

## 早熟葡萄新品种红艳香的选育

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**摘要:** 红艳香葡萄为二倍体欧亚种, 是从87-1自交后代中选育出的浓玫瑰香味、早熟葡萄新品种。平均果穗质量491.6 g, 圆锥形, 无歧肩, 长17.5~23.5 cm, 宽12~16 cm; 果粒椭圆形, 果皮粉红色并覆盖果粉, 肉质中等, 平均单粒质量7.1 g, 可溶性固形物含量(w, 后同)18.5%, 可滴定酸含量0.45%。在沈阳地区露地栽培, 果实8月下旬至9月初成熟, 从萌芽至成熟需115~120 d。红艳香对白粉病抗性较强, 生长势中等, 适宜在壤土栽植。

**关键词:** 葡萄; 新品种; 红艳香; 玫瑰香味

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### Breeding of a new table grape cultivar Hongyanxiang

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**Abstract:** Hongyanxiang is an early-ripening table grape with strong muscat aroma. This cultivar was selected from the self-pollinated seedlings of 87-1 (*Vitis vinifera* L.) in 1995. After the seed was sown in the greenhouse of Shenyang Agricultural University in March 1996, the seedlings were normally watered and pruned. Hongyanxiang first flowered and bore berry in 2000. It had good coloring, strong aroma and easy flower bud differentiation, and thereafter was named 14-10 in 2006. Since the berry of 14-10 showed high soluble solid content (w) and strong muscat aroma, it was grafted on Beta' (*Vitis riparis* Michx × *V. labruscana* Bailey) rootstock for further observation, and 14-10 was thus selected as the superior line in 2010. Through years of continuous observation on the growth and fruiting habits of grafted seedlings, 14-10 vine showed stable berry economic characteristics and high-yield performance with good quality, and it was determined as the final line in 2015, and released as Hongyanxiang in 2019. Hongyanxiang is a diploid cultivar with bisexual flowers, its new cane is semi-erect and the tip of the young cane is half-open with medium-density villi. The front color of the young leaf is reddish brown, and the average length of the tendril is 1.71 cm. The adult leaves of Hongyanxiang are pentagonal and five lobed, with an average leaf area of 434.3 cm<sup>2</sup>. The petiole is concave, the overlapping type is closed, the average sawtooth length is about 1.5 cm, the upper crack is deeply carved and the lobes are slightly overlapped. However, the lower crack is closed. The color of Hongyanxiang canes is yellowish brown after maturation. The berry of Hongyanxiang has the characteristics of early maturity and high yield. The inflorescence of Hongyanxiang is conical in shape, moderate tightness without shoulder, 17.5–23.5 cm long and 12–16 cm wide. The average inflorescence mass is 491.6 g and the average in-

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florescence stem length is 2.1 cm. The shape of berries is oval with pink peel, and the peel is thin and covered with fruit powder, the flesh quality is medium, and there are 1–2 seeds inside. The average berry weight is 7.1 g, the soluble solid content is 18.5%, and the titratable acid is 0.45%. Compared with the parent 87-1, the inflorescence and berry have potential of higher yield, brighter color, higher sugar content and stronger muscat flavor. Hongyanxiang is an early maturing table grape cultivar, and it begins to sprout around April 30 in the open field cultivation in Shenyang area, and blooms in early June. The berry of Hongyanxiang begins to mature from late August to early September. Normally, this cultivar takes 115–120 days from bud break to berry maturation. Hongyanxiang is suitable to be cultivated in hedgerow or trellis cultivation form in northern China. It is suggested to select Beta' rootstock seedlings with developed roots. The plant spacing in the row is 1 m and spacing between rows is 3–4 m, 167–222 seedlings are planted per 666.7 m<sup>2</sup>, and the planting ditch needs to be dug according to the row spacing before planting. The short cane pruning is suggested for Hongyanxiang with dragon-vine' shape cultivation in winter pruning. For the one-year-old Hongyanxiang, the thickness of cane to be sheared should be more than 0.8 cm and convenient to be fixed on the trellis in the spring of the next year. Hongyanxiang is easy to differentiate flower buds in cold areas, and the flower thinning should be carried out 15 days before full bloom to reduce nutrient loss.

**Key words:** Grape; New cultivar; Hongyanxiang; Muscat aroma

目前我国鲜食葡萄新品种选育仍然以颜色鲜艳、浓郁香味、大粒、抗性强等类型为主,尤其葡萄果实中香气化合物的种类和含量是决定消费者选择的最关键品质因素之一,对市场竞争力至关重要。面对国内外鲜食葡萄市场竞争日益剧烈、产品特色缺乏、区域内栽培品种结构单一等现象<sup>[1]</sup>,我国葡萄育种机构相继培育出一批具有自主知识产权的优质、浓香、丰产等特点的葡萄新品种,显著促进了我国葡萄产业的稳步健康发展<sup>[2-4]</sup>。沈阳农业大学1995年以欧亚种葡萄品种87-1为亲本进行套袋自交,历经

20余年,培育出颜色鲜艳、香味浓郁、早熟的葡萄新品种红艳香(原代号:14-10)(图1)。

## 1 选育经过

1995年6月上旬,在沈阳农业大学葡萄试验园内以欧亚种葡萄品种87-1为母本,进行套袋自交,当年秋季收获自交种子并进行沙藏层积处理。1996年3月在温室内将沙藏后种子穴盘播种,获得繁育出的实生苗于5月下旬移栽定植。对定植后的自交实生苗进行正常水肥管理和分别编号。2000年实



图1 鲜食葡萄新品种红艳香单穗及丰产状

Fig. 1 A new table grape cultivar Hongyanxiang

生苗首次开花结果,进一步对结果株系的形态特征和主要经济性状开展详细的调查记录,以着色好、香气浓郁、易花芽分化等性状为育种目标,从中筛选出代号为14-10的优良单株,2006年被评为初选优系,表现为高甜度,具有浓郁玫瑰香味,并嫁接到贝达砧木上扩繁观察。2010年确定为复选优系,通过多年连续对嫁接苗的生长结果习性、果实经济性状及丰产性能等多方面观察,表明14-10果实品质和性状稳定,2015年确定为决选优系。2019年通过农业农村部非主要农作物品种登记[登记编号:GPD葡萄(2019)210010],定名为红艳香。

## 2 主要性状

### 2.1 植物学特征

红艳香葡萄属欧亚种,二倍体,两性花。新梢

半直立,嫩梢梢尖半开张并匍匐中等密度茸毛。幼叶正面颜色红棕色,卷须平均长度为1.71 cm;成龄叶五角形,五裂,平均单叶面积434.3 cm<sup>2</sup>,叶柄洼开叠类型为闭合,锯齿长为1.5 cm左右,上裂刻深、裂片轻度重叠,下裂刻闭合,枝条成熟时为黄褐色。

### 2.2 果实主要经济性状

果穗圆锥形,松紧适中,无歧肩,长17.5~23.5 cm,宽12~16 cm,平均果穗质量491.6 g,平均穗梗长度为2.1 cm;果粒椭圆形,粉红色,果皮薄且有果粉,肉质中等,具有浓郁玫瑰香味,平均单粒质量7.1 g,可溶性固形物含量为18.5%,可滴定酸0.45%,果粒与果柄分离程度中等,有1~2粒种子,与亲本87-1相比,果实颜色更鲜艳、糖度和产量更高,且果穗成熟度一致性好(表1)。

表1 红艳香与亲本87-1果实主要性状对比

Table 1 Comparison of main characters for Hongyanxiang and 87-1

品种 Cultivar	果穗形状 Cluster shape	果穗质量 Cluster weight/g	果粒形状 Berry shape	果粒质量 Berry weight/g	果皮颜色 Skin color	w(可溶性固形物) Soluble solid content/%	w(可滴定酸) Titratable acid/%	果肉香味 Flavor	种子数 Seed number	发育期 Germination-harvest/d
红艳香 Hongyanxiang	圆锥形 Conical	491.6	椭圆形 Elliptic	7.10	粉红色 Pink	18.5	0.45	玫瑰香 Muscat aroma	1~2	115~120
87-1	圆锥形 Conical	449.0	椭圆形 Elliptic	5.66	紫红色 Red-violet	16.2	0.47	玫瑰香 Muscat aroma	2~3	100~110

### 2.3 物候期

该品种适宜在辽宁省沈阳地区及气候相近地区栽培。在沈阳地区露地栽培一般4月30日开始萌芽,6月上旬开始开花,8月下旬至9月初果实充分成熟,从萌芽至果实完全成熟需115~120 d,为早熟鲜食葡萄品种。

### 2.4 适应性及抗逆性

红艳香葡萄在沈阳地区栽培生长势中等,抗旱性中等,适宜在壤土栽植。

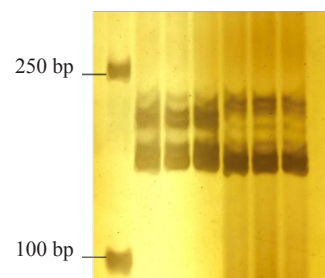
### 2.5 分子鉴定

利用SSR分子标记对红艳香和亲本87-1进行鉴定分析,发现红艳香在引物VMC8A7(正向引物5'-GCAGCAACTCTCTTACACACCG-3',反向引物5'-GTGGGAGCACTGGTTGCTTTAG-3')的PCR产物中扩增出可区分'87-1'的指纹图谱(图2)。

## 3 栽培技术要点

### 3.1 架式与整形

M 1 2 3 4 5 6



M. Marker; 图中数字 1~3. 87-1; 4~6. 红艳香。

M. Marker; 1 to 3. Represent 87-1; 4 to 6. Represent Hongyanxiang respectively.

图2 SSR引物VMC8A7电泳结果

Fig. 2 Amplified results of the primer VMC8A7

红艳香葡萄在北方地区适宜采用篱架或棚架栽培,选用贝达砧木嫁接苗,株距1.0 m,行距3.0~4.0 m,每666.7 m<sup>2</sup>定植167~222株,栽植前按行距挖定植沟,建议沟宽60~80 cm、沟深60~100 cm。采用“龙干形”整枝方式,以短梢修剪为主。幼树定植后当年冬剪时主蔓剪留高度要结合其成熟度和栽培架高度共同确定,建议剪留当年成熟高度的2/3或成熟部分

以下的第3~4个芽眼,同时,剪口下粗度应在0.8 cm以上并易于第二年春季出土时上架固定;成龄树结果母枝采用短梢修剪,延长枝采用中长梢修剪。

### 3.2 花果管理

红艳香葡萄在北方地区栽植花芽分化较易,应当在花前半个月左右进行疏花序,强壮枝和中庸果枝保留1个花序,细弱枝不留花序,以减少营养损失。生长季修剪时,在花序以上留4~6片叶摘心,营养枝留8~12片叶摘心。坐果后可根据果粒密集程度,疏除内层果粒和小粒。

### 3.3 肥水管理

基肥以有机肥为主,腐熟的羊粪和鸡粪均可,每年春季萌芽前或秋季果实采收后,在距植株0.5~1 m处挖40 cm深、30 cm宽的条状沟,每666.7 m<sup>2</sup>施用5000 kg有机肥,同时添加适量的微生物菌肥。沈阳地区生长季追肥,前期以氮肥为主,7月下旬着色前增施磷钾肥。施肥后需浇水,同时根据土壤湿度,在萌芽前后、开花前和果实膨大期等关键物候期适量灌水,果实着色期尽量不浇水,越冬前灌一次封冻水。

### 3.4 病虫害防治

该品种对白粉病抗性较强,对霜霉病、白腐病抗性中等。应遵循预防为主、综合防治的原则进行病虫害的防治。进入雨季后,适时选用生产无公害果品允许使用的药剂进行防治,注意选择的药剂交替使用。果实成熟期,应注意防治金龟子和鸟害。

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