

鲜食葡萄新品种申园的选育

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摘要:申园是以申丰为母本、申玉为父本,通过人工杂交选育出的四倍体鲜食葡萄新品种,具有坐果稳定、着色均匀、栽培省力的特点。果穗圆锥形,紧密度中等,平均单穗质量448 g,平均单粒质量10.9 g,果粒长椭圆形,果皮深紫红色,肉质细腻,草莓香味,含种子2~3粒。可溶性固形物含量(*w*,后同)18.9%,可滴定酸含量0.48%。生长势较强,花芽分化良好,萌芽率91.96%,结果枝率95.39%,结果系数1.99。在上海地区避雨栽培条件下8月中旬成熟,实施控产栽培,适宜产量为15 000~18 750 kg·hm⁻²。适宜在国内巨峰葡萄适栽区种植。

关键词:鲜食葡萄;新品种;申园

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A new table grape cultivar Shenyuan

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Abstract: Shenyuan is a tetraploid table grape cultivar selected from the cross between Shenfeng and Shenyu with the characteristics of stable bearing habits, uniform coloring and easy cultivation. Artificial hybridization pollination was conducted in 2011 and the seedlings were planted in an experimental vineyard at the Shanghai Academy of Agricultural Sciences in 2013. One hybrid was initially selected in 2015 for its large berry, uniform coloring and strawberry flavor. After four years of observation and five years regional adaptability testing at four different sites, Shenyuan was awarded by the Committee of Shanghai Cultivar Registration in 2023. Shenyuan belongs to Euro-American hybrids with strong vigor. The cane tip is half open with low-density hair, the vine is half upright, and the color of dorsal and ventral side of internodes is green with red stripes. The upper surface of the young leaf is reddish brown and density of prostrate hairs between veins at lower surface is sparse. The shape of the mature leaves is triangular with medium size and there are seven leaf lobes. It is close and U shaped in petiole sinus. Anthocyanin coloration of main veins on upper leaf surface is extremely weak. Mature canes are reddish brown with a smooth surface, and its flowers are hermaphrodite. The clusters are conical in shape and medium in compactness, and has an average weight of 448. The berry is long elliptic-shaped with 32.0 mm in length and 23.9 mm in diameter, and average berry weight of 10.9 g. The berries are usually mulberry color with uniform shape and medium-thickness skin. The flesh is juicy and has rich strawberry flavor, with the average soluble solids content of 18.9% and titratable acids content of 0.48%. Each berry contains 2 to 3 seeds. The budbreak period is in late-March, the flowering period is in mid-May, and the maturity period is in mid-August. The cultivar has good flower bud differentiation with average germination rate of 91.96%, fruiting cane rate of 95.39%, and fruiting coefficient of 1.99. It is suitable for cultivation in Kyoho growing areas. Both pergola and vertical trellis system can be used for training and

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Shenyuan is suitable for medium cane pruning. The suitable yield should be controlled around 15 000–18 750 kg·hm⁻². Balanced application of fertilizers and water are based on the budbreak and development period. It is necessary to do well in the prevention and control of pests and diseases during key periods. The application of chemical prevention of gray mold before and after flowering is especially critical.

Key words: Table grape; New cultivar; Shenyuan

葡萄是世界性的重要经济果树之一,其中四倍体欧美杂交种葡萄因果粒大、风味浓而深受消费者的喜爱,是目前上海地区葡萄生产中最主要的品种类型^[1]。优良的品种是葡萄产业高质量发展的基础^[2],然而,四倍体巨峰系葡萄品种在上海地区栽培中普遍存在落花落果、穗形不整齐、商品率低等问题,

给生产者带来较大的栽培难度,直接影响经济收益,已无法满足当前省工化、优质化的产业需求。因此,围绕上海葡萄产业生产现状、消费需求以及都市农业的需要,上海市农业科学院林木果树研究所历经十余年育成了坐果稳定、着色均匀、栽培省力的鲜食葡萄新品种申园(图1)。



图1 鲜食葡萄新品种申园
Fig. 1 A new table grape cultivar Shenyuan

1 选育过程

2011年以紫黑色、早中熟的申丰^[3]为母本,以黄绿色、中晚熟、结果习性优良的申玉^[4]为父本进行杂交。2012年春播种获得杂交苗,2013年定植于上海市农业科学院葡萄选种圃内。2015年杂交苗陆续开始结果,果实考评发现编号为13-307的单株表现为大粒、肉细、草莓香味,初选为优良单株,2016—2018年对单株进行结果习性和果实品质的考察发现该单株结果性能良好,果皮着色均匀,果穗果粒整齐,肉质细腻,风味浓郁,确认为优良品系,代号为沪33。2019年开始在上海市农业科学院葡萄试验园以巨峰为对照进行品种比较试验,同年开始在上海市金山区、浦东新区、嘉定区、奉贤区进行区域试验,结果表明,该优系性状表现稳定且一致,与对照品种

巨峰相比,在坐果性能、果皮着色等方面具有优势。2023年11月通过上海市林木良种审定(审定编号:沪S-SV-VL-002-2023),定名为申园。

2 主要性状

2.1 植物学特征

申园为欧美杂交种,四倍体,植株生长势较强。嫩梢稍尖半开张,梢尖匍匐茸毛稀,新梢半直立,新梢节间背侧和腹侧颜色均为绿色带红条纹;成熟枝条表面光滑,红褐色。幼叶正面红棕色,背面主脉间匍匐茸毛稀疏;成龄叶三角形,叶片中等大小,正面主脉花青素着色无或极弱,七裂,上裂刻深;叶柄洼闭合呈U形,不限制型;叶缘锯齿形状两侧直与两侧凸皆有;成龄叶正面泡状突起较弱,背面叶脉间匍匐茸毛和主脉上直立茸毛密度稀疏,叶

柄长度小于主脉。两性花。

2.2 果实经济性状

由表1可知,申园果穗圆锥形,紧密度中,有副穗无歧肩,平均果穗长17.5 cm、宽13.6 cm,平均穗质量448 g,平均穗梗长2.9 cm,平均果梗长0.8 cm。

果粒长椭圆形,全穗果粒成熟较整齐,果实平均纵横径分别为32.0 mm和23.9 mm,平均粒质量10.9 g。果粉厚度中,果皮深紫红色,较韧,无涩味,与果肉易分离,可溶性固形物含量(w ,后同)18.9%,可滴定酸含量0.48%,固酸比39.4。果肉颜色无或极浅,质地

表1 申园、父母本和巨峰的果实性状比较

Table 1 Typical characteristics of Shenyuan, its parents and Kyoho

品种 Cultivar	穗形 Cluster shape	平均穗质量 Average cluster mass/g	果粒形状 Berry shape	果皮颜色 Berry color	平均粒质量 Average berry mass/g	果肉质地 Flesh texture	香型 Aroma type	w (可溶性固形物) Soluble solids content/%
申园 Shenyuan	圆锥形 Conical	448	长椭圆形 Long elliptic	深紫红色 Mulberry	10.9	较软 Slight soft	草莓香 Strawberry	18.9
巨峰 Kyoho	圆柱形 Cylindrical	390	椭圆形 Elliptic	紫红色 Purple red	12.1	软 Soft	草莓香 Strawberry	18.7
申丰 Shenfeng	圆柱形 Cylindrical	458	椭圆形 Elliptic	紫黑色 Purple black	10.4	软 Soft	草莓香 Strawberry	18.1
申玉 Shenyu	圆锥形 Conical	377	椭圆形 Elliptic	黄绿色 Yellow green	11.6	较软 Slight soft	草莓香 Strawberry	18.0

较软,肉质细腻,草莓香味。种子2~3粒。

2.3 生长结果习性

申园花芽分化良好,枝条成熟度高,平均萌芽率为91.96%,结果枝率为95.39%,花序在新梢上的位置多位于3~4节,平均每新梢花序数1.99个。

2.4 物候期

申园为中熟品种。上海地区避雨栽培条件下3月25日左右萌芽,5月10日左右开花,7月10日左右开始成熟,8月10日左右果实充分成熟,从萌芽到成熟的生长发育期135 d左右。

2.5 抗逆性与栽培适应性

申园抗病性较强,对霜霉病、灰霉病、炭疽病等葡萄主要病害的抗性与巨峰相近,属抗性较强品种。适宜在国内巨峰葡萄适栽区种植,建议采用设施栽培。

3 栽培技术要点

3.1 架式与整形

栽培架式篱架和棚架均可,选择枝条健壮、根系发达以及无严重病虫害和机械损伤的优质苗木进行定植。篱架栽培行距为2.8~3.0 m,株距1.5~2.0 m;平棚架栽培的行距4~6 m,株距2~3 m,随着树龄的增加逐年间伐。结果母枝适合中梢修剪。新梢生长到8~10枚叶片时摘心,副梢萌发后保留最前端的一个梢做延长枝,其余的留1叶摘心;见花即对延长梢留5叶摘心,延长梢上的二次副梢萌发后,留2~3

叶反复摘心。果实成熟阶段及时去除果穗以下叶片。

3.2 花果管理

萌芽率和结果枝率都较高,花穗和果穗中等大小,开花前3 d左右进行花穗整形,大花序剪除副穗和部分上部支穗,小花序去除副穗即可。实施控产栽培,产量控制在15 000~18 750 kg·hm⁻²。及时套袋,可不摘袋采收。

3.3 肥水管理

秋季施用完全腐熟的有机肥料,每666.7 m²施入量2000~3000 kg,同时可每666.7 m²加施50 kg过磷酸钙。幼果发育期每666.7 m²施氮、磷、钾复合肥15~25 kg。果实转色期每666.7 m²施硫酸钾肥30~40 kg。果实转色期还可喷施0.2%磷酸二氢钾,每隔10 d喷1次。萌芽期保持土壤和空间湿度,萌芽后适当控水,果实膨大期需保持较高的土壤湿度,果实着色直至采收,要小水勤灌,避免果实软化或裂果。

3.4 病虫害防治

植株抗病性较强,设施栽培下病虫害发生较轻,但仍需做好冬季清园以及绒球期、花期、套袋前、采收后等关键时期病虫害的防治工作,尤其是花前和花后灰霉病的药剂预防。

4 综合评价

申园坐果性能良好,果穗果粒整齐、商品果率

高,果实长椭圆形、形似橄榄,着色均匀、外观漂亮,同时栽培容易、管理省工,是一个符合当前省工化、优质化需求的鲜食葡萄新品种。

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