

耐贮白肉油桃新品种‘中油20号’的选育

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摘要: ‘中油20号’桃是以‘中油14号’为母本, 早熟耐贮油桃单株‘99-43-58’为父本杂交选育出的耐贮型白肉油桃新品种。该品种树体生长势中等, 树姿较开张, 果形圆, 黏核, 端正, 对称, 平均单果质量210~230 g, 大果250 g以上。缝合线中等明显, 果实梗洼深, 宽度中等。果皮底色白, 全面着红晕。果肉硬脆, 风味甜, 可溶性固形物含量(w , 后同)14.1%~16.2%。郑州地区2月底开始萌动, 3月下旬开花, 花期5~7 d。果实7月中旬成熟, 果实发育期为110 d, 10月下旬开始落叶, 到11月上中旬完全落叶。适合在河南及周边省份栽培。

关键词: 油桃; 新品种; ‘中油20号’; 白肉; 耐贮型

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A new white flesh and stony-hard nectarine cultivar ‘Zhongyou 20’

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Abstract: ‘Zhongyou 20’ is an early stony hard peach cultivar with white-flesh, selected from the cross between ‘Zhongyou 14’ as female parent and ‘99-43-58’ as male parent. The hybrid cross was made in 2005 and forty-five seeds was acquired and sixteen seedlings were planted in the orchard in 2006, with tree spacing four meters between rows and one meter between trees. In 2009, the fruit tree began to fruit. One of all the individuals was named as ‘05-1-138’ and showed distinguished from the other offsprings. In 2009, the ‘05-1-138’ was chosen as a new selection. In 2013, it was grafted on the rootstocks and tested in different place in Henan province and around cities. In December of 2018, ‘05-1-138’ was selected when growing in the breeding orchard, then named as ‘Zhongyou 20’ and was approved by the Approval Committee for Improved Varieties of Forest Tree of Henan Province. Leaf glands are reniform, about 2 to 5 ones with average about 3. Average length of the leaf is 18.6 cm including the petiole and the average width is 6.3 cm. The leaf petiole is medium with 0.7 to 1.1 cm. The young leaves are glabrous in both surfaces. Leaf form is lanceolate and flat in crossing section. In Zhengzhou area, it begins to sprout at the end of February and blossomed in medium or late March. The flower is non-showy, small, dark pink petals and self-fertile. The initial flowering date is from 15th to 23th of March and lasts 5 to 7 days. After fruiting, the fruit tree showed a moderately growth vigor, a relatively open posture and were extremely productive. The ripe date is in mid-July and fruit skin is with non-hairiness and full of a light red with 100% blush. The fruit properties white flesh, stony hard, clingstone and the shape is round without tip. The suture is slight apparent, extending from base to apex and the base is flat. The eating quality of fruit is sweet and medium acidic flavor. Because of the stony-hard type it has a very long period of keeping on the tree and good storage quality for long distance marketing. Red anthocyanin staining of pit cavities was slight near the stone. The maximum of the fruit weight is up to 250 grams, with an average fruit weight between 210 to 230 grams. The soluble solid content (SSC) is varied from 14.1% to 16.2%, containing 10.4% soluble sugar. The total acid content is

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0.36% and the vitamin C content is $10.6 \text{ mg} \cdot 100 \text{ g}^{-1}$. The overall fruit is with good quality. The fruit ripening date is in the middle third of July, the fruit development period is about 110 days. The leaves begin to fall in later October, and the growth period of the whole year is about 220 days. In the second years, the tree begins to fruit and in the third year the yield can reach up to 1 000 kilograms. In the full productive stage, the yield can reach to 2 500 kilograms per 666.7 m^2 . After cultivation test, this variety is suitable and can be widely cultivated in Henan province and surrounding provinces.

Key words: Nectarine; New cultivar; ‘Zhongyou 20’; White flesh; Stony hard

桃是深受我国人们喜爱的传统果品,但桃又是最不耐贮藏的果品之一,特别是传统的早熟水蜜桃品种,在采收后果实很快发生软化、腐烂,给生产者、经销商及广大消费者带来严重经济损失。我国是桃的原产地,有着丰富的种质资源,按肉质类型来说,主要有硬溶质、软溶质和不溶质等。硬质(Stony hard)桃是上世纪70年代报道的一种脆肉型桃,其果实成熟时不释放乙烯,因此,可以长时间保持很高的硬度,逐渐在桃育种中得到应用^[1-3]。

1 选育经过

选用中国农业科学院郑州果树研究所培育的白肉油桃品种‘中油14号’(6月中旬成熟,油桃)为母本^[4],采集早熟耐贮油桃单株‘99-43-58’花粉,于2005年春大蕾期时对杂交母树进行了去雄和人工授粉。授粉后杂交母树按常规管理。人工授粉当年

6月中旬从母树采收果实并获得杂交种子45粒,采用胚挽救技术将胚接种于培养基中,10月份种子萌芽后移栽到温室,最终获得杂种实生苗16株。于2006年4月中旬定植在桃育种圃,株行距 $1.0 \text{ m} \times 4 \text{ m}$,按常规方法栽培管理。

单株‘05-1-138’于2009年开花结果,铃型花,花粉多,自然坐果率较高,中熟,果形圆,果个较大,着色艳丽,品质优,极耐贮运。经连续4 a(年)观察鉴定,果实各主要经济性状表现稳定,2011年初选为优株并进行嫁接观察,结果后各株间表现没有明显差异,2013年复选并在汤阴县、民权县、孟州、上蔡县、驻马店、安徽砀山、江苏丰县和山西运城进行了区试及生产试验,观察和评价该品种生长结果特性、果实经济性状比较等。各性状遗传稳定,经济性状较好,深受生产者和消费者的好评,定名为‘中油20号’(图1),于2016年6月通过河南省林木良种审定



图1 耐贮型油桃新品种‘中油20号’

Fig. 1 A new stony-hard type peach cultivar ‘Zhongyou 20’

委员会审定(编号:豫S-SV-PP-030-2016)。

2 主要性状

2.1 植物学特征

‘中油20号’树体大小中等,生长势中等偏强,树姿半开张。花枝粗度中等,节间长度中,花枝花色昔显色深,花芽密度中,以复花芽为主。花铃型,萼筒内壁绿黄色,花冠深粉色,花瓣卵圆形,中等大小,花瓣5枚,雄蕊与花瓣等高,柱头高于花药,有花粉,子房外光滑无毛。托叶长度中等,叶片平均长度为 18.4 cm ,宽度为 6.3 cm 。叶片呈椭圆披针形,横截

面水平,顶端无外卷,叶基钝尖,叶尖角度中等,叶片颜色绿,叶缘锯齿浅,叶柄长度中等,叶柄蜜腺肾形,数目2~5个。

2.2 果实主要经济性状

如表1所示,‘中油20号’果实较大,平均单果质量 $210 \sim 230 \text{ g}$,大果 250 g 以上,果形圆,端正,对称,缝合线中等明显,果实梗洼深,宽度中等,果皮底色白,全面着红晕,果面无茸毛,果皮较厚,不能剥离。果肉硬脆,白色,果皮下花色昔多,果肉有花色昔,近核果肉花色昔少,果肉纤维少,味甜,可溶性固形物含量(w ,后同)为 $14.1\% \sim 16.2\%$ 。可溶性糖含量

表1 ‘中油20号’与对照品种果实主要经济性状比较
Table 1 Comparison of main economic characters between ‘Zhongyou 20’ and the control cultivars

| 品种 Cultivar | 成熟期 Ripening date | 果形 Fruit shape | 平均单果质量 Average fruit mass/g | w(可溶性固形物) Soluble solids content/% | 风味 Flavor | 硬度 Fruit texture/N |
|-------------------|----------------------|-------------------|--------------------------------|---------------------------------------|--------------|-----------------------|
| 中油20号 Zhongyou 20 | 7月10日 Jul. 10 | 圆正 Round | 232 | 14.1~16.2 | 甜 Sweet | 49.6 |
| 中油13号 Zhongyou 13 | 6月25日 Jun. 25 | 圆正 Round | 212 | 12.2~13.6 | 甜 Sweet | 17.9 |

9.04%，总酸含量 0.36%，维生素 C 含量为 10.6 mg·100 g⁻¹。核中等，椭圆形，中等褐色，表面核纹为点和沟，无裂核，黏核，核表面平滑。

2.3 生长结果习性

‘中油20号’幼树生长旺盛，在水肥条件较好，管理得当的情况下，当年定植，当年即可成花。第二年始果，第三年可进入丰产，666.7 m²产量可超过 1 000 kg。盛果期后树势趋缓，成花容易，花芽起始节位为 1~3 节，多为 1~2 节，以复花芽为主。各类果枝均能结果，以中果枝结果为佳。‘中油20号’花粉多，可不用配置授粉树，坐果率中等，丰产稳产，进入丰产期后 666.7 m²产量可超过 2 500 kg。

2.4 物候期

在郑州地区，‘中油20号’一般2月底开始萌动，3月中下旬开花，花期5~7 d。果实7月中旬成熟，果实发育期 110 d 左右。10月下旬开始落叶，到11月上中旬完全落叶。

2.5 抗逆与适应性

‘中油20号’为中熟油桃品种，郑州地区7月中旬上市，北方地区要做好蚜虫(3月下旬至5月中旬)、卷叶蛾(花期前后)、潜叶蛾、红蜘蛛(约花后60 d)、梨小食心虫等的防治，南方地区应加强缩叶病、细菌性穿孔病、褐腐病等病害的防治。未发现‘中油20号’对这些病虫害的明显抗性。

经过多年、多点试验观察，‘中油20号’在河南省各油桃主栽区表现出较好的适应性，花芽抗寒能力较强，未发现明显花芽冻害现象，也未发现裂核裂果现象。

3 栽培技术要点

3.1 高标准建园

根据行距开挖宽、深各 80 cm 左右的定植沟要求，沟中可填充秸秆、粪肥等，以提高土壤有机质含量。北方及山区、丘陵或较瘠薄的土地可采用 1.5 m×4 m 的株行距，Y 字形整枝；南方及土壤条件较好的肥沃良田可适当稀植，采用(2.5~4)m×(4~5)m 四主枝杯状整枝。

3.2 土肥水管理

为促进尽早形成树冠，视土肥状况在栽植后次年5月开始适当补充尿素和复合肥；盛果期后，每年

9—10月份重施基肥；谢花后追施1次氮磷钾复合肥；成熟前1个月和采果后分别施1次磷钾肥。在萌芽期和硬核期，要保证水分供应，同时避免旱涝交替。为提高果实品质，在采收前2周可适当控水。

3.3 整形修剪

采用 Y 树形或多主枝杯状树形，冬季修剪时上部主干上仅保留结果枝，防止上部打伞影响光照，下部可适当保留小型结果枝组。夏剪 1~2 次，及时去除旺枝、背上枝，防止郁闭，保持上下光照均匀，有利于生产标准化果品。

3.4 花果管理

根据坐果情况进行疏花疏果，保持合理负载。疏果应在花后 40 d 左右，大、小果区分明显时进行，疏除畸形果、病虫果和丛生果，666.7 m²产量控制在 2 000 kg 左右，约 12 000 个果。‘中油20号’果实硬度大，留树时间长，不变软，须等完全成熟时才可采摘，以免早采影响品质。

3.5 病虫害防控

为减少病虫害的发生，需进行冬季清园；春季萌芽期刚露红时细致喷施 1 遍 5 波美度石硫合剂；花前花后各喷 1 遍可立施防治蚜虫；5月下旬(花后约 60 d)喷施 1 遍哒螨灵防治红蜘蛛。

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