

优质中熟梨新品种香蜜的选育

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摘要: 香蜜是以甘梨早6梨为母本、黄冠为父本杂交培育而成的中熟梨新品种。果实近圆形, 平均单果质量303.7 g; 果皮底色黄绿色, 果点中、密显、外凸; 梗洼和萼洼中深、窄, 萼片宿存或脱落; 果肉乳白色, 肉质酥脆, 去皮果实硬度3.47 kg·cm⁻², 石细胞少, 汁液多, 甜, 香味浓郁, 果心中等大小, 可溶性固形物含量(w, 后同)11.8%~13.6%, 可溶性糖含量7.5 g·100 g⁻¹, 有机酸含量0.109 g·100 g⁻¹, 维生素C含量3.84 g·100 g⁻¹, 品质上等。果实发育期126 d, 营养生长时间为210 d, 在甘肃白银地区, 果实8月底成熟, 丰产稳产, 盛果期产量可达31 500 kg·hm⁻², 生态适宜性、抗病性强; 适宜在甘肃平凉、白银、武威和张掖等地区推广种植。

关键词: 梨; 新品种; 香蜜; 中熟

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A new mid-ripening pear cultivar Xiangmi with high fruit quality

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Abstract: Xiangmi is a mid-ripening pear cultivar selected by artificial pollination, and it was hybridized between Ganlizao 6 (♀) × Huangguan (♂). The fruit shape is close to round, and the average fruit weight is 303.7 g. The fruit surface is smooth and clean, and the background color of peel is yellow green with fruit dots that are medium in size, dense, clear and convex. The stalk cavity and the eye basin are medium deep and shallow, and the fruit sepals are persistent or absent. The color of flesh is milk white. The flesh is crisp, juicy and sweet with few stone cells and strong aroma. The core is medium-sized. The soluble solids content is 11.8%–13.6%, soluble sugars content is 7.5 g·100 g⁻¹, organic acid content is 0.109 g·100 g⁻¹, vitamin C content is 3.84 mg·100 g⁻¹ and the flesh firmness is 3.47 kg·cm⁻². The tree canopy is conical in shape. The color of the trunk is grayish brown, the annual branches are dark brown on the exposed side and straight in shape, the density of lenticels is medium, and the twigs has fuzz on the surface; The leaf buds are moderately large and oblique, and the flower buds are oval, about 9.44 cm long. Young leaves are yellow green, the mature leaves are dark green and oval, the leaf surface is flat, and the leaf posture is inclined downward. The leaf tip is blunt-pointed, the leaf base is broadly cuneate, the leaf edge is sharp saw-tooth with prickly awn, the bending degree of the longitudinal axis is weak, the average length of the leaf is 12.1 cm, the width is 6.9 cm, the length of the petiole is 2.36 cm, and there is no stipule. There are 5–8 flowers in each cluster, white buds and corolla, purplish red anther, oval petals, contiguous, and the number is 5, and the stigma is equal or higher than the anther with 18–22 stamens. The fruit has 5 chambers, containing 7–10 seeds per fruit, which are dark

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brown and oval. The growth vigor of young trees is stronger, that tends to be moderate after bearing fruit, the tree's posture is half-open, the central leader is strong and the branching ability is medium. The annual shoot is farctate with high bud break rate, which are easy to form axillary flower buds, the spurs are the main fruit-bearing branch types. The fruit setting rate is high, with 2-4 per cluster and 1-3 accessory shoots on the cluster base; high-grafted trees begin to bear fruit in 2nd year, and the planted seedling trees begin to bear fruit in 3rd year. The continuous fruiting capacity of branches is strong, and light abscission of fruit happens before maturing. In Baiyin district, Gansu province, the flowers bloom in late April, and the flowering period lasts 9-12 days; fruits ripen in the late August, the fruit development lasts about 126 d, and vegetative growth lasts about 210 d. The yield of this cultivar is high and stable, which is about 315 00 kg·hm⁻² at full-fruiting period, with extensive ecological adaptability and strong disease resistance. It can be applied in pear-producing areas in Eastern, Central and Hosi Corridor of Gansu and other areas with similar ecological conditions.

Key words: Pear; New cultivar; Xiangmi; Mid-ripening

选育优质早、中熟梨新品种作为中国梨育种的重要目标之一,近几年取得了突破性进展^[1],但中国梨品种结构仍不尽合理^[2]。中熟梨品种有黄冠、清香、中梨1号、夏露、早魁、冀蜜、寒雅梨、巴梨、华蜜和金光等^[3-4],其中黄冠占中国中熟梨品种总面积的70%以上^[5]。甘肃省拥有独特的地形、地貌及多样的生态气候类型,适宜中熟梨品种的发展,而目前栽培的早酥、黄冠、苹果梨等品种,虽在熟期上有所配套,但各期品种数量相对较少,实际成规模栽培的品种更少。为了丰富品种类别,调整省内梨品种结构,增大中熟梨品种的占比份额,甘肃省农业科学院林果花卉研究所在21世纪初选配黄冠为亲本的杂交组合,经十多年的选育,育成具有自主知识产权的优良梨新品种香蜜,以为甘肃省梨产业品种结构优化调整提供有效的支撑。

1 选育经过

2009年甘肃省农业科学院林果花卉研究所在榆中果树试验站梨品种试验园进行人工杂交,亲本组合:甘梨早6(♀,四百目×早酥)×黄冠(♂,雪花梨×新世纪),共杂交62个花序,当年收到杂交种子960粒,2010年经沙藏层积处理后播种,获得杂种实生苗829株,2011年春定植于本所选种圃中,编号09-3-680。2013年开始结果,2015年选为优系。2016—2020年以早酥梨为对照,在省内平凉、白银、武威、张掖等不同生态区开展多点区试及生产试验,通过对该品种生长结果特性、果实主要经济性状和主要病虫害抗性、生态适应性等进行观察、调查、测定,表现为果实中熟,早果,酸甜适口,丰产稳产,抗逆性强,适应区域广,

综合性状表现优良。2022年1月,通过农业农村部非主要农作物品种登记(登记编号:GPD梨(2022)620005),定名为香蜜(图1)。品种系谱图见图2。



图1 梨新品种香蜜

Fig. 1 A new pear cultivar Xiangmi

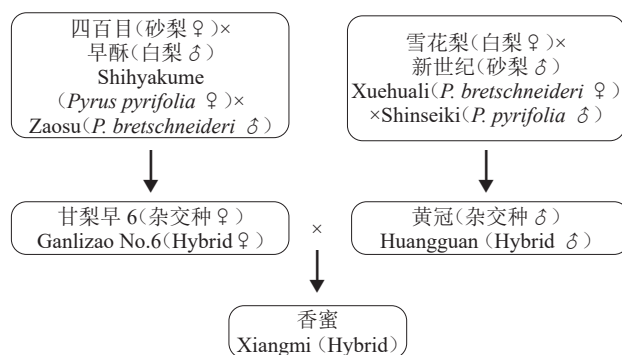


图2 香蜜系谱图

Fig. 2 Pedigree of Xiangmi

2 主要性状

2.1 果实主要经济性状

果实近圆形,平均单果质量303.7 g,果实纵横

径比为0.97;果皮中薄、黄绿色;果面光洁,锈斑无或极少,果点中、密显、外凸;果梗斜生,长2.72 cm、粗2.60 mm,梗洼和萼洼中深、窄,萼片宿存或脱落;果肉乳白色,肉质酥脆^[4-5],石细胞少,汁液多,酸甜适口;果心卵圆形、中等大;果实去皮硬度3.47 kg·cm⁻²,

可溶性固形物含量(w,后同)11.8%~13.6%,可溶性糖含量7.5 g·100 g⁻¹,有机酸含量0.109 g·100 g⁻¹,维生素C含量3.84 mg·100 g⁻¹,品质上等。采前落果轻,耐贮藏,常温下可存放15 d以上,恒温冷库0~1 °C条件下可存至翌年3月(表1)。

表1 香蜜与早酥果实主要经济性状比较

Table 1 Comparison of main fruit characteristics between Xiangmi and Zaosu

品种 Cultivar	平均单果质量 Average fruit weight/g	果形 Fruit shape	果皮颜色 Fruit skin color	肉质 Flesh texture	风味 Flavor	w(可溶性固形物) Soluble solids content/%	果实发育期 Time of fruit development/d	成熟期 Ripening date	落果、裂果情况 Abscission of fruits and dehiscent fruit
香蜜 Xiangmi	303.7	近圆形 Suborbicular	黄绿 Yellowish-green	酥脆 Crisp	酸甜适口 Mild sour and sweet	11.8~13.6	126	8月底 End of August	轻 Light
早酥 Zaosu	252.8	长卵圆形 Long olivary	黄绿 Yellowish-green	细脆 Fine, Crisp	淡甜 Light sweet	10.5~12.2	118	8月下旬 Late August	轻 Light

2.2 植物学特征及生长结果习性

树姿半开张,树冠圆锥形。枝干灰褐色,一年生枝阳面暗褐色、形状直,皮孔密度中等,嫩枝有茸毛。叶芽中等大、斜生,花芽卵圆形,长度9.44 cm,较大。嫩叶黄绿色,成熟叶片深绿色、卵圆形,叶面平展,叶姿斜向下,叶尖钝尖,叶基阔楔形,叶缘锐锯齿、有刺芒,纵向轴弯曲程度弱,叶片平均长12.1 cm、宽6.9 cm,叶柄长2.36 cm,无托叶。每花序5~8朵花,花蕾白色,花冠白色,直径3.02 cm,花药紫红色,花瓣卵圆形、邻接,5枚,柱头等高或高于花药,雄蕊18~22枚,萼片外卷;果实5心室,单果种子数7~10粒,黑褐色,椭圆形。

幼树树势强,结果后趋于中庸,干性强,成枝力中等。一年生枝枝条充实,长放易形成腋花芽,平均长69.6 cm、粗0.91 cm(基部5 cm处),节间长4.4 cm;萌芽率高,以短果枝结果为主;坐果率高,每花序2~4个,抽生果台副梢1~3个;大树高接2年结果,成苗定植第3年即可结果,第5年进入盛果期,盛果期每666.7 m²产量可超过2100 kg,连续结果能力强,采前落果轻。

2.3 物候期

在甘肃白银地区,3月下旬花芽萌动,4月下旬盛花,花期9~12 d,8月底果实成熟,果实发育期约126 d,营养生长期约210 d。

2.4 栽培适宜性及抗逆性

香蜜梨在甘肃中部及河西等地均能正常生长结果,且生长健壮,抗寒、耐旱、耐盐碱、耐高pH,正常越冬后未出现枝干、叶片和花芽等器官损伤现象,栽

培性状一致性、稳定性强。一般栽培管理条件下,对黑斑病、褐斑病、白粉病、梨木虱和梨小食心虫抗性较生产主栽品种早酥强。

3 栽培技术要点

3.1 栽植及整形修剪

选杜梨作基础,采用高位嫁接;株行距3 m×4 m;授粉品种选早酥、中梨1号、苏翠1号、苹果梨等,配置比例为(4~5):1。

采用疏散分层树形;幼树及时开角、拉枝,轻剪少疏;结果后,疏、剪结合,枝组及时更新,合理负载。

3.2 花果、肥水管理

结合冬剪,疏除过多、过密花芽;花序分离后,每10 cm留一花序;晚霜后,留果间距20~25 cm。

幼树基肥以有机肥为主,每666.7 m²施优质农家肥4~6 m³,生长季追施三元复合肥,及时灌水;结果后,据树势和负载,增施有机肥,在开花前、幼果期、枝条快速生长期、果实膨大期,用尿素、磷酸二铵配合三元复合肥各追施1次,加强水分管理。

3.3 病虫害防治

病害主要为梨腐烂病和黑斑病,虫害主要有梨木虱、梨小食心虫、梨茎蜂、蚜虫和红蜘蛛等,应注意加强前期预防和综合防治。

4 综合评价与应用前景

香蜜梨为中熟梨新品种,果形端正,外观美,整齐度高,肉质酥脆,汁多味浓,贮运性好,综合品质优良,且兼具早果丰产和连续结果能力、生态适应性、

抗病虫能力强等特性,具有广阔的发展前景。可在甘肃省内陇东、中部、河西梨产区及生态类型相似的地区推广应用。

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