'Hernandez' Sweetpotato

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'Hernandez' sweetpotato [*Ipomoea batatas* (L.) Lam.] was developed by the Louisiana Agricultural Experiment Station. This late-sizing cultivar has high yield and excellent baking and processing qualities in combination with resistance to diseases.

Origin

'Hernandez', previously tested as L82-66, originated from the breeding program of Teme Hernandez as an open-pollinated seedling of L70-323 polycrossed in 1981. The female lineage of L70-323 is L63-217 and L41-21. L41-212 originated from a cross of 'Mameyita' × L4-6.

Description

'Hernandez' has moderately long purple-stemmed vines. Leaves are cordate to slightly lobed with purplish abaxial venation. The petiole is purple at the base and at the junction with the leaf axis. Storage roots are fusiform, lightly grooved, and red skinned. The cortex is intermediate in thickness and the flesh is a uniform deep orange. It has excellent baking qualities similar to 'Jewel' and canning qualities superior to 'Jewel' (1988

and 1989 National Sweetpotato Collaborators regional trials). Dry matter contents were 19.3% for 'Hernandez' and 26.3% for 'Jewel'. Flowering is adequate for breeding purposes, but it produces very few seeds.

Disease and insect resistance

'Hernandez' has an intermediate to resistant reaction to Fusarium wilt [*Fusarium oxysporum* Schlecht. f. sp. *batatas* (Wallenw.) Snyd. & Hans], similar to that of 'Centennial'. Reaction to southern root-knot nematode [*Meloidogyne incognita* (Kofoid and White) Chitwood] is intermediate, similar to that of 'Jewel' and greater than 'Beauregard'. It is moderately resistant to soil rot [*Streptomyces ipomoea* (Person & W.J. Martin) Waksman & Henrici]; resistance is similar to that of 'Beauregard' and 'Travis' and superior to 'Jewel'. Yield and shape are not affected by severe soil rot conditions. 'Hernandez' also does not show symptoms to the viral disease internal cork. Storage roots are more resistant to bacterial root rot (*Erwinia chrysanthemi* Burkholder, McFadden & Dimock) than 'Jewel' or 'Beauregard'. It is more susceptible to the stem-rot reaction of *E. chrysanthemi* than 'Jewel' or 'Beauregard'. Storage roots have intermediate resistance to fusarium root rot caused by *Fusarium solani* (Sacc.) Mart. emend. Snyd. & Hans., similar to 'Jewel'.

'Hernandez' is moderately resistant to the white grub species *Plectris aliena* Chapin (1989 National Sweetpotato Collaborators regional trials), but is susceptible to another, *Phyllophaga ephialda* (Say.). It is more susceptible than 'Jewel' to the banded cucumber beetle (*Diabrotica balteata* Leconte); however, the dark skin masks some of the damage. It has intermediate levels of resistance to the sweetpotato flea beetle (*Chaetocnema confinis* Crotch) when compared with resistant controls 'Regal' and 'Excel' (1989 National Sweetpotato Collaborators regional trials). Susceptibility to the wireworm, *Diabrotica*, *Systema* complex, is similar to 'Jewel' and 'Centennial'.

Performance

'Hernandez' has been evaluated for yield in the National Sweetpotato Collaborators Trial for 3 years (Table 1). Yields of 'Hernandez' were equal to or higher than those of 'Jewel' and were consistently higher than those of 'Centennial'. 'Hernandez' is a late-developing sweetpotato requiring 130 to 140 growing days. However, when planted early in the season, time to maturity is comparable to that of 'Jewel' (110 to 120 days). Productivity of 'Hernandez' is best in early plantings and at a 38-cm plant spacing. 'Hernandez' is best in early plantings and at a 38-cm plant spacing. 'Hernandez' has excellent storage quality. Plant production from bedded roots is variable (1987, 1988, and the 1989 National Sweetpotato Collaborators regional trials).

Availability

Limited quantities of foundation seed stock will be commercially available for the 1992 crop season. Requests for roots should be made to the Sweet Potato Research Station, P.O. Box 120, Chase, LA 71324.

Table 1. Marketable yields of 'Hernandez' and two other cultivars in the National Sweetpotato Collaborators regional trials.

Year	Cultivar	Yield (t·ha ⁻¹) ^{2,y}			
		U.S. #1	Canner	Jumbo	Total marketable
1987	Hernandez	17.5	9.0	2.5	29.0
	Jewel	16.0	6.7	4.7	27.4
	Centennial	12.3	8.2	2.0	22.5
1988	Hernandez	13.7	7.2	2.5	24.3
	Jewel	13.3	6.3	2.6	22.2
	Centennial	8.1	5.4	1.9	15.4
1989	Hernandez	15.5	7.6	1.7	24.8
	Jewel	14.7	7.7	2.1	24.8
	Centennial	11.3	7.5	1.4	20.2

²Averages from 11 locations in 1987 and 14 locations in 1988 and 1989; t·ha⁻² × 0.446 = U.S. tons per acre.

³Sizes of roots: U.S. #1: 5.1 to 8.9 cm diameter; 7.6 to 22.9 cm long; canner: 2.5 to 5.1 cm diameter; 5.1 to 17.8 cm long; jumbo: larger than either of the others, but marketable.

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