

A New Mid-Season Nectarine Cultivar, 'Suhong'

J.H. JUN¹, K.H. CHUNG, S.J. KANG, Y.B. KWACK, S.B. JEONG,
K.S. PARK AND H.K. YUN

The total planted area of peach and nectarine trees in the Republic of Korea has increased by seven percent annually from the mid 1990s to 2003 (2). Annual production of peaches and nectarines was 200,534 metric tons and total cultivated area was 15,566 ha in 2004 (4). Eighty six percent of the cultivated area was planted to peaches; nectarines accounted for 14 percent (3).

'Suhong' originated from a cross between 'SunGlo' and 'Cheonhong' at the National Horticultural Research Institute (NHRI), RDA in Korea in 1992. It was selected in 1999, tested at seven sites from 2000-2003 as 'Wonkyo Da-17', and named in 2003. This cultivar is the second nectarine developed by the NHRI. 'Cheonhong', the male parent of 'Suhong', was the first (1). Trees of 'Suhong' produce an attractive, flavorful, yellow and melting flesh fruit for the fresh fruit market (Figure 1).

Trees are vigorous, productive and without alternate bearing. Growth habit of the trees

is semi-upright and main fruit production is on medium sized branches. Trees set a high number of flower buds. To produce large sized fruit, flower bud thinning is recommended to reduce the labor cost compared to fruit thinning. Leaves have reniform glands.

Flowers are large, showy and pink. Anthers are purplish red and pollen is bright yellow and abundant. The full bloom date is mid-April at Suwon (37°15'02"N, 127°00'43"E) and is almost the same as 'Cheonhong' and 'SunGlo'. Fruits ripen 118 days after full bloom, typically in early to mid-August at Suwon, and 18 days after 'Cheonhong'. Fruit size is large, with an average fruit weight of 268 g, and shape is ovate (Table 1). Fruit skin color is purplish red and flesh color is light yellow. Because its fruits are well colored before ripening, careful harvest is important. Commercially ripe fruits change ground color from greenish yellow to yellowish orange. Juice soluble solids are higher and titratable acidity is lower than in 'Cheonhong' and 'SunGlo'. Red pigmentation is absent in the outer flesh and in the flesh near the pit. Flesh clings to the pit even when fully ripe. Pits are medium size and have little tendency to split.

Like other nectarine cultivars, the incidence of infection in fruit and tree by *Monilinia fructicola* (Winter) Honey is severe. Therefore, chemical sprays are required for protection from damage. As the tree has strong vigor, excess nitrogen fertilization must be avoided.

'Suhong' is comparable in size to 'Cheonhong' and offers some significant advantages including superior size, shape,



Figure 1. Fruit of 'Suhong' nectarine.

¹ National Horticultural Research Institute, RDA, Suwon 440-706, Korea, jun0810@rda.go.kr

Table 1. Tree performance and fruit characteristics of nectarine cultivars ‘Suhong’, ‘Cheonhong’ and ‘SunGlo’ (Suwon, Korea, 2000-2003).

Cultivar	Bloom date (Julian day)	Harvest date (Julian day)	Fruit weights (g)	Soluble solids (°Brix)	Titrateable acidity (%)	Quality ^z
Suhong	106 a ^y	224 a	268 a	10.7 a	0.90 b	4.0 a
Cheonhong	107 a	207 b	253 a	10.5 a	1.16 a	4.0 a
SunGlo	106 a	227 a	180 b	9.8 a	1.05 ab	2.8 b

^zSubjective quality rating: 1 = least desirable, 3 = commercially acceptable, 5 = most desirable.

^yMean separation within columns by Duncan’s multiple range test, P=0.05.

attractiveness, aroma, and eating quality compared to 'SunGlo'. A plant patent has been filed for 'Suhong' and a propagation agreement is available through National Horticultural Research Institute, RDA, Korea.

Literature Cited

1. Kang, S.J., H.Y. Kim, K.H. Chung, W.C. Kim, Y.U. Shin, J.Y. Moon and J.H. Kim. 1999. 'Cheonhong' a nectarine with resistance to fruit cracking and russetting. *Kor. J. Hort. Sci. & Tech.* 17(1): 15-16.

2. Korea Rural Economy Institute. 2004. 2004 Agricultural outlook. Seoul, Korea.

3. Ministry of Agriculture and Forestry. 2002. Fruit census. Seoul, Korea.

4. Ministry of Agriculture and Forestry. 2005. Agricultural and forestry statistical yearbook. Gwacheon, Korea.



Pollination in ‘Conference’ Pear

Effectiveness of pollination was predicted in a ‘Conference’ pear orchard by examining pollen tube growth. Intra- and inter-cultivar compatibility was tested by hand pollination with ‘Conference’ or ‘Doyenne’ pollen, respectively. In intra-cultivar pollinated flowers, limited pollen tube growth and large callose plugs were observed. This cultivar was thus considered self-incompatible. As insect pollinators deposit variable quantities and mixtures of incompatible and compatible pollen grains, their relative efficiency can differ greatly. The pollination efficiencies of honeybees and of bumblebees were compared by examining pollen deposition and pollen tube growth following single floral visits. Bumblebees deposited higher quantities of more compatible pollen grains per stigma than honeybees; whereas no differences were detected in pollen tube growth. The implications for ‘Conference’ pear production are discussed. From: A.L. Jacquemart et al. 2006. *J. Hort. Sci. Biotech.* 81(5):827-830.