

## **CARIOCA BEAN: EVALUATION OF CULTIVARS AND NEW LINEAGES.**

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### **INTRODUCTION**

The common bean crop has a great socioeconomic importance in Brazil. Besides being the main daily protein source in Brazilians diet, it is the source of income for many farmers. The national productivity of the bean crop is low, but with the adoption of simple technologies such as irrigation and improved seeds, it has been obtained high productivities. The study aimed to evaluate the performance and productivity of different cultivars and lineages of carioca common bean.

### **MATERIAL AND METHODS**

The experiment was conducted in Dourados, Mato Grosso do Sul, Brazil (22 ° 16'S, 54 ° 49'W). The experimental design was in randomized blocks with 17 treatments (carioca bean lines) and three replications. The strains tested were: CNFC 10429, CNFC 11944, CNFC 11945, CNFC 11946, CNFC 11948, CNFC 11951, CNFC 11952, CNFC 11953, CNFC 11954, CNFC 11956, CNFC 11959, CNFC 11962, CNFC 11966, Pérola, Juriti, Estilo and Cometa. The seeds were inoculated with *Rhizobium tropici* (CIAT 899 and PRF 81) as used by Pelegrin et al (2009). It was evaluated the following variables: number of pods per plant, number of grains per pod, weight of 100 grains and the crop yield.

### **RESULTS AND DISCUSSION**

No significant differences were observed among the cultivars and the tested lineages for the number of pods per plant and grain number per pod, results that differed from those presented by Lemos et al. (2003). However, the results obtained for the 100-grain mass and the crop yield, which varied with cultivars and the lineages, are consistent with those obtained by Lemos et al. (2003). Considering only the productivity of crop was possible to group the evaluated cultivars and lineages in three categories: a) up to 1728 kg ha<sup>-1</sup> (Cometa and Juriti); b) from 1934 to 2165 kg ha<sup>-1</sup> (CNFC-11951, CNFC-11952, CNFC-11953, CNFC-11954, CNFC-11956, CNFC-11959 and CNFC-10429) and c) from 2280 to 2879 kg ha<sup>-1</sup> (Estilo, Pérola, CNFC-11944, CNFC-11945, CNFC-11946, CNFC-11948, CNFC-11962 and CNFC-11966). Special attention to the new lineages CNFC-11944, CNFC-11945 and CNFC-11962 which had presented productivities above 2500 kg ha<sup>-1</sup>.

## CONCLUSIONS

There is no difference among carioca bean cultivars and the new lineages for number of pods per plant and number of grains per pod.

The productivity is different among lineages and cultivars, especially for lineages CNFC-11944, CNFC-11945 and CNFC-11962, which has presented productivities above 2.5 Mg ha<sup>-1</sup>.

Table 1. Production parameters and productivity of cultivars and carioca bean lineages. Dourados, MS, Brazil.

Cultivars and Lineages	Number of pods per plant	Number of grains per pod	Mass of 100 grains (g)	Productivity (Mg ha <sup>-1</sup> )
Cometa	11.5 A	2.9 A	20.6 B	1.381 C
Estilo	10.3 A	5.4 A	21.9 B	2.417 A
Juriti	10.7 A	3.7 A	20.1 C	1.728 C
Pérola	9.5 A	4.0 A	23.5 A	2.649 A
CNFC 10429	12.3 A	4.1 A	21.2 B	1.997 B
CNFC 11944	12.8 A	4.2 A	21.4 B	2.635 A
CNFC 11945	12.6 A	4.6 A	22.0 B	2.879 A
CNFC 11946	11.1 A	4.4 A	22.3 B	2.356 A
CNFC 11948	12.8 A	4.5 A	23.6 A	2.383 A
CNFC 11951	13.3 A	4.6 A	22.0 B	2.165 B
CNFC 11952	8.10 A	5.3 A	21.1 B	2.030 B
CNFC 11953	13.9 A	5.4 A	19.4 C	2.089 B
CNFC 11954	12.2 A	3.9 A	22.1 B	2.135 B
CNFC 11956	11.1 A	4.6 A	18.9 D	2.090 B
CNFC 11959	11.6 A	3.6 A	18.7 D	1.934 B
CNFC 11962	10.6 A	5.4 A	17.8 D	2.520 A
CNFC 11966	9.70 A	4.4 A	18.4 D	2.280 A
VC (%)	20.5	18.5	3.4	11.8

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

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