'Ohio 8556' Processing Tomato

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'Ohio 8556' is a main-season processing tomato (*Lycopersicon esculentum* Mill.) adapted for machine harvest and bulk handling, and is especially suited for the production of peeled, coreless whole-canned tomatoes (whole-pack), juice, and pureed products. Extensive test plots of 'Ohio 8556' have been grown by the tomato processing industry of the midwestern and eastern United States and Canada, and the cultivar already is being grown extensively.

Origin

Breeding of 'Ohio 8556' began in 1969, and it is an F₅ generation selection derived from five crosses (Fig. 1). Fruit size, firmness, jointless pedicel (*j*-2), set concentration, and ripening uniformity make it suitable for machine harvest. Productivity and quality improvement for whole-pack, color, and carelessness were derived from 'Ohio 7814' and 'Ohio 7870' (Berry and Gould, 1982, 1983). 'Ohio 8556' fruit color is crimson (*og*^c), derived from Purdue Univ. line 'PU 76-88', which enhances its whole-pack, product-grade potential. It has been evaluated extensively in the midwestern United States and Canada, where its adaptability has been excellent (Berry et al., 1992).

Description

'Ohio 8556' vines are medium in size, determinate (*sp*), and adapted to high plant population, direct-seeded, or transplant culture (single or double row). The relatively

upright vines (semiprostrate toward maturity) are manageable for culture suited to once-over machine harvest. Foliage cover is adequate for ensuring good fruit quality, and, at maturity, the vines cover the row area uniformly. The average mean yields in 1991 from a replicated trial at Fremont, Ohio, were (in t·ha⁻¹) 'Ohio 8556', 55.3; 'Ohio 7983', 52.9; and 'Ohio 8245', 54.7. In a commercial trial in 1991 at Tiffin, Ohio, with double-row culture and higher plant population, the average mean yields were (in t·ha⁻¹) 'Ohio 8556', 90.5; 'Ohio 7983', 85.1; and 'Ohio 8245', 85.3 (Berry et al., 1992). 'Ohio 8556' fruit average 56 g. They are ovate-plum-shaped, smooth, with a small stem scar and core, and uniform in ripening (*u*). The cultivar responds readily to ethephon application to hasten ripening.

'Ohio 8556' is resistant to fusarium wilt caused by *Fusarium oxysporum* Schlecht f. *lycopersici* (Sacc.) J. & H. race 1 (*I*) and verticillium wilt caused by *Verticillium dahliae* Kleb race 1 (*Ve*). It has good field tolerance to early blight (*Alternaria solani* spp.) and 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 contribute to high yields of usable fruit in once-over machine harvest.

Data from experimental and extensive commercial trial plantings indicate that 'Ohio 8556'

has suitable soluble solids content (SSC), titratable acidity, color, and vitamin C, allowing its use in a variety of tomato products. In pilot plant trials, 'Ohio 8556' was compared with the major early and main season cultivars Ohio 7983 and Ohio 8245, respectively (Wiese and Berry, 1992); the corresponding SSC for raw juice was 4.0%, 4.3%, and 3.9%, respectively. Total acid content, expressed as citric, for the three cultivars tested was 0.32%, 0.32%, and 0.38%, respectively. The vitamin C contents were (in mg/100 g) 'Ohio 8556', 15.7; 'Ohio 7983', 26.2; and 'Ohio 8245', 15.1. 'Ohio 8556' has been suited especially for the production of excellent-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 also lends itself to juice, puree, and sauce product manufacture.

Availability

Commercial quantities of 'Ohio 8556' seed are available from Terra International-Vegetable Division, Carmel, IN 46032. Trial seed samples are available from the Dept. of Horticulture, Ohio State Univ., Wooster, OH 44691.

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Fig. 1. Pedigree of 'Ohio 8556' tomato.

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