

NEW F1 HYBRID TOMATO VARIETIES SE0913 AND SE0919

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With the breeding target of tomato varieties for high yield potential, good quality and bacterial wilt (BW) tolerance, the Potato, Vegetable & Flower Research Center (PVFC), Institute of Agricultural Sciences for Southern Viet Nam (IAS), had developed two new F1 hybrid varieties, namely, SE0913 and SE0919.

The results from evaluation experiments indicated that these two varieties have high yield potential of 70-80 tons/ha under field conditions (Tables 1 and 2). With semi-determinate (SE0913) and determinate (SE0919) growth habits, the varieties characterized by short duration of 95-100 (harvest completed) days compared to 120-130 days of Anna or Diamond variety which were indeterminate. In terms of quality attributes, the SE0913 and SE0919 have globe fruit shape of the size 140-170 g with higher solid and flesh contents than Anna, which probably give the fruits better taste for fresh consumption and high efficiency in tomato paste and juice preparation. Very good firmness of fruits gives these varieties a shelf-life of 23-24 days, which is 2-3 days longer than that of variety Anna under normal laboratory condition in Da Lat.

Good BW tolerance is an important advantage of these new varieties compared to other commercial one currently planted. In field experiments, without grafting on BW tolerant root stocks, the SE0913 and SE0919 seedlings could grow normally until harvest with no wilt symptoms observed while Anna got gradually 100% wilted plants. This important advantage was well realized by the farmers participating in the evaluation and test production fields (Table 2). High level of BW tolerance may help reducing the seedling cost on the use of tolerant root stocks for grafting. Coupling with the low cost of local variety seed production, it would be a highly significant contribution of these new varieties for tomato growers.

With superior agronomy and quality characteristics exhibited, the tomato varieties SE0913 and SE0919 have been regionally approved by Scientific Council of the Ministry of Agriculture & Rural Development in 2011 for large scale test production.

Table 1. Test production results of five tomato varieties in Tu Tra, Don Dzuong, Lam Dong, (*Autumn-Winter season 2010, seedlings were not grafted on BW tolerant root stocks*)

	Variety	Growth 60 DAP (1-9)	Plants with BW symptoms 60 DAP (%)	Vegetation period (days)	Fruit yield (tons/ha)
1	SE0913	9.0	0.0	100	86.73
2	SE0918	9.0	0.0	105	81.87
3	SE0919	9.0	0.0	95	81.90
4	SE0927	9.0	15.7	110	79.60
5	Anna	9.0	100	-	-
	CV (%)	-	-	-	10.60
	LSD _{0.05}	-	-	-	9.71

Note DAP = days after planting

Table 2. Test production results of five tomato varieties in K'Nai, Duc Trong, Lam Dong, (*Autumn-Winter season 2010, Seedlings were not grafted on BW tolerant root stocks*)

	Variety	Growth 60 DAP (1-9)	Plants with BW symptoms 60 DAP (%)	Vegetation period (days)	Fruit yield (tons/ha)
1	SE0913	8.3	0	95	60.20
2	SE0918	8.7	0	105	61.94
3	SE0919	8.7	0	90	77.28
4	SE0927	8.7	0	105	46.19
5	Anna	8.7	35.7	120	35.70
	CV (%)	-	-	-	9.83
	LSD _{0.05}	-	-	-	5.64

Note DAP = days after planting

Table 3. Major agronomic and quality attributes of tomato varieties SE0913 and SE0919

	Attributes	SE0913	SE0919
1	Growth habit	Semi-determinate	Determinate
2	Vegetation period (days)	95-105	95-100
3	Fruit shape and color	Globe, red	Globe, red
4	Fruit size	Large, 140-160 g	Large, 150-170 g
5	Flesh (%)	84.36	85.91
6	Firmness	Very firm	Very firm
7	Taste	Delicious, floury, less sourness	Delicious, floury, less sourness
8	Shelf life (days)	23-24	23-24
9	Resistance	Bacterial wilt	Bacterial wilt
10	Yield potential (tons/ha)	70-80	80-100