

Research Note

‘Zhengmei’: A new early-ripening table grape

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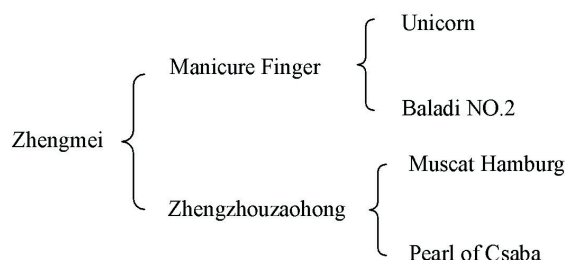


Figure: Cluster and Pedigree of ‘Zhengmei’ grape.

**Introduction:** Due to the improvement of forcing culture, there is need for early ripening table grape cultivars in China. In recent years, breeders developed some early table grape varieties (GUO 2010, XU 2012, JIANG 2014). The ‘Zhengmei’ grape (*Vitis vinifera* L.) is an early season ripening table grape cultivar, purple black and seeded with light muscat flavor. During observation period of five years, the average date of bud break was April 4, bloom was May 3, harvest was July 19. The cultivar, released in 2013, has a medium to high cluster density and easy management capability; it is suitable for growing in greenhouse and other facilities in northwest, and northern China.

**Material and Methods:** The table grape breeding program is based at Zhengzhou Fruit Research Institute of the Chinese Academy of Agricultural Sciences in Zhengzhou (34°48’N and 113°42’E), where the winter temperature is usually between 8 and -6 °C and summer temperature ranges from 28-36 °C. ‘Zhengmei’ originated from a hand pollinated cross of the ‘Manicure Finger’ and ‘Zhengzhouzaohong’ in May 2003 (Figure). ‘Manicure Finger’ is the seed pollen parent, a later season cultivar with finger-shaped berry. The pollen parent is ‘Zhengzhouzaohong’, a very early season cultivar with slight muscat flavor released in 1973 by our institute. The original plant was preliminarily selected in 2008 and tested as “43-7-2”. In 2009 and at the next year many cuttings were planted for trials. The plantings were spaced 2.5 × 1.3 meters and trained in vertical system. First fruit production was in 2011, yielding about 39,000 kg·ha<sup>-1</sup>. In 2012, the yield reached 40,000 kg·ha<sup>-1</sup>.

The cultivar resembles its seed parent in the characteristics of firm, flesh, crisp, vigor and high yield. The cultivar resembles its pollen parent in many characteristics, such as skin color, muscat flavor and early maturation, but the cluster is not as loose and ripens ten days later (Table).

**Results and Discussion:** ‘Zhengmei’ vines are very vigorous on their own roots, with medium internodes and good productivity when spur-pruned. On average, it ripens in middle July in Zhengzhou. The cluster is medium-sized, well-filled to dense, has an average weight of 808.5 g and is conical-shaped with a single shoulder. The long elliptic-shaped berry has an average weight of 5.3 g with a

maximum weight of 6.7 g, contains 1-4 seeds and is 19.0 mm in diameter and 23.0 mm in length. The berry skin is purple black. The flesh is firm with slight muscat flavor and does not separate from the skin. The average soluble solid content of ‘Zhengmei’ is 15.3 %, with a maximum of 19.1 %. For commercial production, the cluster size of this grape should be thinned to 70-80 berries. It usually shows two clusters per shoot, so one cluster can be removed. The shoulder must be removed in order to improve fruit presentation. This thinning must be done before veraison, to avoid bruising. The vine is early fruiting and easy to manage. It has high yield and resistance to diseases.

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Passport data on this cultivar can be found under ‘variety number vivc24636’ in the Vitis International Variety Catalogue (<http://www.vivc.de>).

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Table

Comparison of fruit characteristic between 'Zhengmei' and the parents

Year	Characteristic	Zhengmei	Manicule finger	Zhengzhouzaohong
2011	Soluble solids (%)	16.8	17.3	17.1
	Cluster weight (g)	812.4	679.5	557.4
	Berry weight (g)	5.2	9.6	5.3
	Harvest date	July 16	Sep 15	July 11
2012	Soluble solids (%)	15.3	16.8	16.2
	Cluster weight (g)	834.1	602.3	540.8
	Berry weight (g)	5.8	8.9	4.6
	Harvest date	July 27	Sep 25	July 20
2013	Soluble solids (%)	15.3	16.4	16.1
	Cluster weight (g)	808.5	609.5	630.2
	Berry weight (g)	5.3	8.2	4.8
	Harvest date	July 19	Sep 15	July 10