

'Micro-Gold' Miniature Dwarf Tomato¹

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'Micro-Gold' is a miniature dwarf tomato (*Lycopersicon esculentum* Mill.) with gold-colored fruit. It is a comparison to 'Micro-Tom' (Scott and Harbaugh, 1989), which has been the smallest tomato cultivar released to date. Like 'Micro-Tom', 'Micro-Gold' is being released as a tomato that can be grown singly in small pots (13 cm in diameter; 1-liter volume), as three plants in hanging pots (15 cm in diameter, 1.8-liter volume), or more plants in larger hanging pots. It is also ideal for window boxes or garden borders because the plant canopy diameter is only 19 cm (spring) to 26 cm (fall) (Table 1).

'Micro-Gold' combines ornamental aspects of a well-proportioned, diminutive, tomato plant with a mild-tasting fruit that can be eaten. The small plant size makes it ideal for commercial growing, shipping, and retail selling.

Origin

'Micro-Gold', tested as Fla. 7564, was increased in the F₉ generation following primarily single-plant selections from the cross of miniature dwarf breeding lines in Fla. 7188 x 874379-1 (Fig. 1). Fla. 7188 (red fruit) was used because of its excellent fruit set, and 874379-1 was used for its gold fruit color and retention of green foliage when fruit are mature. Both parents have closely related Ohio lines (Ohio

4014-4 and Ohio 4013-3) in their background, when provided the miniature plant, leaf, and fruit sizes. The dwarf character of the parent lines was derived from 'Florida Petite' (Augustine et al., 1981b) or 'Florida Basket' (Augustine et al., 1981a), which were earlier dwarf tomato releases from the Univ. of Florida. The gold fruit color originated from PI 205046.

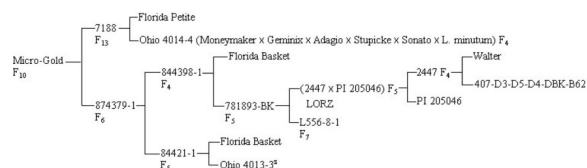


Figure 1. Pedigree of 'Micro-Gold'. ²Same parents as Ohio 4014-4.

Description

'Micro-Gold' is a short, compact, dwarf plant that is slightly wider and less prostrate than that of 'Micro-Tom'. However, 'Micro-Gold' plants are shorter than 'Yellow Canary' plants – the smallest yellow-fruited cultivar commercially available (Table 2). 'Micro-Gold' is well suited to growing in small containers because its small plant size is genetically controlled. Non-miniature dwarf cultivars tend to overgrown small containers, and their plant size is restricted by the container size. The foliage of 'Micro-Gold' remains green even as fruit ripen.

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Foliage chlorosis and deterioration has been a problem with many yellow-fruited, dwarf breeding lines. Leaves are smaller than those of typical dwarf cultivars but slightly larger than those of 'Micro-Tom'.



Figure 2. 'Micro-Gold' miniature dwarf tomato.

'Micro-Gold' fruit have jointed pedicels; they are similar or slightly larger in size than those of 'Micro-Tom' and are similar or smaller in size than those of Fla. 7565 (Table 1). 'Yellow Canary' fruit were always larger than those of the other three cultigens. 'Micro-Gold' produced about the same number or fewer fruit per pot as 'Yellow Canary' and an equal number or fewer than 'Micro-Tom' (Table 1). Fruit shoulders are uniform green (*u*) and ripen to a golden color due to an undetermined gene for yellow flesh color (*r* or a similar gene) and yellow epidermis (*y*+). In contrast, 'Yellow Canary' fruit remain more yellow because the epidermis is colorless (*y*). Time from seeding to ripe fruit color of 'Micro-Gold' was 74 days in the fall and 95 to 96 days in the spring (Table 1). Under some conditions, older fruit of 'Micro-Gold' can appear glassy or translucent. Fruit should be consumed before this stage, or they will be mushy. 'Micro-Gold' fruit have a mild, tomato-like flavor that is less acidic than 'Micro-Tom' fruit. However, no significant differences in citric acid or soluble solids : citric acid ratio were determined between these two cultivars in a Spring 1993 test (Table 2). 'Yellow Canary' is slightly sweeter than 'Micro-Gold'; in Spring 1993, this characteristic may have been reflected in the

higher soluble solids : citric acid ration of 'Yellow Canary' because it had a lower soluble solids concentration than 'Micro-Gold' (Table 2).

'Micro-Gold' is resistant to fusarium wilt race 1 [*Fusarium oxysporum* Schlecht. F.sp. *lycopersici* (Sacc.) Snyder and Hansen] and gray leafspot (*Stemphyllium solani* Weber). Fruit have a high level of resistance to radial and concentric cracking, rain check, blossom-end rot, and ripening disorders, such as blotchy ripening and graywall.

Seed availability

'Micro-Gold' is an open-pollinated (pure line) release. Distribution for commercial seed production purposes is handled through the Florida Foundation Seed Producers, P.O. Box 309, Greenwood, FL 32443.

Literature cited

- Augustine, J.J., B.K. Harbaugh, and J.P. Crill. 1981a. Florida Basket: A dwarf tomato for hanging baskets. Florida Agr. Expt. Sta. Circ. S-283.
- Augustine, J.J., B.K. Harbaugh, and J.P. Crill. 1981b. Florida Petite: An extremely dwarf tomato for window sill gardens. Florida Agr. Expt. Sta. Circ. S-285.
- Scott, J.W. and B.K. Harbaugh. 1989. Micro-Tom: A miniature dwarf tomato. Florida Agr. Expt. Sta. Circ. S-370.

Table 1. Evaluations of foliar and fruit characteristics of 'Micro-Gold', Fla-7565, 'Micro-Tom', and 'Yellow Canary' tomato cultigens grown as single plants in pots (13 cm in diameter) or three plants in hanging pots (15 cm in diameter) under greenhouse conditions in Spring and Fall 1993 in Bradenton, FL.

Cultigen	Plant		Fruit			Time to color (days) ^w
	Ht (cm)	Width (cm)	Diam (mm) ^y	Wt (g) ^y	Per container x (no.)	
<i>Single plant per 13-cm pot</i>						
Spring						
Micro-Gold	12 b ^v	26 a	24 c	7.8 c	37	96 b
Fla-7565	10 b	21 b	25 b	9.0 b	33	90 c
Micro-Tom	10 b	25 a	22 d	6.2 d	42	92 c
Yellow Canary	22 a	25 a	29 a	13.6 a	32 ^{NS}	103 a
Fall						
Micro-Gold	25 ab	19	27 b	9.8 b	19 b	74 a
Fla-7565	21 c	20	27 b	10.3 b	20 b	69 b
Micro-Tom	23 bc	22	25 c	7.5 c	27 a	73 a
Yellow Canary	27 a	22 ^{NS}	29 a	14.3 a	17 b	74 a
<i>Three plants per 15-cm hanging pot</i>						
Spring						
Micro-Gold	15 b	32 a	24 c	9.2 bc	57 a	95 b
Fla-7565	10 c	26 b	27 b	10.4 b	42 b	87 d
Micro-Tom	9 c	28 b	25 c	7.0 d	62 a	91 c
Yellow Canary	26 a	29 ab	31 a	14.4 a	37 b	103 a
Fall						
Micro-Gold	24 b	28	26 bc	9.2 bc	29 c	75 a
Fla. 7565	21 b	26	27 b	10.8 b	38 b	67 c
Micro-Tom	20 b	28	25 c	8.2 c	51 a	71 b
Yellow Canary	33 a	27 ^{NS}	30 a	14.6 a	26 c	74 ab
<p>z Seeding dates 14 Jan. (spring) and 24 Aug. 1993 (fall). y Average fruit diameter and weight of the first five fruit to ripen per plant. x Number of green and ripe fruit = 2 weeks after first fruit color. w Days from seeding to first appearance of gold ('Micro-Gold') and Fla. 7565), yellow ('Yellow Canary'), or red ('Micro-Tom') fruit. v Mean separation within columns for each season by Duncan's multiple range test significant or nonsignificant (NS) at $P < 0.05$.</p>						

Table 2. Soluble solids (SSC) and citric acid concentrations and SSC : citric acid ratio for dwarf tomato cultigens grown in field at Bradenton, FL in Spring 1993.

Cultigen	SSC (%)	Citric acid (%)	SSC : acids
Micro-Gold	5.37 a ^z	0.650 a	8.28 bc
Fla. 7565	4.40 b	0.498 b	8.83 ab
Micro-Tom	4.33 bc	0.657 a	6.58 c
Yellow Canary	3.67 c	0.361 c	10.24 a

^z Mean separation within columns by Duncan's multiple range test at P<0.05.