'Super Chief' Tomato Hybrid

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Origin

'Super Chief' is the F₅ hybrid resulting from the cross SD 82-106 × SD 85-048-1. Both parents were developed in the South Dakota fresh-market tomato (*Lycopersicon esculentum* Mill.) breeding program (Fig. 1).

The purpose of this breeding project is to develop tomato hybrids that are early, have acceptable fruit size (2120 g/fruit), and set enough fruit in fluctuating temperatures. 'Super Chief' is early and has larger fruit and a more consistent and heavy fruit set than varieties currently recommended in South Dakota. Other hybrids developed in this program are 'Centennial', 'Bonanza', 'Golden Delight', 'Rushmore', and 'Pink Pearl'.

The first cross was made in Fall 1982 in the greenhouse and tested during the past 10 years. Parent line SD 82-106 is the result of several matings designed to combine resistance to verticillium wilt [*Verticillium albo-atrum* (Sacc.) Snyder&Hansen] race 1 and fusarium wilt (*Fusarium oxysporum* f. *lycopersici* Reinke & Berthold) race 1 and to incorporate the ability to set fruit with this region's fluctuating temperatures. Line SD 85-048-1 is a result of several matings and selection for large fruit, early fruit set, resistance to verticillium and fusarium wilt, and other desirable horticultural characteristics. 'Super Chief' was evaluated as SD 87-13.

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Description

'Super Chief' is an early maturing determinate cultivar. In east-central South Dakota, the first picking occurs ≈62 to 68 days after the

plants are transplanted. Mature 'Super Chief' plants are 80 to 90 cm in diameter. Plant foliage is medium green and provides excellent fruit coverage.

Fruit are flattened globes to globes, with a smooth blossom scar and good resistance to radial and concentric cracking. Nonripe fruit are uniformly light green, almost white (u gene), and have a glossy finish (Fig. 2). External fruit color develops uniformly (Fig. 3) to a bright red. Internal characteristics include many locules, clear jelly, "meatiness," and thick septa. I judge the fruit to have good flavor.

'Super Chief' produced a higher total and marketable fruit yield than most hybrids used in the Midwest during 5 years of testing (Table 1), based on three replications and six plants per replication. Early yield (yield of first three

Fig. 1. 'Super Chief' pedigree.

Fig. 2. Determinate 'Super Chief' plant showing smooth, large, uniform, white-shoulder fruit.

Fig. 3. Large (≈ 7 cm in diameter) 'Super Chief' fruit.

Table 1. Five-year mean comparisons² for yield components for 'Super Chief' and four other tomato cultivars.

Cultivar	Yield/plant (kg)		Fruit wt (g)
	Early	Total	
Super Chief	0.7 a	10.9 a	177 ab
Celebrity	0.4 c	9.2 b	173 b
Big Early	0.5 c	7.9 c	133 d
Better Boy	0.7 b	6.7 d	182 a
Gurney Girl	0.4 c	6.1 d	157 c

²Mean separation in columns by LSD at $\alpha \leq 0.05$.

harvests) also was higher. Fruit weight was 210 to 240 g early in the season and 165 to 178 g toward the end of the season, with a season average of 178 to 250 g. The average yield was 9.6 to 11.90 kg/plant (planted 1.8 x 0.9 m apart). Early fruit is consistently large, averaging 7 cm in diameter in replicated trials.

'Super Chief' has a small blossom-end scar; a medium, shallow stem-end scar; and is resistant to *Verticillium albo-atrum* race 1 and *Fusarium oxysporum* f. sp. *lycopersici* race 1.

Availability

Seed is available from Gurney's Seed and Nursery Co. (Yankton, SD.), which does not have exclusive license for distribution.