

Research Note

SHORT-DAY ONION CULTIVARS IN SOUTHERN PUERTO RICO DURING THE 1988-89 GROWING SEASON¹

Onion (*Allium cepa* L.) is one of the most popular vegetables in Puerto Rico. During 1987-88 per capita consumption of this bulb was 5.38 kg (11.85 lb), third behind tomatoes and pumpkins. Total local production was 713.6 t (15,700 cwt), whereas 17,575.6 t (386,664 cwt) was imported. Thus, local production accounted for only 4.03% of the onions consumed in Puerto Rico.²

According to the Department of Agriculture of Puerto Rico, the area devoted to onion production increased from 40.6 ha (103.4 acres) in 1986-87 to 88.8 ha (226 acres) in 1988-89.² To further increase commercial production continuous testing of new onion cultivars with outstanding characteristics is required in order to compete with imports. Adaptable cultivars, round or near round in shape, with good storage quality, yellow thick scales, and with resistance to various diseases should be introduced and tested.^{3,4}

Eighteen onion cultivars were evaluated in southern Puerto Rico from December 1988 to April 1989 (table 1). The experimental design followed a randomized complete block with two replications. Seeds were sown in four rows with 20.3 cm (8 in) between rows.

Irrigation was applied through two drip lines between the four onion rows. The ex-

periment was fertigated at a rate of 227.3, 227.3 and 181.8 kg/ha (200, 200 and 160 lb/acre) of N, P₂O₅ and K₂O, respectively.^{5,6}

The cultivars were harvested 4 April, 10 April, and 19 April, when 60% of the leaves had fallen down. Onions were cured for 5 days, and the bulbs were sized and weighed.

Table 1 presents data on days to harvest, marketable size classification, yield and percentage of culls of each cultivar. Cultivars Yellow Granex Improved, Equanex, Primavera (PS-1685), Grand Prix, Gold Rush, Ringer Grano, Sweetex, Granoble and Texas Grano 502 Select had the shorter growth cycle, harvested 125 days after seeding, whereas Texas Grano 1025Y, Texas Early Grano 502 PRR and Texas Grano 1015Y had the longest growth cycle. Yellow Granex Improved, Granex Yellow PR, Equanex, Primavera (PS-1685), Grand Prix and Gold Rush, Texas Grano 1025Y and Ringer Grano were the most productive cultivars with yields ranging from 6245 to 7055 kg/ha. These cultivars appear to have commercial potential for the southern region. The fact that 6 of these cultivars can be harvested 125 days after transplanting, one at 131 days and another at 150 days, points to the possibility of spreading production over a longer period of time. The other cultivars are low yielders and therefore should not be considered as potential

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²Departamento de Agricultura, Anuario de Estadísticas Agrícolas. 1986-87; 1987-88.

³Hayslip, N. C., D. D., Gull, V. C. Guzmán, J. R. Shumaker and R. M. Sonoda, 1987. Bulb Onion Production in Florida. Univ. Fla. Coop. Ext. Serv. Bull. 238, p. 2.

⁴Maynard, D. N., 1987. Vegetable variety evaluation. Univ. Fla. Coop. Ext. Serv., Circ. 762, p. 12.

⁵Estación Experimental Agrícola, 1979. Conjunto Tecnológico para la Producción de Hortalizas. Esta. Exp. Agric. Univ. P. R. Publ. 102, 2da. ed., p. 25-30.

⁶Lorenz, O. A. and D. N. Maynard, 1980. Knott's Handbook for Vegetable Growers. John Wiley and Sons. 2nd ed, pp. 295.

TABLE 1.—Yield and size classification of eighteen onion cultivars

Cultivar	Source	Days to harvest ¹	Marketable yield	Size classification ²				Culls ³
				Small	Medium	Large	X-Large	
			<i>kg/ha</i>	%	%	%	%	%
Yellow Granex Improved	Sunseeds	125	7,055	12.2	44.0	22.0	—	21.8
Granex Yellow PRR	Ferry Morse	131	6,800	14.0	54.2	16.8	—	15.0 ³
Equanex	Petoseed	125	6,736	13.0	38.0	23.0	—	26.0
Primavera (PS-685)	Petoseed	125	6,691	8.0	47.0	32.0	—	13.0
Grand Prix	Sunseed	125	6,664	15.0	55.0	14.0	—	16.0
Gold Bush	Sunseed	125	6,636	14.0	50.0	16.0	—	20.0
Texas Grano 1025 Y	Asgrow	150	6,436	9.0	46.0	10.0	—	35.0
Ringer Grano	Sunseed	125	6,245	14.5	41.0	20.0	0.5	24.0
Sweetex (FMX-225)	Ferry Morse	125	5,873	18.0	41.0	23.0	—	18.0
Granex 429	Asgrow	131	5,546	14.0	29	12	—	45 ³
Special 38 PRR	Sunseed	131	5,527	32.0	21.0	7.0	—	40.0 ³
Contessa	Asgrow	131	4,809	28.0	40.0	8.0	—	24.0 ³
Granoble	Petoseed	125	4,363	14.0	32.0	12.0	—	26.0
Henry's Special Yellow	Sunseed	131	4,272	12.0	27.0	11.0	—	50.0 ³
Texas Early Grano 502 PRR	Ferry Morse	131	4,145	11.0	33.0	13.0	—	43.0 ³
Texas Yellow Grano 502 Select	Petoseed	125	5,000	24.0	23.0	2.0	—	51.0

Texas Early								
Grano 502 PRR	Ferry Morse	150	1,873	14.0	26.0	2.0	—	58.0
Texas Grano								
1015 Y	Petoseed	150	1,746	13.0	32.0	10.0	—	45.0

¹Direct seeding 1 December 1988. Harvests: 4, 10 and 19 April, 1989.

²As percentage of the total number of marketable bulbs. Diameters: small ≤ 50.8 mm ($\leq 2''$); medium = 50.8 – 76.2 mm (2'' - 3''); large = 77.8 - 108.0 mm (3 1/16 - 4 1/4''); and X-large ≥ 108.0 mm ($\geq 4 1/4''$).

³Above normal number of culls for the cultivars harvested 10 April because of decay as a result of high humidity conditions at harvest.

commercial varieties under prevailing conditions of the south coast. All cultivars produced more medium sized than small or large bulbs. Primavera (PS-1685) and Texas Grano 1025Y had the lowest percentage of small bulbs. The high percentage of culls or non commercial onions of cultivars Granex 429, Special 38 PRR, Contessa, Henry's Special Yellow and Texas Early Grano 502 PRR was probably due to high humidity at harvest.

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