

## 极晚熟葡萄新品种赤霞红焰的选育

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**摘要:** 赤霞红焰是以阳光玫瑰为母本、新雅为父本, 通过杂交选育而成的极晚熟葡萄新品种。果穗呈圆锥形, 紧密度中等; 果粒椭圆形, 较整齐, 自然果单粒质量 7.1 g, 无核化栽培单粒质量 13.2 g, 最大果质量 15.6 g; 果皮古铜色至紫红色, 果皮厚度中等、脆、较易剥、无涩味, 果肉白色、质地脆、汁液多, 果汁无色; 可溶性固形物含量(w)19.8%, 口感甜, 并带有果香和苹果风味; 种子 1~2 粒, 适宜无核化栽培。在浙江海宁避雨设施栽培条件下, 该品种的萌芽期为 3 月中下旬, 开花期为 5 月初, 成熟期为 10 月上中旬; 外观和内在品质俱佳, 在浙江省内葡萄产区均适宜种植。

**关键词:** 鲜食葡萄; 新品种; 赤霞红焰; 极晚熟

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### A new extremely late-maturing grape cultivar Chixia Hongyan

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**Abstract:** Chixia Hongyan is a new extremely late-maturing grape cultivar derived from the cross between Shine Muscat and Xinya by the Institute of Horticulture, Zhejiang Academy of Agricultural Sciences. Cross pollination was carried out in 2015, and more than 1200 hybrid seeds were obtained. In 2016, 343 hybrid seedlings were obtained. They were transplanted in 2017 and entered the fruiting period in 2019. After observation from 2020 to 2021, the line numbered C1-15-01 was selected as a superior line. It has the characteristics of excellent flowering performance, red color, crisp flesh, fruity aroma and sweet flavor, and is suitable for seedless cultivation. In 2024, it was granted plant cultivar rights (CNA20221007230) by the Ministry of Agriculture and Rural Affairs, and was named as Chixia Hongyan. The tender shoot tips are open weakly colored by anthocyanins, with sparse hairs. The new shoots grow semi-erect, and the color of the dorsal side of the internode is green with red stripes. The upper surface of the young leaves is dark reddish brown, and there is no creeping hair between the main veins on the back. The mature leaves are 5-lobed, pentagonal and green, and the leaf surface is bubbly convex. The jagged shape is convex on both sides. The shape of the leaf serrations is straight on both sides. The upper lobe is deep and overlapped, and the lower lobe is open. The petiole is red, and the base of the petiole is closed. The main vein on the back of the leaf is erect and furry, and the color intensity on the main vein on the front is weak. Mature leaves are pentagonal and green with 5 lobes, and the leaf surface is bubbly convex. The shape of the serrations is convex on both sides. The upper lateral sinus is

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deeply carved and overlapped, while the lower open. The petiole is red, base of petiole groove is closed. The erect hairs on the main vein in the lower side of the leaves are dense, and the color intensity on the main vein in the upper side is weak. Flowers are bisexual. The first inflorescence usually emerges on the third node. The cluster is conical and medium in density, with an average weight of 613.6 g. The berries are oval, and the pedicel is difficult to separate from the berry. The berries are neat and evenly mature. The average berry weight is about 7.1 g, and in the seedless cultivation, it can reach 13.2 g. The fruit is pink to red-violet in color. The peel is crisp, medium in thickness and easy to be separated from the flesh. The juice has no color, and the taste is sweet. The flesh is crispy and has fruity aroma. Total soluble solid content is in the range of 19.8%, with 1–2 seeds. It is suitable for seedless treatment. This cultivar is suitable for planting in slightly acidic to neutral soils (pH 6.0–7.5) under rain-shelter facility cultivation in Zhejiang province, and pergola trellis (T shaped, H shaped or bird-wing shaped) are recommended for this cultivar, allowing one fruit cluster in each bearing shoot. For increasing berry weight and improving quality, the yield per 666.7 m<sup>2</sup> should be controlled to be in a range of 1250–1500 kg when using seedless cultivation. This cultivar sprouts in mid to late March, blooms in early May, and matures in early to mid October. It has good cultivation and market performance in Zhejiang area, and has a broad application potential and strong market competitiveness.

**Key words:** Table grape; New cultivar; Chixia Hongyan; Extremely late-maturing

葡萄是我国果树生产上的重要树种。近年来,我国在鲜食葡萄新品种选育方面取得卓越成绩<sup>[1]</sup>,栽培面积已位居世界第一<sup>[2]</sup>。浙江省葡萄产业发展迅速,栽培面积与产量位于南方诸省前列<sup>[3]</sup>。目前,浙江省葡萄产业正迈向高品质、轻简化发展新阶段,提高果实品质已成为葡萄生产中的关键问题。浙江省已培育出金之星<sup>[4]</sup>、葡缘绿钻<sup>[5]</sup>等多个以阳光玫瑰为亲本的杂交葡萄新品种。然而,自育的晚熟葡萄品种相对缺乏,市场上晚熟葡萄以绿色阳光玫瑰为主,颜色单一,尤其缺乏红色系葡萄品种。因此,基于消费者需求和产业需要,以选育晚熟、红色、具香型的葡萄新品种为目标,经过10年系统选育,笔者培育出极晚熟红色葡萄新品种赤霞红焰。

## 1 选育过程

2015年,笔者选择阳光玫瑰作为母本、新雅作为父本进行杂交育种。当年葡萄成熟后,成功获得1200余粒杂交种子;2016年播种育苗,培育出343株杂交苗;2017年定植;2019年,杂交群体进入结果期,初选出编号为C1-15-01的优良单株。2020—2021年,经过连续观察与性状调查,该单株被复选为优系。该优系具有极晚熟、花芽分化优良、果皮红色、肉质脆、具苹果香味、风味佳、适宜无核化栽培等显著特点,暂定名为天工冠玉。2024年9月,该品种通

过农业农村部植物新品种权授权,品种权号为CNA20221007230,正式命名为赤霞红焰(图1)。

## 2 主要性状

### 2.1 植物学特征

赤霞红焰属于欧美杂交种葡萄,生长势旺。嫩梢形态开张,花青素着色程度弱,茸毛稀疏;新梢生长半直立,节间背侧呈绿色带红色条纹。幼叶上表面深红褐色,背面主脉间无匍匐茸毛。成熟叶片五角形,绿色,5裂,叶面泡状凸起程度中等,锯齿形状双侧直,上裂刻深、重叠,下裂刻开张;叶柄红色,叶柄洼基部闭合;叶背主脉上直立茸毛密,正面主脉上花青苷显色强度中等。两性花,第一花序着生于第3节。

### 2.2 果实经济性状

由表1可知,赤霞红焰果穗呈圆锥形,平均单穗质量为613.6 g,大穗质量1000 g以上,紧密度适中。果粒颜色为古铜色、粉红色、紫红色,形状椭圆形,果梗与果粒难分离,果粒排列较为整齐,全穗果粒成熟度一致。自然果平均单粒质量为7.1 g,无核化栽培单粒质量13.2 g,最大果质量15.6 g。果皮脆、厚度中等、较易剥离、无涩味。果肉白色、汁液丰富、质地脆爽,果汁无色,可溶性固形物含量(w)19.8%,口感甜,并带有果香和苹果风味。正常情况



图1 葡萄新品种赤霞红焰

Fig. 1 A new grape cultivar Chixia Hongyan

表1 赤霞红焰、父母本和新郁果实性状比较

Table 1 Typical characteristics of Chixia Hongyan, its parents and Xinyu

品种 Cultivar	穗形 Cluster shape	单穗质量 Cluster mass/g	果粒形状 Berry shape	单粒质量 Berry mass/g	果皮颜色 Berry color	果肉质地 Flesh texture	香型 Flavor	w(可溶性固形物) Soluble solid content/%
赤霞红焰 Chixia Hongyan	圆锥形 Conical	613.6	椭圆形 Elliptic	7.1	古铜色至紫红色 Bronze -Purple red	脆 Crisp	果香 Fruity	19.8
阳光玫瑰 Shine Muscat	圆锥形 Conical	626.3	椭圆形 Elliptic	8.5	黄绿色 Yellow green	较脆 Slight crisp	玫瑰香 Muscat	20.0
新雅 Xinya	圆锥形 Conical	629.7	椭圆形 Elliptic	9.4	粉红色 Pink red	脆 Crisp	无 None	19.3
新郁 Xinyu	圆锥形 Conical	672.6	椭圆形 Elliptic	11.2	紫红色 Purple red	脆 Crisp	无 None	17.1

下,葡萄果实每粒含有1~2粒种子,单性果较多,适宜进行无核化栽培。

### 2.3 生长结果习性

赤霞红焰萌芽率(84.0%)与结果枝率(87.1%)高,平均每条果枝着生花穗数1.1个,花芽分化能力良好。

### 2.4 物候期

在浙江嘉兴海宁地区,该品种的萌芽期为3月中下旬,开花期为5月初,成熟期为10月上中旬,成熟期晚于母本阳光玫瑰,而与父本新雅相近。从萌芽到浆果成熟约200 d,属于极晚熟品种。

### 2.5 适应性与抗逆性

赤霞红焰叶片浓绿且厚,适应性强,树体成型快。与阳光玫瑰、新郁等进行田间病害对比调查,结果显示,其灰霉病、白粉病抗性较强,白腐病和白粉病抗性中等,主要虫害包括蓟马、叶蝉、斜纹夜蛾、橘小实蝇等。该品种一般不裂果,但在淹水下会发生不规则裂果,自愈后不留汁;抗高温能力中等,较耐涝。

## 3 栽培技术要点

### 3.1 架式与整形

该品种适宜在浙江避雨设施栽培条件下种植,pH=6.0~7.5的微酸性至中性土壤,宜采用单十字飞鸟型、一字、T字、H型架。

### 3.2 花果管理

花序上保留1叶摘心,始花后统一剪梢;副梢保留一叶绝后摘心,顶副梢3次摘心,依次留5叶、4叶、3叶摘心。无核化栽培下,整花序长6 cm。冬季修剪时,长短梢应混合修剪,每666.7 m<sup>2</sup>留新梢约4000个。由于该品种结果枝率高,成花容易,每结果枝宜保留1个果穗。为提高商品性并确保产量,推荐采用无核化栽培,每666.7 m<sup>2</sup>产量宜控制在1250~1500 kg之间。

### 3.3 肥水管理

10—11月初施用基肥,每666.7 m<sup>2</sup>施用腐熟禽肥1250 kg或有机生物肥500 kg,加施磷肥50~75 kg;在花后无核化处理(保果和膨大)时及时施膨

大肥,每 666.7 m<sup>2</sup>施用高氮水溶肥或复合肥 20 kg,分 2~3 次施入,加施氨基酸钙肥 2 次;在浆果转熟时,每 666.7 m<sup>2</sup>施用高钾复合肥 10~15 kg,补充钙镁肥 2 次,完全转色后分 2 次施入钾肥 2.5 kg。每次施肥后均需灌水。

### 3.4 病虫害防治

为有效控制葡萄园病虫害,需实施周年精准防控策略:在休眠期(冬剪后),采用 3~5°Bé 石硫合剂进行彻底清园,可显著降低园内病原菌和害虫的越冬基数。芽体膨大至绒球状时,重复施用石硫合剂强化消毒。早春新梢(2 叶 1 心)易受绿盲蝽、叶甲、蚜虫等害虫危害,需针对性防治。新梢快速生长期(8~10 叶)是防控穗轴褐枯病和灰霉病的关键点。在花期与幼果形成期(花前至谢花后),需重点防治灰霉病、白腐病、炭疽病、白粉病及粉蚧、红蜘蛛。套袋前需完成对白粉病、炭疽病、白腐病、粉蚧的有效防控,可实施套袋,避免使用粉剂和乳油。在果实转色至成熟前,悬挂斜纹夜蛾、橘小食蝇性诱剂诱捕器,诱杀并控制成虫种群。采收结束后,立即喷施铜制剂(波尔多液、喹啉铜等)或高效氯氰菊酯等药剂,以预防霜霉病、叶蝉及天蛾等病虫害,并进行园地清理。

## 4 综合评价

赤霞红焰是极晚熟欧美杂交种葡萄新品种,其花芽分化优良,穗形整齐,果实古铜色、粉红至紫红色、椭圆形、大小均匀、成熟度一致、风味香甜,适宜无核化栽培。在浙江地区栽培表现良好,深受消费者欢迎,具备良好的推广应用前景和较强的市场竞

争力。

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