

晚熟桃新品种嵩源一号的选育

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摘要:嵩源一号是青州蜜桃自然实生品种。果实卵圆形, 果顶微凸, 平均单果质量 138 g, 最大单果质量 264 g; 果皮底色淡绿色, 80%以上着深红色, 茸毛密度中等; 果肉淡绿色, 近核处花青苷含量较高, 硬溶质, 风味脆甜, 可溶性固形物含量(w)14.1%, 果实去皮硬度 8.5 kg·cm⁻², 离核, 耐贮运, 室温放置 10 d、冷藏放置 1 个月风味基本不变。花蔷薇型, 有花粉, 自花结实率高, 早期丰产性好。果实发育期 130 d, 在潍坊 8 月中下旬果实成熟, 比青州蜜桃早 1 个月左右。抗寒性、抗旱性强, 适宜在山东、河北等北方桃产区推广栽植。

关键词:桃; 新品种; 嵩源一号; 晚熟

中图分类号: S662.1

文献标志码: A

文章编号: 1009-9980(2024)09-1907-04

Breeding of a new late-ripening peach cultivar Songyuan No. 1

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Abstract: Songyuan No. 1 was a late-ripening peach cultivar from the natural seedling of Qingzhoumitao, which is a well-known native cultivar in Weifang, as well as one of the six famous peach varieties in China. In 2011, during the investigation of Qingzhoumitao germplasm resources, an early maturing individual tree was discovered by the research group in the Qingzhoumitao base of Shengshi Fruit and Vegetable Professional Cooperative. The single mutant plant produced comparatively big and nearly all red fruits that ripened in mid-to-late August, approximately a month before Qingzhoumitao. Through high-grafting, variety comparison and regional cultivation experiments, the mutation plant showed good fruit quality and stable genetic traits. It was authorized by the Ministry of Agriculture and Rural Affairs as a new plant variety in September 2023, and was named Songyuan No. 1, with variety rights code of CNA20201005934. The fruit shape of Songyuan No. 1 is ovate, with a slightly convex fruit top. The suture line of the fruit is medium, and the two halves are relatively symmetrical. The average fruit weight is 138 g, and maximum fruit weight is 264 g. The fruits are difficult to peel off, and the density of hairs is medium. The background color of fruit is light green, and more than 80% is covered by the deep red colour. The flesh is light green with intermediate red pigment, and hard-melting. The fruit firmness is 8.5 kg·cm⁻². The soluble solids content is 14.1%, the soluble sugar content is 10.04%, and the titratable acid content is 0.23%. The flesh is crispy and sweet. The core is freestone. The cultivar offers exceptional fruit quality and great storage characteristics, and the flavor remains unchanged for 10 days at room temperature or a month in cold storage. In Weifang, Shandong province, the flowering period of Songyuan No. 1 is in early April and lasts for about one week. The fruit ripening date begins in mid-to-late August, and the fruit development period is about 130 d. The budbreak period of trees is in mid-March, the defoliation period is in late November, and the whole growth period is 260 days approximately. Compared with Qingzhoumitao, its fruit mature period is about a month earlier and the fruit size

收稿日期: 2024-04-15

接受日期: 2024-05-08

基金项目: 潍坊市科学技术发展计划项目(2022ZJ1088); 潍坊市现代种业创新团队项目; 山东省果品产业技术体系(SDAIT-06-18)

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is larger. The tree vigor is strong with more branches. The leaves are medium in size, lanceolate, and deep green color, with two to four kidney-shaped nectar glands, and the petioles are middle length and thick. The flowers are rose-shape with pollen, and pale pink color, and stamens are higher than pistils. The variety has high self-fruitful ability, excellent early fertility and good flower-forming capacity. The trees begin to bear fruits in the 2nd year after planting, and in the 4th year they come into a higher production. In mountain areas, it is recommended to train the open system with three scaffold limbs, and planting spacing should be 3 m × 4 m. In plain areas, it is suitable for applying Y-shape pruning with the spacing of 2 m × 5 m. After many years of cultivation and observation, the cultivar have shown excellent cold and drought resistance, and has no special diseases and insects or pests. It is suitable for popularization and planting in northern peach-producing areas like Shandong and Hebei.

Key words: Peach; New cultivar; Songyuan No. 1; Late-ripening

青州蜜桃在中国栽培历史悠久,不仅是国家地理标志产品,还是山东水果“历史八大名产”、“中国六大传统名桃”之一。青州蜜桃一直是潍坊地区的主栽品种,果实色泽浓艳、肉质细腻、清香甘甜、极耐贮运,且成熟期多为9月中旬至11月上旬,正处于桃果淡季,深受消费者喜爱^[1],目前仅在青州市青州蜜桃栽培面积已达0.657万hm²。在2022年中国农产品区域公用品牌价值评估中,青州蜜桃区域品牌价值已达20.59亿元^[2]。

虽然青州蜜桃作为地方名优特色水果发展前景较好,但近年青州蜜桃产业却出现了果实品质退化、优良品种匮乏、成熟期集中、树体老化弱化、种植效益低等诸多问题,制约了青州蜜桃产业的发展^[3-5]。为此,笔者课题组以熟期配套、优质耐贮为育种目标,开展了青州蜜桃新品种选育研究,历时十余年选育出了晚熟桃新品种嵩源一号,该品种果个较大,着色良好,耐贮运,果实成熟期比青州蜜桃早1个月左右,在潍坊地区8月中下旬成熟,延长了青州蜜桃市

场供应期,是优质的青州蜜桃更新换代品种。

1 选育经过

课题组于2011年在临朐县盛世果蔬专业合作社基地进行青州蜜桃种质资源调查时,发现一株果实成熟期早的青州蜜桃自然实生单株,随即进行挂牌标记,加强田间管理,经课题组连续3 a(年)观察,发现其果个较大,外观漂亮,在潍坊地区成熟期为8月中下旬,比青州蜜桃早1个月左右。课题组于2014—2018年在临朐县盛世果蔬专业合作社基地进行高接鉴定试验和品种比较试验。2016—2021年在临朐、青州、沂源等地进行多点区试和早期丰产试验。试验结果表明,该优系综合表现优良,果实成熟期比青州蜜桃早1个月左右,果个较大,着色良好,耐贮运,早期丰产性好,抗旱性、抗寒性强,且遗传性状稳定。该品种于2023年9月5日获得农业农村部植物新品种权授权,定名为嵩源一号(图1),品种权号:CNA20201005934。



图1 晚熟桃新品种嵩源一号

Fig. 1 A new late-ripening peach cultivar Songyuan No. 1

2 主要性状

2.1 植物学特征

嵩源一号树势健壮,树姿半开张,萌芽率和成枝力中等。1年生枝阳面红褐色,背面为绿色,有光泽,平均节间长度1.4 cm。叶片披针形,叶色深绿色,叶片平均长度13.9 cm,宽度3.1 cm;叶柄长度1.0 cm,蜜腺肾形,2~4枚;叶基近直角,叶尖角度小,叶缘浅锯齿状。花蔷薇型,单瓣,花瓣5枚,花浅粉

色,花药橘红色,花粉量多,雄蕊高于雌蕊。

2.2 果实主要经济性状

果实卵圆形(表1),果顶微凸,缝合线明显程度中,成熟度一致,平均单果质量138 g,大果264 g。果皮底色淡绿色,果面着深红色,果面红色覆盖度80%以上,茸毛较短,中等密度。果肉淡绿色,近核处花青苷含量高,汁液多,硬溶质,风味脆甜,可溶性固形物含量(w)14.1%。离核,基本不裂果。果实去皮硬度 $8.5 \text{ kg} \cdot \text{cm}^{-2}$,耐贮运,室温放置10 d、冷藏放

表1 嵩源一号与青州蜜桃果实经济性状比较

Table 1 Comparison of fruit economic characters between Songyuan No. 1 and Qingzhoumitao

品种 Cultivar	果形 Fruit shape	平均单果质量 Average single fruit mass/g	着色多少 Skin color	w(可溶性固形物) Soluble solids content/%	肉质 Flavor	果核状态 Stone adhesion	果实发育期 Fruit development time/d
嵩源一号 Songyuan No. 1	卵圆形 Ovate	138	多 Much	14.1	硬溶质 Firm texture	离核 Free stone	130
青州蜜桃 Qingzhoumitao	近圆形 Round	78	中 Middle	13.8	硬溶质 Firm texture	离核 Free stone	160

置1个月风味基本不变。

2.3 生长结果习性

嵩源一号易成花,复花芽为主,花芽起始节位为2~4节,花粉量大,自花结实率高,进入盛果期后各类果枝均能结果。该品种在各区试点栽培早期丰产性好,2016年春定植,株行距 $3 \text{ m} \times 4 \text{ m}$,三主枝开心树形,在临朐嵩山定植第2年(2017年)见果,果实卵圆形,单果质量138 g;第3年(2018年)平均株产33.7 kg,折合每 666.7 m^2 产量1 853.5 kg;第4年(2019年)进入盛果期,平均株产45.8 kg,每 666.7 m^2 产量2 519.0 kg。在青州杨家窝,定植第2年见果,果实卵圆形,单果质量134 g,第3年平均株产31.8 kg,每 666.7 m^2 产量1 749.0 kg;第4年进入盛果期,平均株产41.9 kg,每 666.7 m^2 产量2 304.5 kg。

2.4 物候期

在山东潍坊地区,嵩源一号正常年份3月中旬叶芽膨大,4月上旬开花,花期持续1周左右。果实8月中下旬成熟,果实发育期130 d左右。11月下旬树体开始大量落叶,全年生育期260 d左右。

2.5 抗逆性及栽培适应性

经多年多点栽培观察,嵩源一号具有较强的栽培适应性,在潍坊青州、临朐等山区栽培表现出良好的抗旱、抗寒能力,在2021年1月潍坊出现强烈降温和大风天气,临朐嵩山约70%青州蜜桃出现一级冻害(少量僵芽,少数枝条干枯,树干根茎处出现浅褐

色),而嵩源一号根茎处、花芽、枝条等未发现冻害现象。

3 栽培技术要点

3.1 栽植密度

嵩源一号在平原、丘陵、山区均可栽植。在山区丘陵栽培建议株行距 $3 \text{ m} \times 4 \text{ m}$,可采用三主枝开心树形;在平原地区栽培,宜起垄栽培,株行距 $2 \text{ m} \times 5 \text{ m}$,建议采用“Y”字形树形。

3.2 整形修剪

树形可选择“Y”字形、双栽双臂、三主枝开心形等通风透光条件较好树形,修剪以长枝修剪为主。“Y”字形,东西方向留两大主枝,夹角 $60^\circ \sim 70^\circ$;双栽双臂每树穴东西方向并排斜栽两株,两株间夹角 $60^\circ \sim 70^\circ$;三主枝开心形留3大主枝,两主枝间夹角 120° 。幼树修剪以养树壮根、整形为主,选好主枝,疏除背上直立旺枝、背下枝。盛果期冬季按不同树形要求修剪,以长枝修剪为主,多留一些中长结果枝;注重夏季修剪,及时疏除背上直立旺长枝、过密新梢等,改善通风透光条件。

3.3 肥水管理

秋施基肥宜早,以施腐熟有机肥为主,每 666.7 m^2 施用量为4~6 t,并配合施入一定量的复合肥或缓释肥。萌芽期、果实膨大期注意水分供应,封冻前浇透一遍底水,采收前约15 d停止灌水。推荐桃园树盘

覆盖、行间生草,可采用自然生草或人工种草,人工种草草种可选择长绒毛野豌豆、二月兰、紫花苜蓿等^[7]。

3.4 病虫害防治

嵩源一号抗病性较强,多年多点栽培未发现特殊病虫害。在山东栽培主要病害有褐腐病、穿孔病、疮痂病等,主要虫害有梨小食心虫、橘小实蝇、蚜虫、潜叶蛾、绿盲蝽等。值得注意的是,嵩源一号属于晚熟品种,近年来橘小实蝇危害呈上升趋势,在栽培时要及时悬挂粘虫板、性诱剂等进行防控。每666.7 m²可以悬挂3~4个性诱瓶,选择枝叶茂密或者比较高大树下距地面约1.5 m处悬挂,每隔3周左右补充1次性诱剂。

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