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 (UFR) announce the release of the multiple disease resistant
cultivar 'Chorro'.

A portion of the project carried out by USDA and UFR is supported in
part by the Agency for International Development under a contract
(AID/CMA/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 527-1BK-1BK and placed in multiple location advance
disease resistance and yield tests at Fortuna, Isabela, Lajas, Limaní and
Mayaguez. In 1976 the line 527-1BK-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:

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24/1/79
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6/11/79
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