

早熟葡萄新品种宁葡1号的选育

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摘要: 宁葡1号是以红地球为母本、维多利亚为父本, 通过常规杂交育种技术选育而成的早熟鲜食葡萄新品种。该品种果粒着色均匀一致, 稳产丰产性好; 果穗圆锥形, 紧密度中等; 果粒长椭圆形, 平均质量9.56 g, 果皮粉红色、厚度中等, 果粉厚度中等; 果肉质地较脆, 无香味及涩味; 每果粒含种子1~3粒; 可溶性固形物含量(w, 后同)19.5%, 可滴定酸含量0.28%, 口感甜, 鲜食品质高。树势强, 萌芽率96.2%, 结果枝率61.5%, 结果系数0.85, 从萌芽至果实成熟110~120 d。适宜在红地球及维多利亚鲜食葡萄栽培地区种植。

关键词: 葡萄; 新品种; 宁葡1号; 早熟

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Breeding report of a new early-maturing table grape cultivar Ningpu No. 1

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Abstract: Ningpu No. 1 is a new pink early-maturing table grape variety with excellent appearance. The variety was derived from a cross between the pink, hard meat, storable, late-maturing, and large-grain Red-globe (♀) and the yellow-green, large-grain, high-yield, early-maturing Victoria (♂) in 2014 at an experimental field. Hybrid seeds were harvested in October 2014. The seeds were sown in nutrient bags at the end of January 2015. The hybrid seedlings entered the fruiting period in 2017. It was initially selected for early-maturing excellent single plant coded as WH-14-10, and canes were collected and propagated through self-rooted cuttings after the autumn leaves fell. Planting started in the arch shed double selection nursery for group observation testing and variety comparison experiment in May 2018. This variety has uniformly colored berry grains and good stability and yield. The cluster compactness is medium, and the cluster shape is conical. The berry is long elliptic, and the average berry mass is 9.56 g. The thickness of skin is medium, the color of skin is rose, the thickness of bloom is medium, the astringency of skin is absent, the berry degree of flesh firmness is slight crispy, there is no particular flavor, the color of flesh is absent or very light, the berry aroma is little, and the number of seeds per grain is 1–3. The flower is hermaphrodite. The mature leaves are extremely small in size, the leaf shape is pentagonal, the number of lobes is five, the shape of petiole sinus is widely open, the serrated edge of leaves is long. The ratio of mature petiole length to the main vein length is extremely large, the anthocyanin coloration of the main veins on the upper side is absent or very weak, the prostrate hairs density between veins of the lower side is none or very sparse, the erect hairs density on main veins of lower side is sparse, the bubbly protrusion on the upper side is none or very sparse. The vine gesture (habit) is semi-erect, the tendril distribution is discontinuous, the colour of ventral side of internodes is green, the colour of dorsal side of internodes is green with red blush, the erect hairs density on internodes is absent

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or very sparse. The young leaf color of the upper side is red bronze, the gloss on upper side is present, the prostrate hairs between veins on lower side are absent or very sparse, the erect hairs between veins on lower side are absent or very sparse. The main color of woody canes is yellow brown. The soluble solids content is 19.5%, the total acid content is 0.28%, the taste is sweet, and the table grape quality is high. The vine growth vigor is strong, the percentage of bud break is 96.2%, the percentage of bearing canes is 61.5%, the bearing coefficient is 0.85, the position of first inflorescence is borne between the 3rd and 6th nodes of the bearing cane, and the cluster number per bearing cane is 1.37. It requires about 110–120 days from bud break to berry maturity. Under the condition of single-layer film arch shed cultivation in Ningxia, the bud break appears in early and middle March, flowering happens in late April, and berry begins to grow in early July. It can be cultivated in areas suitable for Red-globe and Victoria table grapes and similar areas, as well as protected cultivation.

Key words: Grape; New cultivar; Ningpu No. 1; Early-maturing

中国是全球最大的鲜食葡萄生产国之一,栽培面积及产量已连续多年位居世界第一^[1-2]。葡萄新品种往往在品质、丰产性、适应性及稳定性等方面具有突出表现,对降低生产成本、提高经济效益、调整品种结构等具有重要意义。目前,我国葡萄栽培品种中约70%为从国外引进,30%为国内自主选育及传统地方品种^[3-4]。自主选育葡萄新品种可降低对外依赖度,推动葡萄产业提质增效。早熟品种的选育推广可以显著缩短葡萄的生长周期,提高葡萄的供应量和市场竞争力,在应对市场需求变化和季节性供应限制方面具有重要作用。外观好(穗、粒、色、形)、品质优(无核、大粒、香气)、适应范围广、抗性强已成为持续坚持的育种目标^[5-6]。随着消费升级,市场对早熟、外观佳、品质高的葡萄需求激增,为丰富鲜食葡萄品种类型、优化品种结构,宁夏农林科学院园艺研究所历经9年时间培育出早熟葡萄新品种宁葡1号。

1 选育过程

2014年,采用常规杂交育种技术,以粉红色、硬肉、耐贮、晚熟、大粒的红地球为母本、以黄绿色、大粒、丰产、早熟的维多利亚为父本进行授粉杂交;2014年10月收获杂交种子,经4℃低温冷藏60 d;2015年1月底进行营养袋播种育苗,5月中旬于实生苗4叶1心时将种苗定植于拱棚选种圃,株行距1 m×1.5 m,厂字形篱架栽培,采用常规田间管理进行培育。2017年,实生苗进入结果期,依据《葡萄种质资源描述规范和数据标准》^[7]对枝、叶、花、果等表型性状进行田间观察并详细统计,初步筛选出编号WH-

14-10的早熟优良单株。当年秋季落叶后,采集该优良单株枝条进行自根苗扦插扩繁;2018年5月定植于拱棚复选圃,进行群体观测品比试验;2020年进入结果期,连续2 a(年)对其表型性状进行持续观测及评价。结果表明,该株系群体内果实着色一致、品质稳定,主要表型性状的稳定性及一致性较好,未发现异型单株,成熟期与父本维多利亚相近,将其命名为宁葡1号(图1)。2024年4月12日获得植物新品种权,品种权号:CNA20201006449。

2 主要性状

2.1 植物学特征

宁葡1号为二倍体欧亚种,长势中庸。嫩梢梢尖半开张,直立茸毛与匍匐茸毛均无或极疏,匍匐茸毛的花青苷显色强度无或极弱;幼叶正面浅红褐色,叶背主脉上直立茸毛及主脉间匍匐茸毛均无或极疏;新梢姿态半直立,节背侧红色,腹侧绿色,节间背侧绿带红条带,节间直立茸毛无或极疏,卷须短;两性花;成龄叶极小,近五角形,为五裂,叶柄洼半开张,锯齿长,齿长与齿宽之比较大,锯齿形状为混合型;叶正面主脉花青苷显色无或极弱,叶背主脉间匍匐茸毛无或极疏,主脉上直立茸毛疏,叶柄长与中脉长之比极大,叶柄洼不受叶脉限制,泡状凸起无或极弱,上裂刻深度浅、裂片重叠,下裂刻裂片闭合,横截面V形;成熟枝条黄褐色。

2.2 果实经济性状

宁葡1号果穗圆锥形,无歧肩,紧密度中等;平均穗长27.7 cm,穗宽18.2 cm,大小505.8 cm²,平均果穗质量1.22 kg,穗梗平均长度7.7 cm,属中长类



图1 鲜食葡萄新品种宁葡1号

Fig. 1 A new grape cultivar Ningpu No. 1

型。果粒长椭圆形,平均横径2.29 cm,纵径2.96 cm,大小6.78 cm²,平均质量9.56 g,果粒与果柄难分离;果皮粉红色,厚度中等,果粉厚度中等,无涩味;肉质质地较脆,花青苷显色无或极弱,无香型;每果粒含种子1~3粒;可溶性固形物含量19.5%,可滴定酸含量0.28%,口感甜,鲜食品质高(表1)。

表1 宁葡1号与亲本果实主要性状比较

Table 1 Main characteristics of Ningpu No. 1 and parents

品种 Cultivar	平均果穗质量 Average cluster mass/kg	穗形 Cluster shape	果穗紧密度 Cluster compactness	平均果粒质量 Average berry mass/g	果粒形状 Berry shape	果皮颜色 Skin color	果肉质地 Flesh texture	香型 Flavor	w(可溶性固形物) Soluble solids content/%	w(可滴定酸) Titratable acid content/%
宁葡1号 Ningpu No. 1	1.22	圆锥形 Conical	中 Medium	9.56	长椭圆形 Long elliptic	粉红 Rose	较脆 Slight crisp	无 None	19.5	0.28
红地球 Red Globe	1.73	分枝形 Branch	中 Medium	10.99	长椭圆形 Long elliptic	粉红 Rose	较软 Slight soft	无 None	20.1	0.36
维多利亚 Victoria	1.09	圆锥形 Conical	中 Medium	8.91	长椭圆形 Long elliptic	黄绿 Green-yellow	中 Medium	无 None	19.5	0.31

2.3 生物学特性

2.3.1 生长结果习性 宁葡1号平均萌芽率96.2%,结果枝率为61.5%。花序着生于结果枝第3~6节之间,每结果枝平均着生果穗1.37个,结果系数为0.85。自根苗定植第3年开始结果,第4年进入盛果期;嫁接苗第2年进入初果期,第3年进入盛果期,每666.7 m²产量为1500~2500 kg。

2.3.2 物候期 在宁夏地区单层膜拱棚栽培条件下,宁葡1号于3月上中旬萌芽,4月下旬进入花期,7月上旬果实成熟,从萌芽到果实成熟需110~120 d,其物候期与父本维多利亚相近。

2.3.3 抗逆性与适应性 在设施栽培条件下,宁葡1号较抗白粉病,霜霉病和灰霉病在环境适宜时轻

度发生。该品种可采用植物生长调节剂开展无核化栽培。果实挂果期为30~40 d,耐储性与抗裂果性强,适应范围广。

3 栽培技术要点

3.1 架形与密度

可采用篱架或棚架栽培。篱架设施栽培时株行距为1 m×(1.2~1.5)m,而露地栽培时株行距以1 m×3 m为宜;棚架栽培时株行距可选择2 m×2 m或2 m×3 m。

3.2 整形修剪

冬季修剪可于落叶后至萌芽前约20 d进行,以中、短梢修剪为主。夏季修剪时新梢应及时绑扶,果穗以下的夏芽副梢全部抹除,果穗以上的夏芽副梢

保留 1 叶进行摘心。当新梢长度为 0.6~1 m 长或具 6~10 枚功能叶时摘心。

3.3 花果管理

当花序分离后对花序整形,可去除上部副穗与部分支穗。可在花前 5~7 d 进行无核化处理,在花序坐果后、果实发育至黄豆粒大小时,可进行果粒膨大处理。每结果枝保留 1 穗生长发育正常的果穗,具体留果数还应结合土壤、肥水、架形条件进行综合确定。栽培时结果枝与辅养枝比例 1:1 左右为宜。

3.4 水肥管理

土质疏松肥沃的土壤有利于葡萄根系的生长和养分吸收。每 2~3 年于秋季 8 月中下旬至 9 月初对根系附近的土壤进行 1~2 次有机质补充。距树干约 30 cm 处开挖宽 30~50 cm、深 40~60 cm 的施肥沟,每 666.7 m² 施入充分腐熟后的牛羊粪或商品有机肥约 10 m³,随土回填,以此不断提高土壤有机质含量。生长期应浇灌萌芽水、花前水、膨果期水、越冬水,其他时期根据情况可酌情浇水。生长期追肥以水溶性肥料为主,氮磷钾施用质量比以 1:(0.5~0.8):(1.2~1.5) 为宜,每 5~7 d 结合滴灌进行施肥;果实着色期应根据实际情况酌情进行灌溉施肥。在果实采收后 30 d 内应进行 1 次灌溉施肥,以恢复树势。

3.5 病虫害综合防控

以白粉病、灰霉病、霜霉病、蓟马、红蜘蛛、果蝇等病虫害的防治为主。在萌芽期、花期前后、坐果期、果实膨大期等关键时期可采用高效、低毒等生物制剂、菌剂、化学药剂进行交替喷施用,同时可吊挂黄色、蓝色粘虫板,并结合果穗套袋等物理措施进行有效防控,在果实采收前 30 d 应停止用药。

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