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EVALUATION OF CRISP-HEAD LETTUCE CULTIVARS

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INTRODUCTION

Lettuce imports for Puerto Rico in 1972-73 amounted to 9023 metric tons valued at 2.5 million US dollars.

Sixteen crisp-head lettuce cultivars were tested in this 1973-74 trial. All were evaluated for winter production. Of prime importance were yield, head weight and uniformity. These are the most important characters with or without mechanization.

All cultivars were direct seeded in the field at the Fortuna substation on November 28, December 20, January 10 and January 31. Five replications each in two rows 0.9 m (3 ft.) apart and 4.6 m (15 ft.) long with plants spaced at 0.3 m (12 in.) in the row. No fertilizer was used. Pronamide (Kerb 50 w) at 1.8 kg (4 lbs) active ingredient per 0.4 ha (1 ac.) was applied as preemergence herbicide. The plots were irrigated six times and received 2.5 cm (1 in.) of water at each irrigation. The harvest dates were February 15, March 13, March 21 and April 10, making cycles of 78, 83, 70 and 69 days per crop for each planting respectively.

Weather data for the period from November 28 through April 12 was: Max temp 31.7°C (89°F), mean min temp 15.6°C (60°F) and a mean temp of 22.8°C (73.6°F). Total precipitation was 65.4 mm (2.97 in.) with the greatest in 24 hours 14.5 mm (0.57 in.). The elevation of the substation is 21 m (67.9 ft).

TABLE 1 summarizes the combined data of the four plantings of this trial. Individual comments are listed.

Disease is considered the greatest limiting factor effecting yield, principally, bacterial soft rot (*Erwinia carotovora*). Other problems, but minor factors, were leaf spot (*Cercospora longissima*), and tip burn, a physiological disorder. Cultivar Empire appeared more susceptible to root knot nematode than others. Split heads are also considered important in yield production but this is physiological and may be related to high daytime temperatures.

Cultivars Great Lakes R-200-95 (K), Great Lakes 659 (N), Great Lakes 118 (N), Great Lakes Mesa 659 (N), Great Lakes Picoverde (K) and Oswego (D) are considered worthy of further evaluation.

NOTE: The use of cultivar names and names of companies in this paper is for convenience and does not imply endorsement of these cultivars or the companies by the Agricultural Experiment Station of the University of Puerto Rico.

TABLE 1. Evaluation of Crisp-Head Lettuce Cultivars, Fortuna Substation, P.R.

Cultivar and seed source ¹	Yield cases/ha ²	Metric tons/ha	Head wt. (kg)	% marketable heads	% diseased heads	% split heads	% blooming and no heads
Great Lakes R-200-95 (K)	534.7 a ³	8.8	0.51	36	35	22	7
Great Lakes 659 (N)	442.4 ab	6.5	0.54	28	48	21	3
Great Lakes 118 (N)	422.9 abc	6.0	0.54	28	41	24	7
Great Lakes Mesa 659 (N)	418.9 abcd	5.8	0.54	27	43	21	9
Mesa 659 (A)	388.7 abcde	5.5	0.51	28	35	33	4
Great Lakes Picoverde (K)	357.9 abcde	5.6	0.63	36	29	27	8
Great Lakes 659 (A)	328.5 abcde	4.5	0.58	39	45	9	6
Oswego (D)	313.2 abcde	4.2	0.58	35	29	24	12
Great Lakes 66 (D)	308.5 bcde	4.7	0.61	28	36	30	6
Great Lakes 659 (D)	291.9 bcde	4.0	0.50	26	36	20	18
Empire (N)	280.2 bcdef	4.3	0.56	22	42	19	17
Picoverde (K)	237.1 bcdefg	3.3	0.63	15	38	40	7
Great Lakes 118 (A)	183.2 efg	2.4	0.58	17	54	23	6
Great Lakes Bellaverde (K)	156.7 fg	2.2	0.56	16	45	27	12
Empire (A)	142.8 fg	2.1	0.63	16	51	26	7
Vanguard (D)	16.1	0.2	0.07	3	21	12	63

¹ Seed source: A = Ansgrow, D = Dessert, K = Keystone and N = Niagara

² One case has 24 heads

³ Means followed by the same letter are not significant at the 1% level