

## PRODUCTIVITY OF CULTIVARS AND NEW LINEAGES OF BLACK BEAN

Osmar Rodrigues Brito<sup>1</sup>; Auro Akio Otsubo<sup>2</sup>; Fábio Martins Mercante<sup>2</sup>; Victor Hugo Nakase Otsubo<sup>1</sup>; Rafael Mizubuti Brito<sup>1</sup>

<sup>1</sup>State University of Londrina; <sup>2</sup>Embrapa Agropecuária Oeste, MS, Brazil

### INTRODUCTION

The black bean is a part of traditional Brazilian cuisine and it is cultivated mainly in the states of Rio Grande do Sul, Santa Catarina, Paraná, Rio de Janeiro, Minas Gerais and Espírito Santo (EMBRAPA, 2010). The crop productivity is still low in reason of different cropping systems and technological levels adopted by the producers. The study was conducted to evaluate the parameters of production and productivity of different black bean cultivars and lineages.

### MATERIAL AND METHODS

The experiment was conducted in Dourados, Mato Grosso do Sul, Brazil (22 ° 16'S, 54 ° 49'W) in 2010 year. The following cultivars and new black bean lineages were studied: Campeiro, Esplendor, Supremo, Uirapuru, CNFP-11973, CNFP-11976, CNFP-11978, CNFP-11979, CNFP-11983, CNFP-11984, CNFP-11985, CNFP-11991, CNFP-11994 and CNFP-19995. The experimental design was in randomized blocks with 14 treatments (cultivars and lineages) with three replications. The seeds were inoculated with *Rhizobium tropici* (CIAT 899 and PRF 81), as indicated by Pelegrin et al. (2009). The following variables were evaluated: number of pods per plant, number of grains per pod, weight of 100 grains and yield.

### RESULTS AND DISCUSSION

The numbers of pods per plant and seeds per pod were not different between cultivars and the new lineages evaluated (Table 1). These results differ from those reported by Lemos et al. (2003), who observed differences. On the other hand, the mass of 100 grains ranged from 16.1 to 20.3 g and indicated differences between cultivars and between the new lineages, agreeing with Lemos et al. (2003). The new lineages CNFP-11973, CNFP-11978, CNFP-11991 and CNFP-11994 showed yields above 1900 kg ha<sup>-1</sup> and differed from other lineages and cultivars. These results confirm previous observations of Brito et al. (2010), who worked with the same materials.

### CONCLUSIONS

There are no differences regarding the number of pods per plant and grains per pod between commercial cultivars and the new lineages.

The new lineages CNFP-11978, CNFP-11991, CNFP-11973 and CNFP-11994 showed productivity above 1900 Kg ha<sup>-1</sup> which differed significantly from the cultivars.

Table 1. Medium values for production parameters and productivity of different black bean cultivars and lineages. Dourados, MS, Brazil.

Cultivars and Lineages	Number of pods/plant	Number of grins/pods	Mass of 100 grains (g)	Yield (Mg ha <sup>-1</sup> )
Campeiro	9.50 A	4.1 A	20.3 A	1.580B
Esplendor	10.3 A	4.4 A	16.1 D	1.420 B
Supremo	8.90 A	5.1 A	17.3 C	1.176 B
Uirapuru	11.6 A	4.2 A	17.4 C	1.595 B
CNFP 11973	10.3 A	5.1 A	18.8 B	1.942 A
CNFP 11976	10.2 A	4.7 A	19.6 A	1.664 B
CNFP 11978	9.30 A	4.1 A	17.5 C	1.985 A
CNFP 11979	9.80 A	5.0 A	18.8 B	1.692 B
CNFP 11983	11.3 A	4.7 A	14.4 E	1.548 B
CNFP 11984	10.7 A	4.5 A	16.4 D	1.575 B
CNFP 11985	8.90 A	4.8 A	17.3 C	1.535 B
CNFP 11991	9.90 A	4.6 A	19.0 B	1.979 A
CNFP 11994	12.2 A	5.1 A	18.5 B	1.928 A
CNFP 11995	10.1 A	4.9 A	20.3 A	1.729 B
CV (%)	21.5	16.1	3.8	13.9

Means followed by same letter in column do not differ by Scott-Knott test at 5% probability.  
VC = variation coefficient.

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