

UNITED STATES DEPARTMENT OF AGRICULTURE
Science and Education Administration
and
Agricultural Experiment Station of the
University of Puerto Rico

ANNOUNCE

NAMING AND RELEASE OF THE MULTIPLE DISEASE RESISTANT
CULTIVAR 'CHORRO'

The Science and Education Administration, United States Department of Agriculture, and the Agricultural Experiment Station of the University of Puerto Rico (UPR) announce the release of the multiple disease resistant cultivar 'Chorro'.

A portion of the project carried out by USDA and UPR is supported in part by the Agency for International Development under a contract (AID/CM/TA-C-63-26) entitled "Improvement of Tropical Production of Beans and Cowpeas Through Disease and Insect Control."

Chorro was developed through an integrated scheme of multiple disease resistance screening and recurrent selection population breeding. A single hybrid plant from P.I. 207198, a mottled dry bean (Phaseolus vulgaris L.) from Colombia was selected in 1970 on the basis of its rust resistance, healthy root system and black shiny seed color.

From 1971 to 1974, under different field numbers, the progenies of the hybrid were included in recurrent selection populations and challenged by soil-borne diseases, bean common mosaic virus (BCMV), bacterial blight, and rust. In 1974 a segregant with brown base speckled with black was selected as line 527-LBK-1BK and placed in multiple location advance disease resistance and yield tests at Fortuna, Isabela, Lajas, Limaní and Mayaguez. In 1976 the line 527-LBK-2BK was included in yield trials at three of the above locations, and during 1977-78 it was increased and selected for seed uniformity.

Chorro seed coat has a light brown to brown base with dark brown to black speckle concentrated around its hilum. Seeds are full, medium sized and weighing 24.5 g per 100. It has a pod length of 11.2 cm which is straight and has 5.7 seeds per pod. It had the second highest yield among 25 dry bean cultivars, producing 2,409 kg/Ha at Fortuna yield trial in 1976. Chorro is a very vigorous plant with low vine habit at sea level and determinate vine habit at 500 m elevation. It flowers at 30 days and has dry pods at 75 days after sowing at sea level; at 500 m elevation it flowers at 48 days and pods dry at 89 days after sowing. It retains 40 to 90% of its normal green foliage at dry pod stage.

Chorro developed extensive root system which was highly resistant to soil-borne diseases of the heavily infested soils of the screening plots. These diseases included rhizocotnia root rot, Rhizoctonia solani; fusarium root rot, Fusarium solani; and charcoal rot, Macrophomina phaseoli. It was free from root knot nematode, Meloidogyne incognita, at two screening trials.

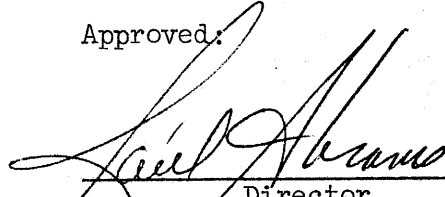
It is rust, Uromyces appendiculata, resistant. Chorro is moderately resistant to highly tolerant to angular leaf spot, Isariopsis griseola, at up to full-pod stage; after this stage it becomes susceptible. It has been resistant to both field and greenhouse inoculations with the systemic mosaic strain of BCMV, and cowpea mosaic virus (CMV).

Chorro is moderately susceptible to common bacterial blight and susceptible to bacterial canker strains of Xanthomonas. It is also susceptible to bacterial pustule strain of Xanthomonas originating from soybean. It is susceptible to cercospora pod blotch, Cercospora canescens, in the field, and to cucumber mosaic virus (CMV) in greenhouse inoculations.

Chorro is a high yielding tropical cultivar with a high level of adaptability to field conditions. It is suggested either as parental material for disease resistance breeding, or for selection as an adaptable commercial cultivar.

Limited amount of seed is available on a pro-rata basis to qualified persons who request it in writing from
Mayaguez Institute of Tropical Agriculture, AR, SR, SEA,
P. O. Box 70, Mayaguez, Puerto Rico 00708.

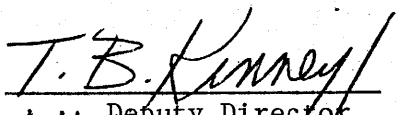
Approved:



Director
Agricultural Experiment
Station
University of Puerto Rico

24/5/79

Date



Actin Deputy Director
Agricultural Research
Science and Education Administration

6/11/79

Date