

BUSH BABY LIMA "UC LUNA"

B. Origin and Breeding History of the Variety

UC-Luna is the variety name proposed for Line 123 from the UC Davis lima breeding program. Luna was increased as a single plant selection from the single cross of 'Kingston x Mezcla'. Kingston and Mezcla are commercial lima bean varieties. In the F₂ and F₃ generations, single plants were selected for white seed coat, white cotyledon, determinate bush types, and maturity. Line 123 was one of several F₄ families bulked from a total of 215 F₃ progeny rows. In an F₅ observation/seed increase nursery, Line 123 and 20 other white seeded bush lines were selected for yield testing. Line 123 emerged as the elite candidate from several years of preliminary and uniform testing (Table 1).

C. Objective Description of the Variety

Luna has a determinate growth habit, matures in 110 days, and during the growth period is very similar to Henderson bush. Luna has a small, flat, white seed coat. In a 1990 Fresno County yield test, seed size averaged 39.9 grams per 100 seeds for Luna and 40.3 grams per 100 seeds for Henderson bush.

D. Evidence Supporting Identity of Variety

Yield Data

During the past four years we have yield tested late generation bush baby limas in separate yield trials at UC Davis, West Side Field Station, Chico, and Stockton. Luna will benefit growers who wish an alternative to vine varieties such as Mezcla, Pat, or Wilbur. Luna grows well and produces good quality seed and yields range from 28 cwt/acre to 38 cwt/acre (Table 1). Like all commercial baby limas, Luna is susceptible to prevalent races of root-knot nematode, and has moderate resistance to lygus insect sting damage contributed by its Mezcla parent. Yield response to lygus pressure is very good.

Seed Quality

UC-Luna has very satisfactory canning quality (1 or 2 rating) equal to Mezcla, Pat, and Wilbur. Henderson bush usually turns gray in the can and has a somewhat soft, mushy texture with too many split seeds (rated 3).

The canning evaluations were based on the following categories: seed size variation, colored seeds (gold, blue, green or gray), seed splitting, and starch excretion. Lines were rated #1 for excellent (passing all categories), #2 for good (failing only one category), and #3 for reject (failing in two or more categories). Replicated samples were scored in coded containers.

E. Area of Adaptation

Luna is well adapted to the climatic and soil variability of baby lima growing areas. It has been tested and performed well in the Chico/Butte County area of the northern Sacramento Valley, Yolo County area (Davis), the northern San Joaquin Valley counties of San Joaquin and Stanislaus, and Fresno County in the southern San Joaquin.

F. Procedure for Maintaining Seed Stock

Breeders and Foundation seed will be maintained and distributed by the Department of Agronomy and Range Science and Plant Materials Service, University of California, Davis. Certification will be available under the supervision of the Crop Improvement Association. Classes/generations of seed will be Breeders, Foundation, Registered, and Certified.

Approximately 40 pounds of Breeders seed (sufficient for about one acre) is available for 1992, and should be grown at UC Davis in isolation.

Table 1. Yields in cwt/acre of baby lima breeding lines.

Line	Davis 1988	Davis 1989	WSFS 1990	Chico 1991	Stockton 1991	Mean
123 (Luna)	32.3	40.2	29.0	49.3	40.0	38.2
144	34.3	43.7	31.8	39.4	41.1	38.1
17	31.3	42.3	26.9	39.8	39.7	36.0
188	33.1	36.9	27.3	41.3	40.2	35.8
9	32.9	38.0	25.9	40.4	38.5	35.1
Henderson	28.6	35.5	20.0	33.3	39.0	31.3
CV %	8.18	7.34	8.71	14.4	5.7	
LSD .05	4.40	3.17	2.71	8.94	NS	