

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 'MOGOTE'

The Science and Education Administration, Agricultural Research, 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 'Mogote.'

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."

Mogote was developed through an integrated scheme of multiple disease resistance screening and recurrent selection population breeding. A single hybrid plant from P.I. 300660, a black dry bean (Phaseolus vulgaris L.), from Chile was selected on the basis of its rust resistance and extensive healthy root system.

From 1971 to 1974 the progenies of the P.I. hybrid were included, under different field numbers, in recurrent selection populations and challenged by soil-borne diseases, bean common mosaic virus (BCMV), bacterial blight, and rust. In 1974 it was selected as a multiple disease resistant line, 514-LBK. In 1975 it was placed in multi-location disease resistance and yield tests at Fortuna, Isabela, Lajas, Limaní, and Mayaguez. In 1976 the line 514-LBK was included in yield trials at three of the above locations, and during 1977-78, it was increased and selected for seed uniformity.

Mogote has light brown seeds weighing 18.4 g per 100. It has a pod length of 9.9 cm, which is moderately curved, and bears 5.5 seeds. It had the third highest yield among 25 tropical dry bean cultivars, producing 2,611 Kg/Ha at Fortuna yield trial in 1976. Mogote is a very vigorous plant with semi-vine habit at sea level and low vine habit at 500 m elevation. It flowers at 35 days and has dry pods at 75 days after sowing at sea level; at 500 m elevation it flowers at 41 days and pods dry at 89 days after sowing. It retains 30 to 80% of its normal green foliage at dry pod stage.

Mogote is highly resistant to soil-borne diseases infesting the screening plots which include: rhizoctonia root rot, Rhizoctonia solani; fusarium root rot, Fusarium solani; and charcoal rot, Macrophomina phaseoli. Its roots were free from Meloidogyne incognita lesions at two root knot nematode screening trials. It is highly tolerant to Xanthomonas strains causing common bacterial blight symptoms. It is rust, Uromyces appendiculata, resistant. It is resistant to cercospora leaf spot and pod blotch, Cercospora cruenta and C. canescens. Mogote has been resistant to both field

and greenhouse inoculation with the systemic mosaic strain of BCMV, cowpea mosaic virus (CPMV), and cucumber mosaic virus (CMV). It has had low frequencies of rhynchosia mosaic virus (RMV) and golden yellow mosaic virus (GYMV), both transmitted by whitefly, Bemisia tabaci.

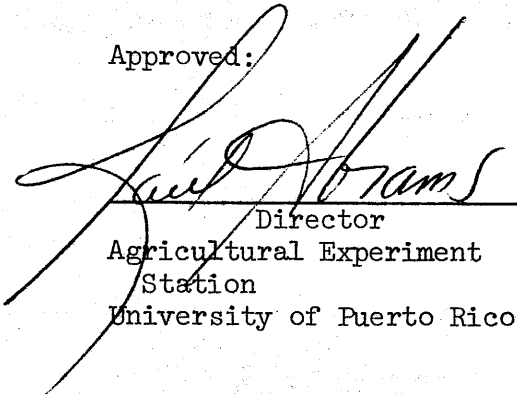
Mogote is susceptible to greenhouse inoculations with Xanthomonas strains causing bacterial canker of cowpeas. In the field it has had moderately susceptible to susceptible response to this disease. It is highly susceptible to angular leaf spot, Isariopsis griseola.

Cultivar Mogote is suggested for use either as parental material for disease resistance or as a commercial cultivar for areas where light brown (Bayo) beans have consumer acceptance.

Limited amount of seed is available on a pro-rata basis to qualified persons who request it in writing

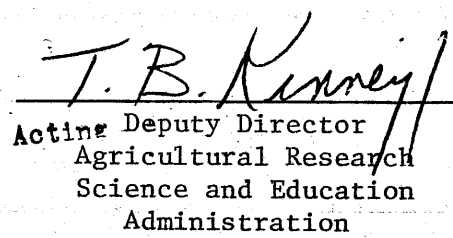
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Approved:



Director
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24/5/79
Date



Active Deputy Director
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6/11/79
Date