'Ohio 7983' Processing Tomato

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'Ohio 7983' is an early season processing tomato (*Lycopersicon esculentum* Mill.) adapted for machine harvest and bulk handling, especially suited for the production of peeled, coreless whole-canned tomato (whole-pack), as well as juice and pureed products. Extensive test areas of 'Ohio 7983' have been grown by the midwestern and eastern United States and Canadian tomato processing industries. The cultivar also has been well received by growers and is already grown extensively.

Origin

Breeding of 'Ohio 7983' began in 1967. It is an F₂ generation selection derived from five crosses whose pedigree is: 'Ohio 7983' = C37 x [VF 134 x ([UC98 x C28] x [Ohio 2170 x VF Roma])]. The line is productive. Fruit size, firmness, jointless pedicel ($j=2$), concentration of set, and uniformity of rip-

ening make it suitable for machine harvest. It has been extensively evaluated in the Midwest and in Canada, where its adaptability has been excellent (Berry et al., 1990).

Description

Vines of 'Ohio 7983' are small to medium, determinate (*sp*), and adapted to high plant population, direct-seeded, or transplant culture. The semi-prostrate vines are manageable for culture suited to once-over machine harvest. Foliage cover is adequate for helping ensure good fruit quality; at maturity the vines cover the row area uniformly. The average mean yields in 1989 from a replicated trial at Fremont, Ohio (Berry et al., 1990) for 'Ohio 7983', 'Ohio 8245', and 'Heinz 6285' were (t-ha⁻¹) 47.5, 56.0, and 42.3, respectively. Fruits of 'Ohio 7983' weigh an average of 56 g. They are ovate-plum shaped, smooth with a small stem scar and core, and uniform in ripening (*u*). The cultivar readily responds to ethephon application for hastening ripe fruit accumulation.

'Ohio 7983' is resistant to fusarium wilt caused by race 1 of *Fusarium oxysporum* Schlecht f. *lycopersici* (Sacc.) J. & H. (1) and is highly tolerant to verticillium wilt caused by *Verticillium dahliae* Kleb. It has good tolerance to anthracnose fruit rot caused by *Colletotrichum* spp. Excellent resistance to radial and concentric fruit cracking and the ability to store mature fruit on the vine for extended periods before harvest contrib-

ute to high yields of usable fruit in once-over machine harvest.

From experimental and extensive commercial trial plantings, 'Ohio 7983' is characterized by suitable soluble solids content (SSC), titratable acidity, color, and vitamin C, allowing its use in a variety of tomato products. In pilot plant trials of 'Ohio 7983' compared with 'Ohio 8245', a major main-season cultivar (Wiese and Berry, 1990), the SSC values for processed juice were 5.8% and 6.1%, respectively. Total acid content expressed as citric for the two cultivars tested as processed juice was nearly identical (0.25% and 0.24%). The vitamin C content for 'Ohio 7983' and 'Ohio 8245' was also nearly identical (23 vs. 24 mg/100 g, respectively). 'Ohio 7983' is especially suited for the production of high-quality whole-pack and diced tomatoes. Its jointless pedicel trait, small core, and excellent adaptability to lye or steam peeling make it especially desirable for efficient processing without coring in such automated production operations. It is also being used very effectively in the manufacture of juice, puree, and sauce products.

Availability

Commercial quantities of 'Ohio 7983' seed (PVPO no. 9000072) are available from Terra-Vegetable, Carmel, IN 46032. Trial seed samples are available from the Dept. of Horticulture, Ohio State Univ., Wooster, Ohio 44691.

Literature Cited

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