

中熟油蟠桃新品种‘中油蟠7号’的选育

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摘要: ‘中油蟠7号’是通过多代杂交聚合选育出的中熟黄肉油蟠桃新品种, 其母本为单株‘98-4-32’, 父本为油蟠桃优异种质‘砧1-3’油蟠桃。果实大, 平均单果质量250 g, 大果400 g, 果实平整、厚度大, 底色黄, 果面近全红; 果肉黄色, 硬溶质; 风味浓甜, 可溶性固形物含量15%, 黏核; 花为铃形, 花粉多, 自花结实; 在郑州地区果实7月中下旬成熟, 果实发育期约115 d。

关键词: 油蟠桃; 新品种; ‘中油蟠7号’; 中熟; 黄肉; 硬溶质

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A new middle flat nectarine peach cultivar ‘Zhongyoupan 7’

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Abstract: Flat nectarine is popular for consumers because of its flat fruit shape and hairless skin. However, there are several inferior traits in the fruit, such as small fruit size, not closed blossom end, cracked stone and skin, which seriously restrict the development of the flat nectarine industry. Therefore, only few varieties were released in production at present. In our team, we started the breeding program of flat nectarine in the 1980s. Through multi-generation hybridizations, a series of new flat nectarine varieties with yellow flesh were released. Among them, ‘Zhongyou Pan 7’ is a mid-maturity variety, selected from the population between ‘98-4-32’ and ‘Zhen 1-3’ that were crossed in 2007. The female parent ‘98-4-32’ comes from the population ‘Beijing 3-2’ × ‘4-1’ crossed in 1998, and ‘4-1’ comes from the cross population ‘Sunago Wase’ × ‘Shuguang’, which was crossed in 1994. The male parent ‘Zhen 1-3’ were selected from the seedlings of the elite landrace ‘Biantao’. In autumn of 2007, the embryo of the hybrid fruits were taken out for culture and the seedlings were planted in the greenhouse in that winter. In May 2008, the hybrid seedlings were transplanted into the open field with a spacing of 1 m × 4 m. In 2011, the elite seedlings were selected and named ‘07-5-11’. After that, they were grafted in the aged tree in the orchards of Wenxian County, Henan province. In the second year after grafting, the tree could bear the fruits and the yield would be 10 kg per tree in the third year and 30 kg in the fourth year. Phenotypic survey showed that the fruit is characterized by large fruit size, with an average of 250 g and a maximum of 400 g. The fruit surface is all colored, and SSC reaches 15% with high sugar and low acid. The flesh is yellow with hard texture. The flower is pink, non-showy, and pollen is fertile. In Zhengzhou, the flower is blooming at late March, the fruit matures in late July, and the fruit development period reaches 115 days. In 2015, the elite line was named ‘Zhongyoupan 7’ and got patent in 2017. Compared with ‘Zhongyoupan 9’, this variety has a better fruit shape, a larger longitudinal diameter, a higher fruit weight, and a later maturity date more than 15-days. For young trees of 2 to 3 years old, the fruit setting rate is common. Therefore, it is necessary to control the tree vigor, which is helpful for flower formation and fruit setting. And with the developing of the tree, the fruit setting

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rate would be relatively high. Attention should be paid to thinning flowers and fruits to promote fruit quality. The main points are showed as below, thinning fruits 50 days after flowering, the distance between two fruits in branch should be greater than 25 cm, 2 to 3 fruits are left on the long branches, 1 to 2 are left in the middle branches, and no fruits in short branches and bouquet-shaped fruit branch. Fruit bagging technology is suggested in rainy areas but of areas with little rain. It is suitable to selecte glossy paper bags with yellow outside and black inside. If the bag is not picked before harvesting, the fruit will be golden yellow appearance, without red pigment. However, if the bag is removed at 3 to 5 days before harvesting, the appearance of the fruit will be bright red.

Key words: Flat-nectarine; New cultivar; ‘Zhongyoupan 7’; Middle ripening; Yellow flesh; Firm texture

油蟠桃因兼具油桃的光滑无毛、色泽艳丽和蟠桃的果形独特,食用更方便,风味甘甜,而成为重要育种目标。油蟠桃果小、果顶不闭合、裂核、裂顶、裂皮问题突出^[1]。此前,国内外也有少数油蟠桃新品种问世^[2-3]。但果实小或成熟期不配套,一直是产业发展的瓶颈问题。中国农业科学院郑州果树研究所于20世纪80年代开始进行蟠桃新品种选育,通过多代杂交聚合,选育出与‘中油蟠5号’和‘中油蟠9号’形成成熟期配套的品种——中熟黄肉油蟠桃新品种‘中油蟠7号’,以满足当前市场的需求。

1 选育过程

该品种与‘中油蟠9号’为姊妹系品种。1994年,以‘砂子早生’为母本,‘曙光’为父本进行人工杂交,获得‘4-1’优株(毛桃-油桃杂合体);1998年以‘北京3-2’为母本,‘4-1’为父本进行人工杂交,得‘98-4-32’油桃优株;2006年3月,以‘98-4-32’为母本,以利用地方品种‘扁桃’创制的优异油蟠桃种质

‘砧1-3’^[4]为父本,进行人工杂交(图1)。2007年6月将杂交果取出种胚,接种于WPM培养基上,进行胚培养。低温处理80 d后,经过练苗,在温室生长培养。2008年5月初将苗木带基质移入田间,按株行距1 m×4 m定植。2011年大量结果,其中‘07-5-11’油蟠桃表现果实全红,果肉厚,平均单果质量250 g,大果400 g,肉质硬,风味浓甜,极丰产。于当年8月下旬进行高接繁殖10株,2012年建立了优良品系试验园,在河南西华、新乡、温县等地试种,综合表现优良。2015年命名为‘中油蟠7号’(图2),2017年获得植物新品种权(CNA20151460.0)。2019年获得非主要农作物品种登记证书(GPD桃(2019)410009)。

2 主要性状

2.1 果实主要经济性状

果实扁平,两半部较对称,果顶平,梗洼浅,缝合线浅,成熟状态一致;果实厚度大,单果质量250 g,大果400 g;果皮光滑无毛,底色黄,果面近100%着



图1 ‘中油蟠7号’系谱图

Fig. 1 The pedigree of flat-nectarine peach ‘Zhongyoupan 7’



图2 蟠桃新品种‘中油蟠7号’

Fig. 2 A new flat peach cultivar ‘Zhongyoupan 7’

红色,非常美观,套袋栽培后果面金黄;果肉黄色,肉质为硬溶质,挂树期 10 d 左右,耐贮运性较好,货

架期较长;汁液中等,纤维中等;果实风味浓甜,可溶性固形物含量 15%以上,黏核(表 1)。

表1 ‘中油蟠7号’与‘中油蟠5号’‘中油蟠9号’的比较

Table 1 Comparison of ‘Zhongyoupan 7’ and ‘Zhongyoupan 5’ ‘Zhongyoupan 9’

品种 Cultivar	果实成熟期 Maturing date	果实发育期 Fruit development periods/d	果实纵径 Longitudinal diameter/cm	单果质量 Single fruit mass/g	w(可溶性固形物) Soluble solid content/%	风味 Flavor	肉质 Texture
中油蟠7号 Zhongyoupan 7	7月20日 July 20	115	5.00	250	15	甜浓 Very sweet	硬溶质 Hard melting
中油蟠5号 Zhongyoupan 5	6月25日 June 25	90	4.30	150	14	甜 Sweet	硬溶质 Hard melting
中油蟠9号 Zhongyoupan 9	7月4日 July 4	100	4.79	200	15	甜浓 Very sweet	半不溶质 Non-melting

2.2 生长结果习性

树势中庸健壮,长、中、短果枝均能结果,其中长果枝占 41.56%,中果枝占 24.68%,短果枝占 28.57%,徒长性结果枝 5.19%,徒长性结果枝长放时仍能结果。复花芽居多,占 62.12%,花芽起始节位低为第 1~2 节,自花结实,采用 2 m×4 m 株行距栽植,第 2 年少量见花,第 3 年平均株产 10 kg,第 4 年平均株产 30.0 kg。

2.3 植物学特征

树姿半开张、强健;叶片为披针形,叶腺肾形,2~3 个;花为铃形,花粉可育。

2.4 生物学性状

郑州地区 3 月初叶芽膨大,3 月中下旬开花,开花持续期约 7 d。果实 7 月 20 日成熟,果实生育期 115 d 左右。落叶终止期 11 月 10 日左右,生育期 260 d。

2.5 综合评价

该品种果实厚,裂果很少,基本不裂核,果面光洁度好;在雨水少的地区,可不套袋栽培;早期丰产性一般。

3 栽培技术要点

3.1 疏花疏果

该品种 2~3 a 生幼树,坐果率一般,要适当控制树势,多留花留果;成龄树坐果率高,果实大,应加大疏花疏果力度。疏果在花后 50 d 进行,果与果之间的距离应大于 25 cm,长果枝留 2~3 个果,中果枝 1~2 个果,短果枝和花束状果枝不留果,以留果枝侧面果实为好。

3.2 套袋栽培

本品种在雨水较少的地区可免袋栽培;在雨水

多的地区,采用套袋栽培。以外黄内黑(红)油光纸袋为宜。套袋后,带袋采摘,果面金黄,无返红现象;去袋后 3~5 d,果面全面亮红色,非常漂亮。

3.3 合理施肥

合理施肥,保证树势健壮,结果部位在树体中外部,但避免太阳直射引起的果锈。

3.4 适时采收

该品种果肉硬度较好,但套袋后果皮较薄,因此要适时采收;生产‘金果’时,可带袋采收。

3.5 采后包装

该品种果实大,包装盒子宜为单层。盒内宜用塑料泡沫制成凹槽,以避免果实之间相互挤压。

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