

脆肉型葡萄新品种脆光的选育

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摘要:脆光是以巨峰作母本、早黑宝作父本,人工杂交选培育出的脆肉型葡萄新品种。果穗圆锥形,平均单穗质量672.3 g,最大穗质量1630 g。果粒椭圆形,紫黑色,平均单粒质量10.9 g,最大粒质量14.4 g;每果粒含种子1~3粒,多为2粒,百粒质量10.6 g,种子与果肉易分离;果粉中等厚,果皮中等厚;果肉脆,果实硬度1.46 kg·cm⁻²;果汁中等多,可溶性固形物含量(*w*,后同)超过19.0%;可滴定酸含量为0.52%;品质上等。从萌芽至果实完全成熟需135 d左右,昌黎地区果实成熟期在8月下旬,为中熟品种。脆生长势较强,枝条易成熟,进入结果期早,定植第2年开始结果,3年生每666.7 m²产量为1 450.0 kg。对霜霉病、白腐病、炭疽病的抗性与巨峰近似。在华北、华东、东北及西北地区均可推广种植,适宜露地及保护地栽培。

关键词:葡萄;新品种;脆光;中熟;鲜食;脆肉

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Breeding report of a new crisp-fleshed table grape cultivar Cuiguang

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Abstract: Cuiguang is a new table grape variety with excellent appearance and quality. The female parent of Cuiguang is Kyoho, and its male parent is Zaoheibao. Through artificial hybridization pollination, more than 3000 hybrid seeds were got in 2003. The seedlings were planted in vineyard in 2004. One hybrid was initially selected in 2009 for its crisp-hard flesh and medium ripening. It's about 10 days earlier ripening than Kyoho. After four years of observation and five years regional adaptability testing at three sites (including Changli county, Luannan county, Huailai county, Henan province). Cuiguang was awarded by the Committee of Hebei Cultivar Registration in 2019. Cuiguang belongs to Euro-American hybrids, the vigor of plant is strong. The shoot tip is half open with medium-density hair, the shoot is half upright, and the intensity and distribution of anthocyanin coloration is heavy. The color of dorsal and ventral side of internodes is green with red stripes. The under surface of the young leaf is spinach green color while the upper surface is pea green color. Density of erect hairs and prostrate hairs between veins at lower surface is sparse. The shape of the mature leaves is pentagonal with undulate sides, medium thickness while the blade margin is pronounced in undulation. It is open and V shaped in petiole sinus. The teeth of the mature leaves are short with convex sides. Tooth at petiole sinus is absent and limited by veins. Upper lateral sinus is closed and medium-deep, lower lateral sinus is open and shallow. The upper surface is green with rugose texture and glossy appearance. Anthocyanin coloration of main veins on lower leaf surface is extremely weak. The average length of leaves is 14.3 cm, and the width is 18.5 cm, the average length of petiole is 10.6 cm. The clusters are typically large in size, conical in shape and medium in compactness. The berry is elliptic shaped, 26.5 mm in long and 23.8 mm in

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diameter, and average berry mass of 10.9 g. The berries are usually purplish red with uniform in shape and medium-thickness skin. The flesh is juicy and crisp, and the average soluble solid content is more than 19.0%. Each berry contains 1 to 3 seeds. The germination period is in mid-April, the flowering period is in late May, and the maturity period is in mid-August. The rate of fruiting shoot is 53.3% on average and the yield is about 23.4 tones per hm². Vertical trellis system and fan shaped pruning were recommended in the northern area. The vine has medium to strong resistance to white rot and downy mildew. A spray program suitable for disease control with most Euro-American hybrids cultivars should be applied. This grape variety is suitable for short branch pruning. Balanced application of both organic and chemical fertilizers based on the plant every germination and development period.

Key words: Grape; New cultivar; Cuiguang; Medium ripening; Table; Crisp-flesh

葡萄是我国重要果树之一,种植面积居我国果树生产第四位。我国葡萄种植品种以国外引入品种为主,如巨峰、红地球、夏黑、阳光玫瑰等。新品种是葡萄产业的“芯片”。单纯依赖国外引进品种来实现我国葡萄品种的更新换代不仅面临侵权问题,而且也不会长久。推广应用适合我国种植的自主品种,提升其市场占有量,以实现自主知识产权优良品种

尽快服务于生产。葡萄新品种的选育和开发是促进葡萄产业发展的重要因素^[1]。随着设施葡萄产业的兴起、人们生活水平的提高,市场对大粒、高糖、脆肉型且适合设施栽培的葡萄品种需求日益强烈。2003年河北省农林科学院昌黎果树研究所以市场需求为目标,开展大规模杂交育种工作,历经17 a(年)育成了脆肉型葡萄新品种脆光(图1)。



图1 脆肉型葡萄新品种脆光

Fig. 1 Cuiguang, a new cultivar of crisp fleshy table grape

1 选育过程

2003年通过传统的人工杂交方法,以巨峰为母本、早黑宝^[2]为父本,获得3098粒杂交种子。2004年利用光照培养箱对沙藏后的种子进行催芽,营养穴盘播种,获1293株杂交苗并直接定植于育种圃;2006年开始结果,因编号为C8-8-2的杂交后代果实性状符合大粒、脆肉、高糖的育种目标,选为优系;2008年复选并区试。区试结果表明,该优系花芽易形成,高糖,肉脆,二次结果能力强,尤其受葡萄采摘园欢迎。2020年4月通过河北省林木品种审定委员会审定,命名为脆光,审定编号:冀S-SV-VV-011-2019。

2 主要性状

2.1 植物学特征

脆光嫩梢绿色,幼叶黄绿色,上表面光滑有光泽,下表面具稀疏茸毛。成龄叶五角形,叶片墨绿色,中等厚,上表面粗糙,下表面茸毛无或极疏。叶片5裂,上裂刻深度中等,重叠,基部形状U形;下裂刻基部形状V形。叶柄锯齿两侧凸。成熟枝条红褐色,表面光滑。花序着生位置3~4节,两性花。

2.2 果实经济性状

由表1可知,脆光果穗圆锥形,中等大,平均单穗质量672.3 g,最大穗质量1630 g;果粒着生中等紧

表1 脆光与父母本果实性状比较

Table 1 Typical characteristics of Cuiguang and its parents

品种 Cultivar	穗形 Cluster shape	果穗紧密度 Cluster compactness	平均穗质量 Average cluster weight/g	果粒形状 Berry shape	平均粒质量 Average berry weight/g	果肉质地 Flesh texture	香型 Fragrance	果皮颜色 Berry color	w(可溶性固形物) Soluble solids content/%
脆光 Cuiguang	圆锥形 Conical	较紧 Medium to compact	720	椭圆形 Elliptic	10.2	硬脆 Crisp-hard	无 None	紫黑色 Purple black	19.0
巨峰 Kyoho	圆锥形 Conical	中等紧密 Medium	550	椭圆形 Elliptic	11.0	软 Soft	草莓香 Strawberry	紫黑色 Purple black	16.0
早黑宝 Zaoheibao	圆锥形 Conical	较紧 Medium to compact	540	椭圆形 Elliptic	7.5	较脆 Slight crisp	玫瑰香 Muscat	紫红色 Purple red	15.0

密,果实紫黑色。果粒椭圆形,平均单粒质量10.9 g,最大单粒质量14.4 g,果粉中等厚,果皮薄至中等厚。果皮不易剥离。果肉脆,果汁中等。每果粒1~3粒种子,多为2粒,百粒质量10.6 g,种子与果肉易分离。可溶性固形物含量(*w*,后同)在19.0%以上,可滴定酸含量0.52%,固酸比38.5。品质上等。

2.3 生长结果习性

脆光枝条成熟度高,生长势较强,进入结果期早,结实力强,一般结果母枝从基部第3节开始着生花序,每结果枝平均1.37穗;副梢结果能力强,具较强的丰产、稳产潜力。3年生666.7 m²产量1 450.0 kg。

2.4 物候期

脆光属中熟品种。河北昌黎一般4月15日左右萌芽,5月25日左右开花,7月15日左右果实着色开始,8月下旬充分成熟,萌芽至果实成熟需135 d左右。

2.5 抗逆性与栽培适应性

该品种抗病性较强,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,对微量元素镁要求较严格,易产生缺镁症状;对土壤类型要求不严格,更适宜在壤砂土定植。目前,在华北、华南、华东、东北及西北地区均有种植,适宜露地及保护地栽培并适合一年二收种植。

3 栽培技术要点

3.1 架式与整形

篱架、棚架整形均可,更适宜龙干形小棚架整形。篱架栽培采用V形叶幕整枝,行距2.4~3.0 m、株距1.5~2.0 m、干高0.8~1.6 m;666.7 m²定植111~185株。龙干形小棚架行距采用4~5 m,株距1.0~1.2 m;666.7 m²定植111~167株。日光温室栽培以2~3芽修剪为主,冷棚及露地栽培以1芽修剪为主。春、夏季注意疏芽、抹梢和副梢摘心,以利通风透光。

3.2 花果管理

强壮枝、中庸枝保留1个花序,细弱枝不留花

序。脆光花序较大,果柄较短,适当修整果穗,花序分离前去除基部2~3个副穗;始花期花前保留4枚叶片摘心。坐果后去除小粒,果粒密度要合理,每穗保留果粒50~60粒。

3.3 肥水管理

以有机肥为主,重视秋基肥,春天免施催芽肥,避免树势过旺;花前可追施少量的硼肥和微量镁。花期不浇水,果实进入膨大期追肥浇水。追肥以氮、磷、钾平衡肥为宜。开始着色时控制水肥供给,完全着色后追施氮、磷、钾平衡肥并追加钙镁微量元素肥,不提倡高钾肥。果实采收后每666.7 m²及时施入3000~4000 kg腐熟有机肥+50~100 kg复合肥以复壮树体;施基肥后灌一次透水。注意封冻水要灌透。

3.4 病虫害防治

该品种抗病性较强,病虫害防治应以预防为主,重点抓落叶后结合冬季修剪,彻底清除枯枝落叶等物理防治;药剂预防关键期为花前和花后,主要病害有灰霉病、炭疽病、霜霉病;主要虫害有绿盲蝽、螨虫、蓟马。

4 综合评价

脆光品种长势较强,建园成形快,早果性好,果粒大、果肉质脆、高糖、品质佳,抗病性强;副梢结果能力强,可一年二收栽培,露地及保护地和观光采摘种植均表现出较好的市场前景。

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