

早熟鲜食枣新品种‘新郑红9号’的选育

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摘要:‘新郑红9号’是从小白枣自然种群的芽变中选育的早熟鲜食新品种。在新郑地区果实成熟期为8月中旬,生育期为80~85 d。果实卵圆形,平均单果质量5.83 g,最大单果质量14.65 g,可食率97.8%,可溶性固形物含量(w,后同)25.8%,可溶性总糖含量21.43%,维生素C含量212 mg·100 g⁻¹。该品种肉质酥脆,汁多,味甜,鲜食口感好,适宜河南省各枣主产区种植。

关键词:枣;新品种;‘新郑红9号’;鲜食;早熟

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Breeding report of a new early - maturing fresh jujube cultivar ‘Xinzhenghong No.9’

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Abstract: ‘Xinzhenghong No.9’ is a new early-maturing fresh jujube cultivar selected from the bud variations of the natural population of Xiaobaizao. In 2005, when the jujube germplasm resources were collected in Zhongliu Village, Mengzhuang Town, Xinzheng City, it was found that a young shoot on one Xiaobaizao tree which is about 100-year-old bearing fruits with excellent fresh-consume traits. The mutant shoots were collected for scion in 2005-2010, and comparative experiments were carried out in the experimental garden of Xinzheng Jujube Science Institute. From 2010 to 2018, regional trials were arranged in Xinzheng and Minquan County, Henan Province. After many years of observation, the cloned trees show superior and stable traits. December 2018, the clone were examined by Henan Provincial Forest Cultivar Examination and Approval Committee, and approved as a new cultivar named ‘Xinzhenghong No. 9’. The cultivar has an open tree shape, and strong vigor. The leaves are lanceolate, yellow-green, with an average leaf length of 7.0 cm and width of 3.2 cm. The amount of flowers is large, the flower buds are oblate, each order has 5-15 flowers. The flower disk is yellow, with plenty honey, blooming in daytime. The fruit is oval, crisp, juicy, sweet, and has a good taste. The average fruit mass is 5.83 g and the maximum fruit mass is 14.65 g. The soluble solids were 25.8%, the soluble total sugar content was 21.43%, the total acid content was 0.35%, the Vc content was 212 mg·100 g⁻¹, and the edible rate was 97.8%. In the Xinzheng jujube producing area, germination in mid-April, beginning flowering in late May, full-flowering period in early June, crisp ripening period in early August, mature period in mid-August, and deciduous in late October, the fruit growth period is about 80-85 days. ‘Xinzhenghong No. 9’ has wide adaptability, strong disease resistance, drought tolerance and salt and alkali resistance. Fresh dates can stored at room temperature for 3-5 days. Suitable for planting in the main jujube producing areas of Henan Province. According to the soil and fertilizer conditions and management level, the intercropping type jujube garden adopts the row spacing of (4-6) m×(8-12) m, and the dwarf dense planting can choose the row spacing of 2 m×3 m, 1.5 m×4 m or 3 m×4 m. The tree shape of the dwarf dense planting jujube garden is generally selected from the small crown layered shape or the open-center shape, the tree height is controlled at 2.5 to 3 m, and the crown width is 3 to 3.5 m.

Key words: Chinese jujube; New cultivar; ‘Xinzhenghong No.9’; Fresh-consuming; Early-maturing

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枣原产于我国黄河中下游,我国枣树资源丰富,据《中国果树志·枣卷》记载,有枣品种700余个,按用途可分为鲜食、制干、蜜枣及兼用品种^[1]。晋、冀、鲁、豫、陕为我国传统枣栽培主产区,长期占据主导地位。近年来,新疆等西部地区由于独特的自然条件,非常适宜干枣的生产,已成为我国干制红枣的主产区,产量和面积均占主导地位。内地传统枣区面积不断萎缩,发展形势不容乐观,今后的发展方向应以鲜食枣为主,充分利用便利的交通条件、巨大的人口消费市场以及鲜枣不易储存的特性,结合当前兴起的生态旅游观光农业,大力发展鲜枣采摘园。但是,目前我国鲜食枣中,晚熟品种冬枣一统天下,生产上缺乏优质早、中熟鲜食枣品种,制约了鲜食枣产业的发展^[2]。为此,课题组经过多年努力,培育了鲜食早熟枣‘新郑红9号’,该品种8月中旬成熟,鲜食品质极佳,在河南多个枣主产区推广应用,优化了当地红枣品种结构,取得了显著的经济、社会和生态效益。

1 选育经过

1.1 亲本来源和亲本特性

‘新郑红9号’是从地方资源小白枣中选出。小白枣树姿开张,树势较强,萌芽力中等,成枝力较强。果实卵圆形,平均单果质量4.61 g,花量大,坐果率较高,鲜食品质优良,在河南8月中旬成熟,但存在果个较小、口感偏酸等问题。

1.2 选育方法和过程

‘新郑红9号’是通过单株选优的方法选育而成。2005年在新郑市孟庄镇中刘村普查枣树资源时,发现1株约100年生小白枣的变异枝条,所结果实鲜食性状表现优异,于是采集该变异枝条作接穗,在新郑市枣科院试验园中进行对比试验。以普通小白枣作对照品种,采取随机区组试验设计,经过5 a(年)的种植、对比试验和品质测定,该品种鲜食性好,果肉细,酥脆,味极甜;丰产性好,坐果率高,产量高,平均666.7 m²产量达1 000 kg。2010—2018年,将该品种安排到浚县、民权县进行区域试验,经过多年连续观察测定,表型性状优良且稳定。2018年通过河南省林木品种审定委员会审定,定名为‘新郑红9号’(图1),良种编号:豫S-SV-ZJ-014-2018。

2 主要性状

2.1 植物学特征



图1 枣新品种‘新郑红9号’

Fig. 1 A new jujube cultivar ‘Xinzhenghong No.9’

‘新郑红9号’树姿开张,树干灰褐色,皮纵裂,条纹较浅。枣头红褐色,枝长90.7 cm,粗0.8 cm。皮孔小,椭圆形,凸起开裂,针刺不发达。二次枝弯曲度不大,节间长6.4 cm。枣股圆柱形,平均长1.43 cm,平均粗1.32 cm,平均每股抽生3.4个枣吊,枣吊长27.8 cm,每吊平均着生叶片18.5枚。叶片披针形,黄绿色,平均叶长7.0 cm,宽3.2 cm,叶面积12.35 cm²,叶尖渐尖,叶基近圆形,叶缘具不整齐锯齿。花量大,花蕾扁圆形,每序开花5~19朵,雌蕊柱头2裂,位于花盘中央,淡绿色,雄蕊5枚,花盘黄色,富蜜液,属昼开型。

2.2 果实主要性状

果实卵圆形,纵径2.85 cm,横径2.4 cm,平均单果质量5.83 g,最大果质量14.65 g,可食率97.8%。可溶性固形物含量25.8%,可溶性总糖含量21.43%,酸含量0.35%,维生素C含量212 mg·100 g⁻¹。果顶广圆,梗洼小、中等深,果皮红色,果点小,不明显,果肉细,浅绿色,肉质酥脆,汁多,味极甜,口感综合评价极好。核纺锤形,平均核质量0.13 g,核纹较浅。与对照小白枣相比,果个大,可溶性固形物、可溶性糖含量高,甜味更浓(表1)。

2.3 生长结果习性

‘新郑红9号’树势较强,早实性强,嫁接当年可以结果,4~5 a进入盛果期,丰产性较小白枣高,平均吊果比1:2.1,小白枣平均吊果比1:0.9,‘新郑红9号’5 a生树666.7 m²产鲜枣1 000 kg左右。

表 1 果实经济性状比较

Table 1 Comparison of some fruit economic characters

品种 Cultivar	果实大小		单果质量 Average fruit mass/g	最大单果质量 The largest single fruit mass/g	果皮 颜色 Peel color	w(可溶性 固形物) SSC/%	w(可溶 性总糖) Total soluble sugar/%	w(总酸) Acid content/ %	w(维生 素 C) Vc/ (mg·100 g ⁻¹)	可食率 Edible rate/%
	纵径 Vertical diameter/cm	横径 Horizontal diameter/cm								
新郑红 9 号 Xinzhenghong No.9	2.95	2.43	5.83	14.65	红色 Red	25.8	21.43	0.35	212	97.8
小白枣(CK) Xiaobaizao(CK)	2.42	2.01	4.61	11.11	浅红色 Light red	22.5	17.34	0.32	219	97.0

2.4 物候期

在河南新郑,‘新郑红 9 号’与小白枣物候期相近,4月中旬萌芽,5月下旬始花期,6月上旬盛花期,

8月初脆熟期,8月中旬成熟期,10月下旬落叶,果实生长期 80~85 d,较生产上主栽品种‘灰枣’提前 20~25 d 成熟(表 2)。

表 2 ‘新郑红 9 号’与对照品种‘灰枣’物候期比较(河南新郑)

Table 2 Comparison of phenological periods between ‘Xinzhenghong No.9’ and ‘Huizao’ (Xinzheng, Henan)

品种 Cultivar	萌芽期 Sprout date	盛花期 Full blooming date	脆熟期 Crisp ripening date	成熟期 Ripening date	果实生长期 Fruit growth peirod/d	落叶期 Leaf fall date
新郑红 9 号 Xinzhenghong No.9	4月中旬 Mid Apr.	6月上旬 Early Jun.	8月初 Early Aug.	8月中旬 Mid Aug.	80~85	10月下旬 Late Oct.
灰枣 Huizao	4月中旬 Mid Apr.	6月上旬 Early Jun.	8月下旬 Late Aug.	9月中旬 Mid Sept.	100~105	11月上旬 Early Nov.

2.5 抗逆性

‘新郑红 9 号’适应性广,耐干旱、抗盐碱,对土壤条件要求不严;成熟期早,一般年份能够避开雨季,裂果率在 5%以下,对缩果病、炭疽病抗性强。

3 栽培技术要点

3.1 园地选择

枣园要选择土地平整、土壤肥沃、排灌良好的耕地,风大的地方要建防风林,林带要与风向垂直或基本垂直。

3.2 定植

根据土肥条件和管理水平,间作型枣园采取(4~6) m×(8~12) m的株行距,矮化密植可选用 2 m×3 m、1.5 m×4 m 或 3 m×4 m 的株行距,以酸枣或扁核酸为砧木嫁接繁殖。

3.3 整形修剪

‘新郑红 9 号’树势较强,树姿开张,萌芽力中等,成枝力较强,生产上一般采用小冠疏层形或开心形,树高控制在 2.5~3 m,冠幅 3~3.5 m。栽植后 1~3 年修剪的重点是培养树形,促其生长,加快树冠形成。4~5 a 的修剪的重点是调节营养生长和生殖生长的关系,维持生长与结果的平衡。5 a 后修剪的重点是在加强树体营养水平的基础上,通过修剪调节营养分配,夏季注意及时抹芽、摘心,减少养分消耗;冬剪轻剪长放,以缓和树势,保证稳产。

3.4 花果管理

‘新郑红 9 号’枣丰产性好,自然坐果率较高。

花期做好抹芽、摘心、开甲工作,对枣头留 6~8 个二次枝摘心,在花中后期地上有明显落花时开甲,开甲的宽度不宜过大,一般 5~8 mm,甲口及时抹药,开甲后间隔 7~10 d 连续喷施 15~20 mg·L⁻¹ 赤霉素 1~2 次。

3.5 适时采收

‘新郑红 9 号’是优良的鲜食枣早熟品种,成熟期早持续时间长,建议分批分期采收,在果面 20% 变红时即可采收,一般在 8 月上中旬。

4 推广前景

‘冬枣’是目前唯一一个大面积栽培的鲜食枣品种,为晚熟品种,成熟期为 9 月下旬至 10 月上旬。‘灰枣’是新郑枣区的主栽品种,为鲜食制干兼用品种,成熟期为 9 月 10 日左右。‘新郑红 9 号’枣成熟期在 8 月中旬,较‘灰枣’的上市期提前 20~25 d,较‘冬枣’提前 35~45 d,可提早优质鲜枣的上市期,有效拉长鲜枣市场供应期,具有广阔的推广应用前景。

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