

# 'Eureka' Sweet Potato<sup>1</sup>

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'Eureka', a soil rot-resistant, high-quality sweet potato (*Ipomoea batatas* L.) formerly tested under the designation of L4-131, was developed by the Louisiana State University Agricultural Experiment Station and is jointly released by Louisiana State University Agricultural Experiment Station and the University of California Agricultural Experiment Station.

## Origin

The pedigree of 'Eureka' sweet potato is presented in Fig. 1. L9-163, the maternal parent of 'Eureka', which was selected from true seed in 1969, produces medium length and size vines that set a large number of well-shaped, copper-color skin, orange-fleshed, and good-quality roots. L9-163 has resistance to soil rot, referred to as "pox" in California [incited by *Streptomyces ipomoea* (Person & Martin) Waks. & Henrici], stem rot (wilt) [incited by *Fusarium oxysporum* f. *batatas* (Wr.) Snyder & Hanson], internal cork (virus), and root knot nematodes, (*Meloidogyne* spp.).

LO-132 is a high-quality parent selected from true seed in 1960 from a cross of L3-77 ('Centennial') x 'Unit I Porto Rico', a high-quality, improved selection of the old 'Porto Rico' cultivar. The maternal parent of L3-77 ('Centennial') was an open-pollinated seedling of L130 that resulted from a cross of 'Unit I Porto Rico' x 'Pelican Processor'.

'Eureka' (L4-131) was first made available for testing in California soil rot-infested soils in 1977. Replicated trials were conducted in 1978, 1979, and 1980.

## Description

'Eureka' has a copper skin color and orange flesh. Roots are well-shaped (Fig. 2) and tapered at both ends with a smooth exterior surface. This cultivar generally produces a large set of fleshy roots that require a

growing season of about 120 days or more to mature to U.S. #1 and canner-grade sized roots. The fleshy roots are attractive and have good consumer appeal.

The vines or stems are trailing, medium to large in thickness, and are generally about 5 feet long. Vines and leaf petioles are purplish in color and the leaves are green. Plant production from the fleshy roots is low, but can be improved by pre-heating the sweet potatoes in storage at 27 to 29°C for about 3 to 4 weeks before bedding.

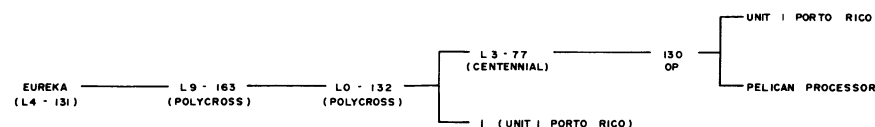


Fig. 1. Pedigree of 'Eureka' sweet potato.

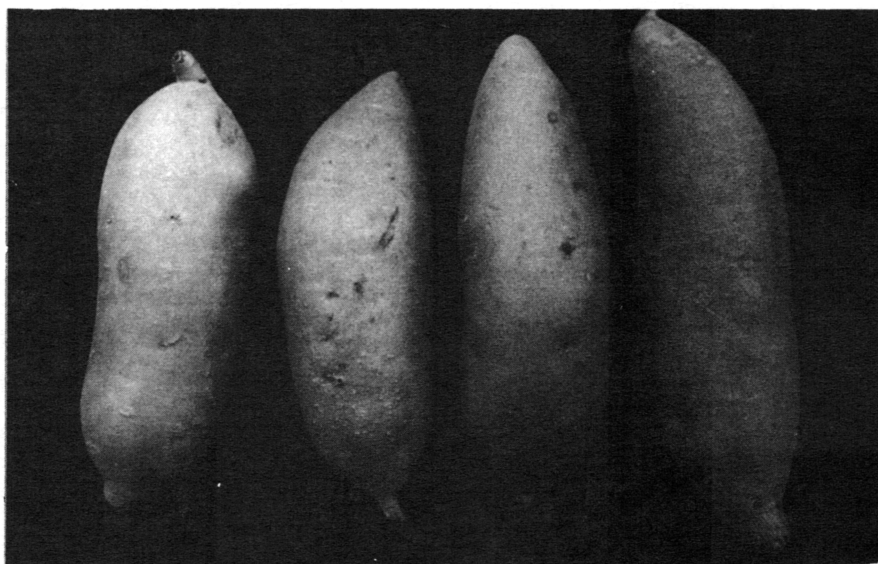


Fig. 2. Roots of 'Eureka' sweet potato.

Table 1. Yield of 'Eureka' and 'Jewel' Sweet Potatoes in Livingston, California, 1980.

Cultivar	Yields (MT/ha) <sup>a</sup>			
	U.S. #1	Canners	Total marketable U.S. #1 + canners + jumbo	Sweet potatoes with soil rot lesions
<i>Severely infected field</i>				
Eureka	13.8	6.1	25.1	8.2
Jewel	0.06	0.56	0.67	25.7
LSD 5%	4.5	2.4	11.8	7.4
<i>Lightly infected field</i>				
Eureka	20.9	8.6	35.8	0.0
Jewel	19.9	7.6	40.8	4.2
LSD 5%	NS	NS	NS	1.68

<sup>a</sup>MT/ha x 0.446 = tons per acre.<sup>1</sup>Received for publication April 18, 1981.

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## Performance

Yields of the 'Eureka' and 'Jewel' were compared in 6 replicated trials in Livingston, Calif., from 1978 to 1980. In soils severely infected with the soil rot (pox) organism, 'Eureka' consistently outyielded 'Jewel', but yields were comparable in lightly infected fields (Table 1).

'Eureka' is considered a good storage cultivar, comparable to 'Jewel'. It has good baking and canning characteristics and a dry matter content of 26.5%, which is equivalent to 'Jewel'.

Table 1 presents 1980 data from 2 trials, one grown in a severely infected soil rot field, and the other in a lightly infected field.

## Disease reaction

'Eureka' has shown good resistance to soil rot (pox) in California and Louisiana. It also has good resistance to internal cork (virus), stem rot (*Fusarium* wilt) and moderate resistance to root knot nematode (*Meloidogyne* spp.).

## Availability

Breeder seed will be maintained by Louisiana State University Agricultural Experiment Station.