽 8.2 cm,叶基呈圆形,先端渐