

早熟黄肉桃新品种紫金黄脆的选育

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摘要:紫金黄脆是以晚熟、耐贮运硬质桃华玉为母本,早熟油桃优系Z8为父本杂交育成的黄肉桃新品种。该品种果实形状为圆形,果面80%以上着红色、茸毛中多,果皮中厚、不能剥离。平均单果质量242 g,大果质量达到450 g。果肉黄色,硬脆爽口,汁液中多,风味甜或微酸,可溶性固形物含量(w,后同)12.2%,可溶性糖含量8.17%,可滴定酸含量0.24%。半离核。耐贮运,室温放置10 d、冷库贮藏3周风味基本不变。花铃型,花粉可育。在南京地区3月中旬盛花、6月下旬成熟,果实发育期约95 d。1年生成苗定植第2年开花结果,5年生树进入盛果期,早果丰产性好,适宜江苏桃产区及类似生态条件地区栽培。

关键词:桃;新品种;紫金黄脆;早熟;黄肉;硬质

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A new early-ripening peach cultivar Zijinhuangcui

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Abstract: Zijinhuangcui is a new early-ripening peach cultivar for the fresh-eating purpose, which was selected from the cross between Huayu (peach) and Z8 (nectarine) in 2007. Huayu is a late-ripening and white-fleshed peach cultivar with good storage and transportation ability, while Z8 is an early-ripening nectarine selection. In late April of 2008, 314 seedlings were planted in the breeding nursery of Jiangsu Academy of Agricultural Sciences at the spacing of 4 meters between rows and 1 meter between trees in a row. It was initially selected in 2011 for its early ripening and firm texture, and then was top-grafted in the autumn. After regional adaptability testing at three sites (including Suzhou, Nanjing and Xuzhou) over six years from 2014 to 2019, it was finally selected in 2019, and named as Zijinhuangcui. The tree vigor is moderate with half-open gesture. The current shoots are amaranth in color. The internode length of long fruit-bearing branch is 2.60 cm. The greenish-yellow leaves are long elliptic-lanceolate, being 16.56 cm long and 4.81 cm wide and crenate. The length of petioles is 0.82 cm. Leaf glands are reniform, with about 2 to 4 counts. The flower is nonshowy with 5 petals and purple pink color, and it blooms in mid-March in Nanjing. The fruit is round with round-flat top, mostly covered with red color. The flesh is yellow and crisp with stony-hard texture, sweet taste or slightly sour flavor with good quality. The average fruit weight is 242 g, with a maximum fruit weight of 450 g. The soluble solids content is 12.2%, the soluble sugar content is 8.17%, the titratable acid content is 0.24%, and the flesh firmness without skin is 40.89 N. It is semi-free stone and the stone shape is ovate. The fruit matures in late June in Nanjing with the fruit development period lasting about 95 d. The proportion of flower buds

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to leaf buds is 145.93%, with mainly complex flower buds. This cultivar is self-fruitful, and under the open pollination conditions, fruit set rate is 33.4%. It can bear fruits next year after planted, and has high yield potential. It is moderately resistant to peach gummosis, bacterial leaf spot, brown rot, etc. The fruit has good storage and transportation ability, and flavor remains unchanged over 10 days at room temperature or after three weeks cold storage. Orchard should be established on sandy soil with irrigation and drainage system; planting spacing between trees in a row is (3-4) m and between rows is 5 m with open center system and spacing between trees in a row is (2.0-2.5) m and between rows is 5 m with Y-type system. Zijinhuangcui is suitable for cultivation in Jiangsu province and other areas with similar climate and geographical conditions.

Key words: Peach; New cultivar; Zijinhuangcui; Early-ripening; Yellow fleshed; Stony-hard

桃是原产于中国的重要落叶果树,自1993年以来栽培面积和产量持续保持世界第一。黄肉桃风味浓郁,富含类胡萝卜素^[1],是欧美国家鲜食桃的主要类型,而中国传统的鲜食桃为白肉桃。目前中国栽培面积最大的鲜食黄桃品种为锦绣^[2],由上海市农业科学院于1985年育成,近些年中国育成推出的锦香^[3]、黄金蜜桃1号^[4]等品种,进一步促进了中国黄肉鲜食桃的生产,市场份额不断提高。

随着物流运输业的快速发展,桃果的销售半径逐渐扩大,提高果实的硬度、延长贮运时间已成为桃研究的热点。果肉剪硬度高、软化速度慢的桃果降低了采收、运销过程中的损耗,是今后桃品种的发展方向。

1 选育经过

2007年以晚熟、白肉、硬质桃品种华玉为母本,早熟、黄肉油桃优系Z8为父本(图1),进行授粉,8月上旬采收杂交果实360个,种子在冷库放置2个月后播种于玻璃温室,最终获得杂种实生苗314株;2008年4月底定植于江苏省农业科学院桃育种圃,行距



图1 紫金黄脆结果状

Fig. 1 Fruiting of Zijinhuangcui

4.0 m,株距1.0 m。2010年杂种单株开花结果,其中的XY17-90果实6月25日成熟,果面着色好,肉质硬脆,风味甜。连续2 a(年)果实性状表现稳定,2011年确定为优选单株,秋季进行高接,2013年高接树结果,同年以毛桃为砧木繁殖小苗,2014年开始在江苏的苏州、南京和徐州等地进行试验。结果显示,该优系适应性良好,果实成熟早、果个大、硬脆爽口、可采期长。2022年3月获得非主要农作物品种登记证书,编号GPD桃(2022)320006,定名为紫金黄脆(图2)。

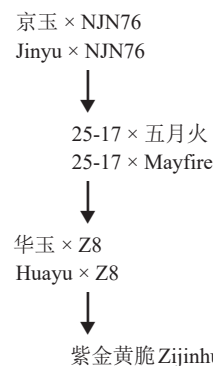


图2 紫金黄脆的系谱关系

Fig. 2 The pedigree of yellow flesh peach Zijinhuangcui

2 主要性状

2.1 植物学特征

植株生长势中等,树姿开张。一年生枝条向阳面紫红色,长果枝节间长度2.60 cm。叶片形状为长椭圆披针形,长16.56 cm,宽4.81 cm,叶柄长0.82 cm,托叶长1.09 cm;叶色绿黄,叶柄具2~4个肾形蜜腺;叶尖渐尖,叶基楔形,叶缘圆锯齿状。花铃型,柱头相对花药位置等高,萼筒内壁橙黄色,花粉可育、量多。

2.2 果实主要经济性状

果实形状为圆形,顶部圆平,缝合线明显,两侧较对称,成熟一致性良好。果个大,纵径6.96 cm,横

径7.69 cm,侧径7.85 cm,平均单果质量242 g,大果质量达到450 g。果皮底色黄,80%以上着红色;果皮茸毛中多、厚度中等,不易剥离。果肉黄色,留树时间长时红色素增加,近核处果肉无红色;肉质硬脆,属硬质型,类似于母本华玉,果肉硬度40.89 N

(质构仪测定);汁液中等,纤维较少,风味甜或微带酸。可溶性固形物含量(w ,后同)12.2%,可溶性糖含量8.17%,可滴定酸含量0.24%。半离核,核小(表1)。果实在早熟品种中较耐贮藏,室温放置10 d、冷库贮藏3周风味基本不变。

表1 紫金黄脆与金陵黄露主要性状比较

Table 1 Comparison of main characters of Zijinhuangcui and Jinlinghuanglu

品种 Cultivar	成熟期 Ripening time	平均单果质量 Average fruit weight/g	w(可溶性固形物) Soluble solids content/%	肉质 Flesh texture	核黏离性 Stone adhesion	花型 Flower type
紫金黄脆 Zijinhuangcui	6月下旬 Late June	242	12.2	硬质 Stony hard	半离 Semi freestone	铃型 Nonshowy
金陵黄露 Jinlinghuanglu	6月下旬 Late June	230	12.5	硬溶质 Hard melting	黏 Clingstone	蔷薇型 Showy

2.3 生长结果习性

花芽形成良好,起始节位第2~5节,花芽与叶芽的比值1.67,以复花芽为主。5年生树徒长性果枝占0.39%、长果枝46.33%、中果枝20.46%、短果枝23.17%、花束状果枝9.65%,各类果枝均能良好结果。自花结实,自然坐果率33.4%。一年生成苗春季定植秋季形成花芽,早果性好,5年生树666.7 m²产量1650 kg,最高达1840 kg,丰产稳产。

2.4 物候期

在南京地区3月初萌芽,3月中旬盛花,花期稍偏早;6月20日以后果实成熟,果实发育期95 d左右;大量落叶期在11月上中旬,生育期约270 d。

2.5 抗逆性及栽培适应性

紫金黄脆为早熟品种,病虫害危害相对较轻,至今未发现对某种病虫害特别敏感的现象。生产中主要虫害有蚜虫、梨小食心虫等,细菌性穿孔病、流胶病抗性中等,6月中下旬雨水多时存在褐腐病,在江苏桃产区适应性良好。

3 栽培技术要点

3.1 建园定植

紫金黄脆花粉可育,不需要配置其他授粉品种。园地能排能灌,为提高农机使用效率,地势平坦的产区推荐宽行种植,行距5 m,株距自然开心形3~4 m、两主枝Y形2.0~2.5 m,丘陵山地根据地形地貌与坡度,适当增加密度;地下水位偏高的平地采用堆土起垄栽培模式,集聚表土堆成1.2 m左右宽的条垄。

3.2 整形修剪

三主枝、四主枝自然开心形树形,主枝伸向行间;两主枝Y形,主枝间夹角50°~60°,两主枝上下间距15 cm左右。冬季采用长枝修剪,重视夏季修剪,

及时疏除或留2~3芽短截内膛直立、过密枝,维持树体良好的通风透光条件。

3.3 肥水管理

每年秋季10月份施足有机肥,果实膨大期追施高钾复合肥。采收前10 d不浇水,以免降低糖度。推荐行间生草,草的高度控制在30 cm以内,及时去除恶性、攀缘类杂草。

3.4 花果管理

根据花期天气与坐果情况适时疏果,盛果期666.7 m²产量控制在1500 kg左右,以提高果实综合品质。该品种果实成熟早,可不套袋生产全红果实;也可套外黄内黑遮光袋生产纯黄果实,但需注意适时采收,以免果面出现“返红”现象。果实硬度高,采收期较长,可根据目标市场与消费需求确定适宜的采收时期与成熟度。

3.5 病虫害防治

做好冬春季清园工作,果实生长发育期间尽量少用农药或交替使用低毒低残留农药,推荐采用性诱剂、糖醋液、人工捕杀等方法,确保果实品质安全。

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