

Research Note

**'Ruiduxiangyu': A new table grape with muscat flavor**

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**Introduction:** Consumers in north China and Beijing areas prefer grapes with muscat flavor, but the existing muscat cultivars in the local market have small-sized berries and tend to crack. The 'Ruiduxiangyu' grape (*Vitis vinifera* L.) is an early maturing, green seeded cultivar with sweet muscat flavor and crisp flesh. The average bud break date is 14 April, average bloom date is 23 May, and typical harvest date is 15 August. The cultivar, released in 2008, has an appropriate cluster density and easy management capability; it is suitable for growing in greenhouse and other facilities in northern China.

**Material and Methods:** The table grape breeding program is based at the Institute of Forestry and Pomology in Beijing (39°58' N and 116°13' E), where the winter temperature is usually between 0 and -15 °C and summer temperature ranges from 32-36 °C. 'Ruiduxiangyu' is the result of hybridization between 'Jingxiu' and 'Xiangfei' in spring of 1998 (Fig. 2). The progeny of 'Muscat Hamburg' and 'Pearl of Csaba' was hybridized with 'Cardinal' to obtain 'Xiangfei' (XU 2001), an early-season cultivar with strong muscat flavor released in 2000 by our institute, which is the pollen parent, and the seed parent is 'Jingxiu', a widely-spread early-season cultivar released by the Institute of Botany, Chinese Academy of Science in 1995. The original plant was preliminarily selected in 2004 and tested as "26-11-4", and at the same year 20 buds were grafted on the 5-year-old rootstock for trials. The plantings were spaced 3.0 x 1.5 meters and trained in vertical system. The vegetatively reproduced vines first produced fruit in 2005, yielding 10,000-15,000 kg per hectare; in 2006, the yield was 25,000-30,000 kg per hectare.

The cultivar resembles its pollen parent in many characteristics, such as the muscat flavor, skin color and thickness, high yield. But it differs in that it does not tend to crack and has loose cluster structure, so it is less labor consuming in cluster thinning. The cultivar resembles its

Table

Fruit characteristics of the two cultivars during 2005-2007 at the Institute of Forestry and Pomology, Beijing<sup>z</sup>

Year	Characteristic	Ruiduxiangyu	Jingxiu	Xiangfei
2005	Soluble solids (%)	16.5a <sup>y</sup>	15.7a	17.4a
	Cluster weight (g)	427.5a	492.5a	345.1a
	Berry weight (g)	5.9a	7.1a	7.4a
	Harvest date	Aug 10	July 29	Aug 3
2006	Soluble solids (%)	18.9b	17.5b	16.2a
	Cluster weight (g)	423.3a	509.1a	327.4a
	Berry weight (g)	6.5a	6.9a	7.9a
	Harvest date	Aug 14	Aug 3	Aug 7
2007	Soluble solids (%)	17.8b	16.0a	15.5b
	Cluster weight (g)	385.0b	513.3a	298.0b
	Berry weight (g)	6.9a	7.3a	7.6a
	Harvest date	Aug 17	Aug 2	Aug 10

<sup>z</sup> Data are the means from 20 vines of each cultivar with 10 berries per vine.

<sup>y</sup> Mean separation within columns by Duncan's multiple range test  $p < 0.05$ .



Fig. 1: Cluster of 'Ruiduxiangyu' grape.

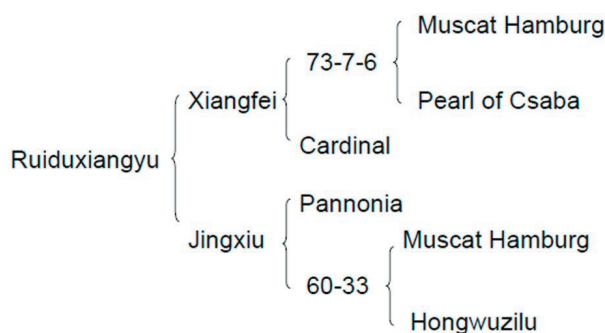


Fig. 2: Pedigree of 'Ruiduxiangyu' grape.

seed parent in the characteristics of large berry and early maturation, but the cluster is not as compact and ripens two weeks later.

**Results and Discussion:** 'Ruiduxiangyu' vines are moderate to vigorous on their own roots, with medium internodes and good productivity when spur-pruned. On the average, it ripens in middle August in Beijing. The cluster is medium-sized, well-filled to loose, has an average weight of 432.8 g and is conical-shaped and sometimes shouldered. The round to oval-shaped berry has an average weight of 6.3 g with a maximum weight of 8.1 g, contains 3-4 seeds and is 20.2 mm in diameter and 23.0 mm in length. The peduncle of the 'Ruiduxiangyu' grape is slightly long, averaging 7.2 cm. The pedicel, with an average of 9.2 mm, is medium in length. The berries are greenish yellow in color with light white bloom. The flesh is firm and crisp with an excellent muscat flavor and does not separate from the skin. The average soluble solid

content of 'Ruiduxiangyu' is 17.6 %, with a maximum of 21.4 %. For commercial production, the cluster size of this grape should be thinned to 70-80 berries. The vine is early fruiting and easy to manage. No specific diseases or pests have been encountered during observations to date.

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Passport data on this cultivar can be found under "variety number vivc23072" in the Vitis International Variety Catalogue (<http://www.vivc.de>).

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