ORGANIC PRODUCTION EVALUATION OF SNAP BEAN (CV UEL-2).

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The employment of organic residues is associated to the improvement of the biological activity, fertility and soils productivity. According IGUE AND PAVAN (1984), the animal manures contain all the plant essential nutrients, in variable amounts. The poultry manures are richer in nitrogen and phosphorus and are fast decomposition, while the ruminant manures are poor in these nutrients and your decomposition is slower (PENTEADO 2000). In the literature, there are few recommendations for organic residues employment in the snap bean culture (SANTOS et al. 2001). This work was carried out with the objective of evaluating the effects of organic (poultry and ruminant manures) and chemical fertilization on snap bean (cv UEL-2) culture.

MATERIAL AND METHODS

The experiment was carried out in a greenhouse at State University of Londrina, Paraná, Brazil (Latitude 23 29'41,4 " S and 50 12 ' 5,5 " W). Pots with capacity for 3,5 kg soil, that was collected of the superficial layer (0,0 - 0,2m) of a typical clay oxisoil (dusky-red Latosol) were used. Two plants of snap bean were cultivated (cv UEL-2) in each pot. The experimental design was randomized blocks with six treatments (Control (C), Broiler litter (BL) = 6.0 $Mgha^{-1}$, Layer manure (LM) = 3,0 $Mgha^{-1}$, Bovine manure (BM) = 8,0 $Mgha^{-1}$, Ovine manure (OM) = 6,0 $Mgha^{-1}$, and Chemical fertilizer (CF) = 0,4 $Mgha^{-1}$ of the 00-18-08) and four replications. The organic fertilizers were incorporate to the soil while the chemical fertilizer was applied to depth 0,05m. The results of different manures analyses are in the Table-1

Table 1. Results of manure chemical analysis

Manures	N	P	K	Ca	Mg
	---------- g Kg^{-1} ----------				
BM	**18.10**	**2.88**	**3.02**	**9.60**	**3.72**
BL	**25.70**	**8.96**	**9.76**	**13.23**	**3.76**
OM	**23.27**	**11.00**	**66.73**	**19.63**	**8.44**
LM	**26.46**	**2.11**	**28.73**	**89.89**	**14.92**

BM=bovine manure BL= Broiler litter OM=Ovine manure LM= Layer manure

During the experimental period, humidity of each pot was maintained in 70% of the maximum capacity of soil water retention. Nitrogen fertilization was applied with 30 kg ha^{-1} of N (BRITO et al. 2003) to the 42 days after the sowing (DAS) with the objective of avoiding yellowing and fall of leaves. To the 52 **DAS**, the plants of each pot were crop, being evaluated the height, leaf area and pods production. The obtained data were submitted to the variance analysis and the averages of the treatments were compared by the Tukey test to 5% of probability.

RESULTS

In greenhouse, were not verified significant effects of fertilizer on plants height (Table 3), however, the general average of plants height was 0,50m, being superior to the 0,40m presented by ATHANÁZIO et al (1998) that characterized the cultivar as medium load.

Table 2. Averages values for height, leaf area and pods dry matter production of the snap beans (cv UEL-2), to the 52 DAS.

Treatments	Height (cm)	Leaf area (cm^2 $plant^{-1}$)	PDMP (g $plant^{-1}$)
Control	49.3[1] A	693.23 B	3.07 B
CF	51.3 A	845.91 AB	3.53 AB
BM	48.8 A	690.30 B	2.96 B
BL	50.3 A	750.89 B	3.49 AB
OM	49.3 A	747.08 B	3.53 AB
LM	51.6 A	958.52 A	4.15 A
CV (%)	4.22	8.91	11.97

[1] Averages followed of the same letter in the columns do not differ to each other for Tukey test to 5%. **DAS** = Days after sowing. **PDMP**= pods dry matter production

The largest leaf area per plant (958.52 cm^2) was obtained in the treatment with layer manure that differed significantly of all the other treatments, except for chemical fertilization. This result is agreement with those observed by SANTOS et al. (2001) that attributed to the layer manure highest capacity to supply the nutrients to the plants.

The pods dry matter production per plant also went higher for treatment with layer manure application that differed significantly of the controls and bovine manure treatments, probably due to the highest supply of nutrients of this residue (SANTOS et al., 2001).

CONCLUSION

The organic fertilization with layer manure resulted in higher medium values for leaf area and pods dry matter production per plant.

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