

'Fu Shuai' Apple

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The Old Yellow River Basin district in China is a new apple (*Malus domestica* Borkh.) growing area (1). 'Red Astrachan', 'Yellow Transparent', 'Gravenstein', and 'American Summer Pearmain' are early cultivars grown in this area, but none are well adapted.

The development of high quality, productive and disease-resistant cultivars for this area is a major objective of the apple breeding program of the Zhengzhou Fruit Research Institute. An early, green, well adapted cultivar, 'Fu Shuai', was introduced by the Institute in 1977.

Origin

'Fu Shuai' was derived from the cross, 'Early McIntosh' x 'Golden Delicious' (Fig. 1), made in 1962, and was selected from a progeny of 52 seedlings. After 1st fruiting in 1971, it has been tested widely in several provinces in China.

Description

Fruit size is 6.7 cm in diameter. The shape is long conic (Fig. 2), the skin color is pale green, rather smooth, and with a thin waxy bloom. The flesh is whitish cream-colored, dense, and crisp. It is moderately juicy, and after the fruit has fully ripened, the flavor becomes sweet to slightly sour and aromatic. The soluble solids content is 13.3%; it has a low acid content of 0.13%. Storage life at 26°C is about 20 days.

Trees of 'Fu Shuai' are vigorous. At Zhengzhou, the blossom date is early to mid-April, and harvest date is early to mid-July. The extent of fruiting was as follows: terminal buds 34%, spurs 60.8%, and lateral buds 5.2%. The growth of spur accessory shoots and the tendency for repeated fruiting are quite strong.

'Liao Fu' and 'Fu Cui' are good pollenizers for 'Fu Shuai'. If grown on semidwarf, interstem, or vigorous stocks, tree growth of

'Fu Shuai' is curtailed adequately in warm areas; M7 and M26 are also effective stocks. Pinching vigorous shoots several times annually helps to induce fruit spur formation and increase productivity.

Very little June or preharvest fruit drop occurs on 'Fu Shuai'. Consequently, due to high fruit set, overcropping must be regulated by thinning. During drought conditions, early irrigation is necessary.

Leaves are highly resistant to apple leaf spot disease [*Marssonina mali* (P. Henn.) Ito].

In 1974, 'Fu Shuai' was planted for yield tests in an orchard at Xu Zhou. In 1975, the 2nd year after planting, 40% of the trees on M7 flowered. In 1978, all 5-year-old trees bloomed. The average single-tree yield of 'Fu Shuai'/M4 was 22.3 kg. The cumulative yield of 8-year-old trees was 178.3 kg. Fruit quality, fruit weight, soluble solids, sugar, acid, and flesh firmness of 'Fu Shuai' are shown in Table 1.

The Da Sha He Orchard in Jiangsu Province used 'Fu Shuai' budded on *M. hupehensis* (Pamp.) Rehd. stocks. These trees

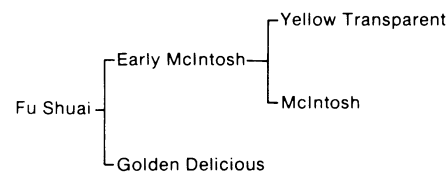


Fig. 1. Pedigree of 'Fu Shuai' apple.

began to bear fruit at 3 and 4 years of age with an average yield of 10.6 kg. Quality and storage life were good. At Nanjing Agricultural College, it was a good early variety, particularly because of its shelf life and shipping quality; it was much better than 'American Summer Pearmain' for quality, storage life and productivity.

In Yong Shun County, Hunan Province, in the southern part of China, the weather is warm and humid. Here, 'Fu Shuai' fruit set was very heavy. The bloom/fruit set was 68.8%, much higher than the 'Golden Delicious' parent. The flesh was crisp, fine and tender with sweet, aromatic flavor. Soluble solids were 13.7%, and the quality was good to excellent. Very few fruits dropped from trees before harvest. On M7 and interstem stocks, 2-year-old trees began to bear fruit. These fruit stored better than most early cultivars. The trees also showed resistance to apple leaf spot, bitter rot [*Glomerella cin-gulata* (ATK)Spaulding and von Schrenk] and powdery mildew [*Podosphaera leucotricha*

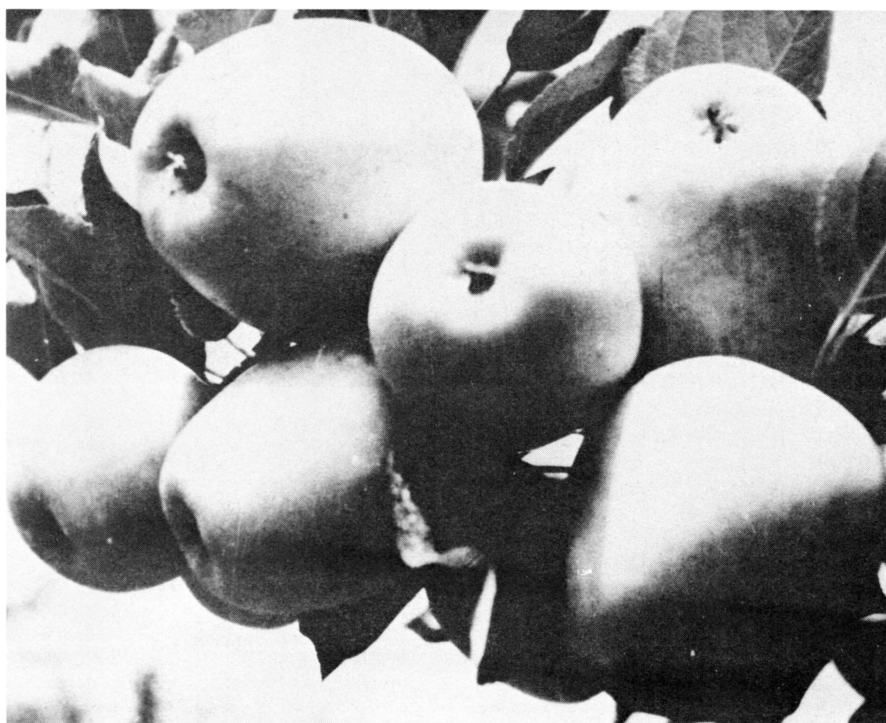


Fig. 2. 'Fu Shuai' apple.

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Table 1. Evaluation of 'Fu Shuai' apple fruit quality.

Root stock	Mean fruit wt. (g)	Soluble solids (%)	Total sugar (%)	Total acids (%)	Fruit firmness (kg/cm ²)
M7	124.1	12.9	10.0	0.20	12.5
M4	142.1	12.8	11.4	0.19	10.1
M9/M. <i>micromalus</i>	135.0	16.5	---	0.18	---

(E. & E.) Salm.], 'Fu Shuai' is recommended for planting in the Yong Shun area.

In Nancheng, Jiangxi Province, 'Fu Shuai' showed very good adaptability. The percentage of fruit set was high, even after rain during the bloom period, and fruit quality was high.

Similar results were obtained at the Shanxi Research Institute of Pomology. At this site, the trees had few physiological and prehar-

vest drop problems. Eating quality was excellent (sugar:acid ratio 72:1) and it had better shelf life and could be transported to market earlier than 'American Summer Pearmain'.

The Xu Zhou Orchard in Jiangsu Province has grown 'Fu Shuai' extensively. Twenty provinces are introducing this cultivar and 5 of them have planted it on a large scale.

Thus, 'Fu Shuai' was considered as a very productive, good, new, early, high quality

apple cultivar and should be planted in central China, especially the Old Yellow River Basin Area, near the suburbs of cities in this region.

Availability

Trees and limited scions of 'Fu Shuai' will be available from the Zhengzhou Fruit Research Institute, Chinese Academy of Agricultural Sciences, Zhengzhou, Henan, People's Republic of China.

Literature Cited

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'La Pêcher' Peach

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'La Pêcher' peach [*Prunus persica* (L.) Batsch] was released to provide a good quality yellow flesh cultivar with a 400 to 500 hr chilling requirement. 'La Pêcher' produces a heavy crop of medium to large semi-freestone fruit that ripen 39 days before 'Elberta' or about 6 June in southern Louisiana.

Origin

'La Pêcher', tested as L71-A72-23, was selected in 1973 by P.L. Hawthorne from a group of open-pollinated seedlings obtained in 1971 from 'La Feliciana'. This selection fruited and was evaluated for 9 years.

Description

Trees of 'La Pêcher' are vigorous and productive. No tendency toward sunscald on branch bark has been noted. Leaves are large, dark green, serrated, and have 2 to 4 reni-

form glands. The cold requirement to break rest is estimated at 400-500 hr at 7.2°C or below.

Blossoms are nonshowy, light pink with rose margins, and are self-fertile. Flower buds and fruit set have been heavy each year of evaluation, and heavy thinning has been required since it 1st came into production in 1973. Fruit shape is round with a nonprominent suture (Fig. 1) and almost equal halves. Surface color is medium yellow with about 80% bright red over-color. The flesh is yel-

low with red flecks throughout. The semi-freestone fruit are medium to large in diameter (5.7-7.0 cm) with medium pubescence. Fruit quality, firmness, and texture are good.

A uniform score card system of rating peach cultivars and selections is used within the research orchard. An average rating of each characteristic determined for 3 trees of 'La Pêcher', 'Bicentennial', 'Harvester', and 'Idlewild' for 9 years is presented in Table 1.

Results of experimental plantings have shown that 'La Pêcher' is a consistent producer of large, attractive fruit that ripen 11 days after 'Bicentennial', 9 days before 'Harvester', and 3 days before 'Idlewild'. This cultivar is recommended for southern Louisiana and areas with comparable chilling conditions.

'La Pêcher' has shown good resistance to bacterial spot [*Xanthomonas campestris* pv. *pruni* (Smith 1903) Dye 1978] under growing condition in southeastern Louisiana.

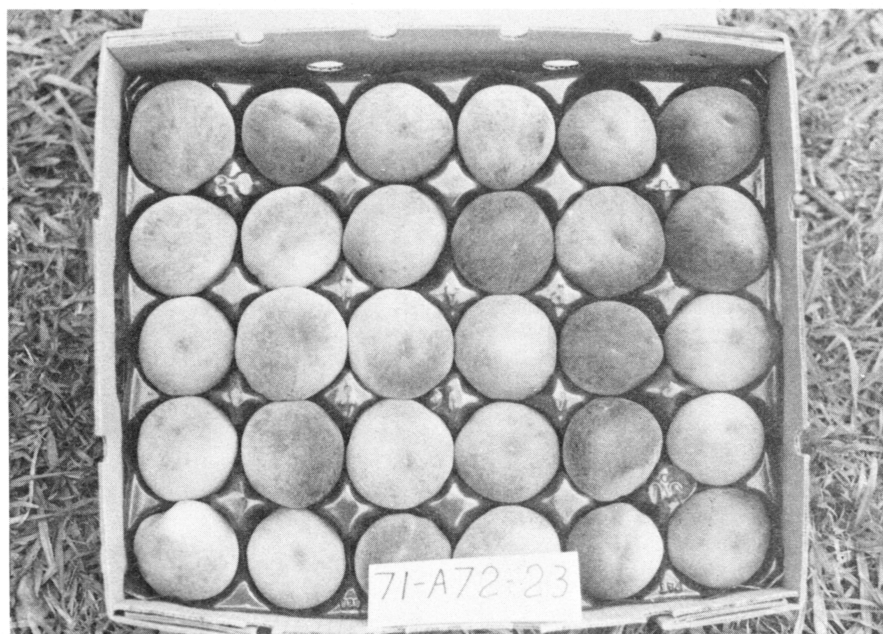


Fig. 1. 'La Pêcher' peach.

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