J. Agric. Food. Tech., 4(8)8-15, 2014

ISSN 2090 – 424X
Journal of Agriculture and Food Technology
www.textroad.com

Combination of potassium and vermicompost in different Stage on growth and yield of mungbean (*Vigna radiata* L.) cultivar

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Received: October 14, 2014
Accepted: January 10, 2015

ABSTRACT

The experiment was conducted from February to April, 2013 at the experimental field of the farm of Sher-e-Bangla Agricultural University to study the effect of potassium fertilizer and vermicompost on growth, yield and nutrient contents of mungbean (BARI Mung 5). The two-factorial experiment was conducted by using RCBD (Randomized Completely Block Design) with three replications. During the experiment, following treatments were included: K_0 - Control, K_1-K_2O @ 10 kg ha^{-1}, K_2- K_2O @15 kg ha^{-1}, K_3 - K_2O @ 20 kg ha^{-1} and V_0- No Vermicompost, V_1- Vermicompost @ 4 t ha^{-1}, V_2- Vermicompost @ 6 t ha^{-1}, V_3 – Vermicompost @ 8 t ha^{-1}. Both potassium and vermicompost doses as well as their interactions showed significant effect on growth and yield parameters. Lowest results for above parameters were found from the treatment using no potassium fertilizer (K_0). Similarly, the highest values for highest plant height, number of leaves and branches $plant^{-1}$, average dry weight $plant^{-1}$, number of pods $plant^{-1}$, number of seeds pod^{-1}, number of seeds $plant^{-1}$, 1000-seed weight, seed yield and stover yield were recorded in V_3 (vermicompost @ 8 t ha^{-1}) which was either closely followed by or statistically similar with Vermicompost @ 6 t ha^{-1} and then followed by Vermicompost @ 4 t ha^{-1}. Lowest results were found from the treatment using no vermicompost (V_0). In case of interaction, highest results were recorded from the interaction of K_2O @ 20 kg ha^{-1} and vermicompost @ 8 t ha^{-1} which was either closely followed by or statistically similar with the interaction of K_2O @ 20 kg ha^{-1} and vermicompost @ 6 t ha^{-1}) and closely followed by the interaction of K_2O @ 15 kg ha^{-1} and vermicompost @ 8 t ha^{-1}.

KEY WORDS: Vermicompost, potassium, mungbean (*Vigna radiata* L.), yield

INTRODUCTION

Mungbean (*Vigna radiata* L.) is important short duration, draught tolerant pulse crop which also commonly known as “green gram”. It is an important source of inexpensive protein and iron, and is a good substitute for meat in most Asian diets and a significant component of various cropping systems (Rudy et al., 2006; Srinives et al., 2000). Mungbean is considered as a substitute of animal protein and forms a balanced diet when used with cereals (Khan and Malik, 2001; Anjum et al., 2006; Mansoor, 2007). Mungbean yield and quality can be improved by the balanced use of fertilizers and also by managing the organic manures properly. The low yield of mungbean besides other factors may partially be due to lack of knowledge about nutrition and modern production technology (Hassan, 1997). Moreover, lack of attention on fertilizer use is also instrumental in lowering mungbean yields (Mansoor, 2007). Current trends in agriculture are centered on reducing the use of inorganic fertilizers by biofertilizers such as vermicompost (Haj Seyed Hadi, 2011). The management practices with organic materials influence agricultural sustainability by improving physical, chemical and biological properties of soils (Saha et al., 2008). Vermicomposts are rich in microbial populations and diversity, particularly fungi, bacteria and actinomycetes (Edwards, 1998; Tomati, 1987). Generally, after vermicomposting the organic material is ground up to a more uniform size which gives the final substrate a characteristic earthy appearance while the resulting material after composting has normally a more heterogeneous appearance (Ndegwa and Thompson, 2001). During this process, elements like N, P, K, and Ca present in the waste are released and converted, through microbial activity, into forms more soluble and available to plants than those present in the original waste (Edwards and Burrows, 1988). Vermicompost has been shown to

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increase the dry weight, (Edwards, 1995) and nitrogen uptake efficiency of plants (Tomati et al., 1994). The beneficial effects of vermicompost have been observed in horticultural (Goswami et al., 2002; Atiyeh et al., 2000a, b) and agronomic crops (Pashanasi et al., 1996; Roy et al., 2010).

Potassium (K), as a plant nutrient is becoming increasingly important in Bangladesh and a good crop response to K is being reported from many parts of the country. Pulse crops showed yield benefits from potassium application. Improved potassium supply also enhances biological nitrogen fixation and protein content of pulse grains (Srinivasarao *et al*., 2003). Soil fertility was improved significantly with farmyard manure used either alone or in combination with NPK over that of initial soil status (Singh *et al*., 2001). The supply of phosphorus and potassium to leguminous crops is necessary especially at the flowering and pod setting stages (Zahran *et al*., 1998). K also plays a vital role as macronutrient in plant growth and sustainable crop production (Baligar *et al*., 2001). It maintains turgor pressure of cell which is necessary for cell expansion. It helps in osmo-regulation of plant cell, assists in opening and closing of stomata. It plays a key role in activation of more than 60 enzymes (Tisdale *et al*., 1990; Bukhsh *et al*., 2011). The present study was, therefore contemplated to investigate the effect of different levels of potassium in combination with different levels of vermicompost on growth and yield of a mungbean cultivar.

MATERIALS AND METHODS

The experiment was carried out at the Sher-e-Bangla Agricultural University (SAU) Farm, Dhaka. The experimental site is situated at $23^o77'$ North Latitude and $90^o30'$ East Longitude. The elevation of the experimental site is 1.0 m above the sea level. The area belongs to the Agro-ecological Zone (AEZ-28): Madhupur Tract. The climate of the experimental site is sub-tropical, wet and humid. Heavy rainfall occurs in the monsoon (mid-April to mid-August) and scanty during rest of the year. BARI Mung 5 was used in the study. The experiment was laid out in a randomized complete block design with three replications. Each plot was measured 3 m x 2 m.

Source: Soli Resources Development Institute (SRDI)

Factor 1: Potassium treatment:
- K_0 - Control
- K_1 - MoP @ 10 kg ha^{-1}
- K_2- MoP @ 15 kg ha^{-1}
- K_3 - MoP @ 20 kg ha^{-1}

Factor 2: Vermicompost treatment:
- V_0- No vermicompost
- V_1- Vermicompost @ 4 t ha^{-1}
- V_2- Vermicompost @ 6 t ha^{-1}
- V_3- Vermicompost @ 8 t ha^{-1}

Treatment combinations:

K_0 (Control)	X	V_0(Control) V_1(Vermicompost 4 t ha^{-1}) V_2(Vermicompost 6 t ha^{-1}) V_3(Vermicompost 8 t ha^{-1})
K_1 (MoP @ 10 kg ha^{-1})	X	V_0(Control) V_1(Vermicompost 4 t ha^{-1}) V_2(Vermicompost 6 t ha^{-1}) V_3(Vermicompost 8 t ha^{-1})
K_2 (MoP @ 15 kg ha^{-1})	X	V_0(Control) V_1(Vermicompost 4 t ha^{-1}) V_2(Vermicompost 6 t ha^{-1}) V_3(Vermicompost 8 t ha^{-1})
K_3 (MoP @ 20 kg ha^{-1})	X	V_0(Control) V_1(Vermicompost 4 t ha^{-1}) V_2(Vermicompost 6 t ha^{-1}) V_3(Vermicompost 8 t ha^{-1})

Potassium fertilizer (MoP) and Organic manure (vermicompost) was applied as per treatments along with zinc sulphate (@ 2.0 kg ha^{-1}) during the final land preparation. Nitrogenous fertilizer (urea@20.0kg/ha) and Phosphatic fertilizer (TSP@10kg/ha) was also applied. Sowing of Mungbean was done on 19th February 2013. Healthy seeds of mungbean @ 35 kg ha^{-1} were sown by hand as uniformly as possible in furrows. The crops were harvested at a time due to synchronous maturity of pods. At first 50% of early matured pods were harvested by hand picking at 55 days after sowing.

RESULTS AND DISCUSSION

Plant height

The plant height at harvest differed significantly due to different potassium treatments. Significantly higher plant height (40.46 cm) was recorded in K_3 (MoP @ 20 kg ha^{-1}) and it was closely followed by the application of MoP @ 15 kg ha^{-1} (K_2: 37.31 cm) and subsequently followed by K_1 (MoP @ 10 kg ha^{-1}) (35.82 cm). Lowest plant height at harvest was found from the treatment using no potassium fertilizer (K_0: 33.85 cm) (Figure 1 and Table 1). Results show that plant height was positively influenced by higher potassium fertilizer doses. This is in conformity with Oad and Buriro (2005) who found that, 10-30-30 kg NPK ha^{-1} was the best treatment for mungbean's plant height. Different doses of vermicompost showed significant differences in case of plant height. The highest plant height (38.31 cm) was recorded in V_3 (vermicompost @ 8 t ha^{-1}) which was statistically similar with V_2 (38.05 cm) and followed by V_1 (35.82 cm). Application of no vermicompost (V_0) gave the lowest plant height (30.11 cm) among the treatments (Figure 2 and Table 2). From the above results it can be stated that, increased rate of vermicompost is favorable for plant height of mungbean. Karmegam and Daniel (2000) found similar results in case of cowpea.

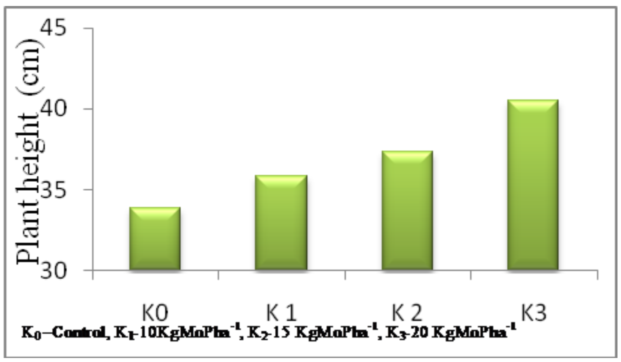

Figure1: Effect of various doses of potassium fertilizer on plant height of BARI Mung 5 at harvest

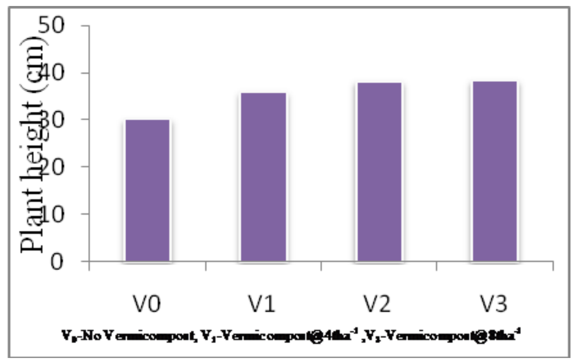

Figure2: Effect of various doses of vermicompost on plant height of BARI Mung 5 at harvest

Number of leaves

The number of leaves plant^{-1} differed significantly due to different potassium treatments. Significantly higher number of leaves plant^{-1} (23.73) was recorded in K_3 (MoP @ 20 kg ha^{-1}) and it was followed by the application of MoP @ 15 kg ha^{-1} (K_2: 19.17) and K_1 (MoP @ 10 kg ha^{-1}) (17.11). Lowest number of leaves plant^{-1} at harvest was found from the treatment using no potassium fertilizer (K_0: 13.43) (Table 1). Results showed that number of leaves plant^{-1} was positively influenced by higher doses of potassium fertilizer. This is in conformity with Oad and Buriro (2005). In legume production, K is essential in every stage of growth. Potassium is needed to maintain favorable plant water status, regulate nutrient uptake, and encourage photosynthesis and plant growth (Reetz and Murrell, 1998). Different doses of vermicompost showed significant differences in case of number of leaves plant^{-1}. Highest number of leaves plant^{-1} (20.00) was recorded in V_3 (vermicompost @ 8 t ha^{-1}) which was statistically similar with V_2 (18.83) and subsequently followed by V_1 (15.61). Application of no vermicompost (V_0) gave the lowest number of leaves plant^{-1} (12.33) among the treatments (Table 2). Results are in agree with Reddy *et al.* (1998) who showed that application of 60 kg P_2O_5 per hectare through phospho-vermicompost significantly increased the growth, dry matter and yield of pea.

Number of branches

The number of branches plant^{-1} differed significantly due to different potassium treatments. Significantly higher number of branches plant^{-1} (12.06) was recorded in K_3 (MoP @ 20 kg ha^{-1}) and it was followed by the application of MoP @ 15 kg ha^{-1} (K_2: 11.27) and K_1 (MoP @ 10 kg ha^{-1}) (10.92). Lowest number of branches plant^{-1} at harvest was found from the treatment using no potassium fertilizer (K_0 : 8.46) (Table 1). It clearly seems from the results that, number of branches plant^{-1} increased with increasing rate of potassium fertilizer. Oad and Buriro (2005) found similar results while experimenting with mungbean. Different doses of vermicompost showed significant differences in case of number of branches plant^{-1}. Highest number of branches plant^{-1} (11.54) was recorded in V_3 (vermicompost @ 8 t ha^{-1}) which was statistically similar with V_2 (11.34) and subsequently followed by V_1 (8.97). Application of no vermicompost (V_0) gave the lowest number of branches plant^{-1} (6.97) among the treatments (Table 2). With increasing the level of vermicompost, the number of branches plant^{-1} of BARI Mung 5 also increased. Results are in agree with Reddy *et al.* (1998) who showed that application of 60 kg P_2O_5 per hectare through phospho-vermicompost significantly increased the growth, dry matter and yield of pea.

Average dry weight plant^{-1}

The average dry weight plant^{-1} differed significantly due to different potassium treatments. Significantly higher average dry weight plant^{-1} (7.66 g) was recorded in K_3 (MoP @ 20 kg ha^{-1}) and it was statistically similar with the application of MoP @ 15 kg ha^{-1} (K_2: 7.59 g) and was followed by the K_1 (MoP @ 10 kg ha^{-1}) (6.34 g). Lowest average dry weight plant^{-1} at harvest was found from the treatment using no potassium fertilizer (K_0: 5.94 g) (Table 1). Results show that average dry weight plant^{-1} was positively influenced by higher potassium fertilizer doses. This is in conformity with Oad and Buriro (2005) who found that, 10-30-30 kg NPK ha^{-1} was the best treatment for mungbean's growth and yield. Different doses of vermicompost showed significant differences in case of average dry weight plant^{-1}. Highest average dry weight plant^{-1} (6.55 g) was recorded in V_3 (vermicompost @ 8 t ha^{-1}) which was statistically similar with V_2 (6.54 g) and subsequently followed by V_1 (5.15 g). Application of no vermicompost (V_0) gave the lowest average dry weight plant^{-1} (3.95 g) among the treatments (Table 2). Increased level of vermicompost increased the dry weight plant^{-1} of BARI Mung 5. Results are in conformity with Reddy *et al.* (1998) who showed that application of 60 kg P_2O_5 per hectare through phospho-vermicompost significantly increased the growth, dry matter and yield of pea.

Number of pods plant^{-1}

The number of pods plant^{-1} differed significantly due to different potassium treatments. Significantly higher number of pods plant^{-1} (16.79) was recorded in K_3 (MoP @ 20 kg ha^{-1}) and it was followed by the application of MoP @ 15 kg ha^{-1} (K_2: 15.69) and K_1 (MoP @ 10 kg ha^{-1}) (12.11). Lowest number of pods plant^{-1} at harvest was found from the treatment using no potassium fertilizer (K_0: 7.56) (Figure 3 and Table 1). From the results it can be stated that potassium has a positive effect on number of pods plant^{-1} of BARI Mung 5. Ashraf *et al.* (2003) found that NPK 50:50:50 kg ha^{-1} resulted in the highest number of pods plant^{-1}. Different doses of vermicompost showed significant differences in case of number of pods plant^{-1}. Highest number of pods plant^{-1} (13.17) was recorded in V_3 (vermicompost @ 8 t ha^{-1}) which was statistically similar with V_2 (13.01) and subsequently followed by V_1 (10.11). Application of no vermicompost (V_0) gave the lowest number of pods plant^{-1} (4.56) among the treatments (Figure 4 and Table 2). Aruna and Narsa Reddy (1999) reported that the application of vermicompost @ 15 t per ha to soybean recorded significantly higher number of pods per plant.

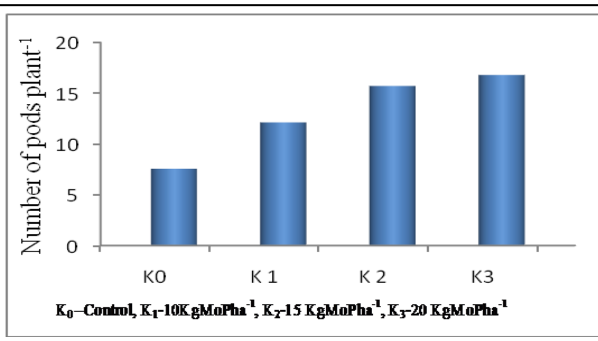

Figure 3: Effect of various doses of potassium fertilizer on number of pods plant^{-1} of BARI Mung 5

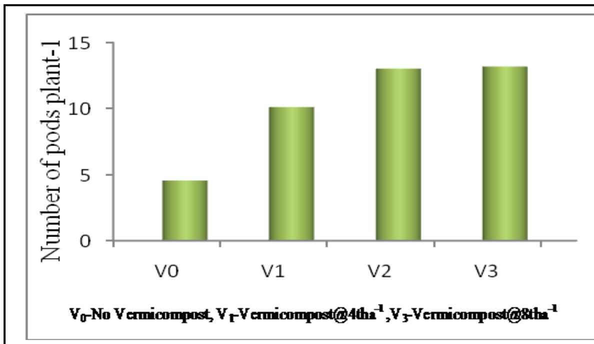

Figure 4: Effect of various doses of vermicompost on number of pods plant^{-1} of BARI Mung 5

Number of seeds pod^{-1}

The number of seeds pod^{-1} differed significantly due to different potassium treatments. Significantly higher number of seeds pod^{-1} (4.09) was recorded in K_3 (MoP @ 20 kg ha^{-1}) and it was statistically similar with the application of MoP @ 15 kg ha^{-1} (K_2: 3.94) and followed by K_1 (MoP @ 10 kg ha^{-1}) (3.23). Lowest number of seeds pod^{-1} was found from the treatment using no potassium fertilizer (K_0: 2.23) (Figure 5 and Table 1). Different doses of vermicompost showed significant differences in case of number of seeds pod^{-1}. Highest number of seeds pod^{-1} (4.75) was recorded in V_3 (vermicompost @ 8 t ha^{-1}) which was statistically similar with V_2 (4.42) and subsequently followed by V_1 (2.72). Application of no vermicompost (V_0) gave the lowest number of seeds pod^{-1} (2.45) among the treatments (Figure 6 and Table 2).

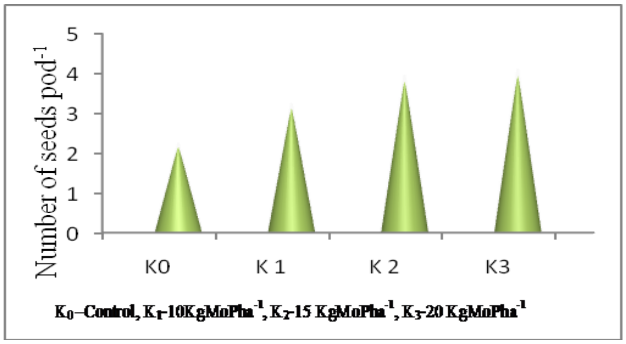

Figure 5: Effect of various doses of potassium fertilizer on number of seeds pod^{-1} of BARI Mung 5

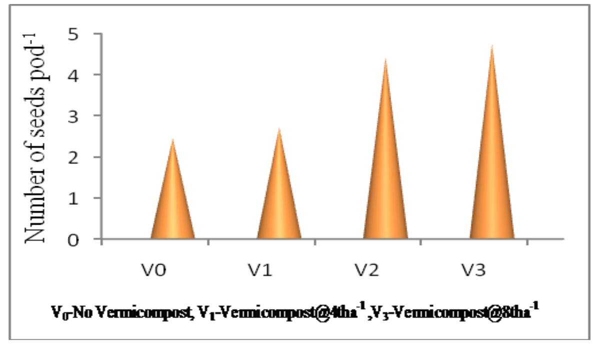

Figure 6: Effect of various doses of vermicompost on number of seeds pod^{-1} of BARI Mung 5

Number of seeds plant^{-1}

The number of seeds $plant^{-1}$ differed significantly due to different potassium treatments. Significantly higher number of seeds $plant^{-1}$ (311.36) was recorded in K_3 (MoP @ 20 kg ha^{-1}) and it was followed by the application of MoP @ 15 kg ha^{-1} (K_2: 295.37) and K_1 (MoP @ 10 kg ha^{-1}) (270.40). Lowest number of seeds $plant^{-1}$ was found from the treatment using no potassium fertilizer (K_0: 235.06) (Table 1). Different doses of vermicompost showed significant differences in case of number of seeds $plant^{-1}$. Highest number of seeds $plant^{-1}$ (285.37) was recorded in V_3 (vermicompost @ 8 t ha^{-1}) which was followed by V_2 (265.29) and V_1 (205.91). Application of no vermicompost (V_0) gave the lowest number of seeds $plant^{-1}$ (179.51) among the treatments (Table 2). These results are contradictory to that of Kumar *et al.* (2002) who found that seeds $plant^{-1}$ was not influenced by organic amendment.

1000-seed weight

The 1000-seed weight differed significantly due to different potassium treatments. Significantly higher 1000-seed weight (41.71g) was recorded in K_3 (MoP @ 20 kg ha^{-1}) and it was followed by the application of MoP @ 15 kg ha^{-1} (K : 40.49 g) and then K_1 (MoP @ 10 kg ha^{-1}) (38.27 g). Lowest 1000-seed weight was found from the treatment using no potassium fertilizer (K_0: 35.99 g) (Figure 7 and Table 1). From the results, it is confirmed that 1000-seed weight was positively affected by higher potassium doses. The 10-30-30 kg NPK ha^{-1} was found out as the best treatment by Oad and Buriro (2005) for mungbean cv. AEM 96 in Tandojam, Pakistan during the spring season of 2004. Different doses of vermicompost showed significant differences in case of 1000-seed weight. Highest 1000-seed weight (40.97 g) was recorded in V_3 (vermicompost @ 8 t ha^{-1}) which was statistically similar with V_2 (40.92 g) and subsequently followed by V_1 (38.03 g). Application of no vermicompost (V_0) gave the lowest 1000-seed weight (32.01 g) among the treatments (Figure 8 and Table 2). These results are contradictory to that of Kumar *et al.* (2002) who found that seeds $plant^{-1}$ was not influenced by organic amendment. But Chinnamuthu and Venkatakrishnan (2001) reported that the application of vermicompost @ 2 t per ha recorded significantly higher 100 seed weight (4.14 g) in sunflower.

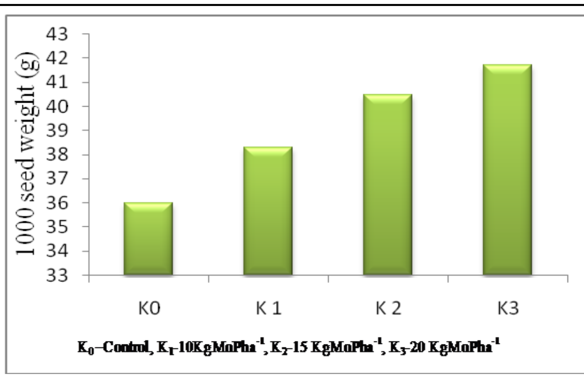

Figure 7: Effect of various doses of potassium fertilizer on 1000-seed weight of BARI Mung 5

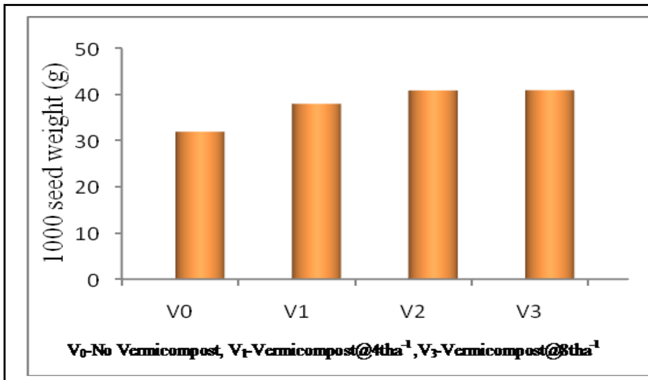

Figure 8: Effect of various doses of vermicompost on 1000-seed weight of BARI Mung 5

Seed yield ha^{-1}

The seed yield ha^{-1} differed significantly due to different potassium treatments. Significantly higher seed yield (1.126 t ha^{-1}) was recorded in K_3 (MoP @ 20 kg ha^{-1}) and it was statistically similar with the application of MoP @ 15 kg ha^{-1} (K_2: 1.114 t ha^{-1}) and then followed by K_1 (MoP @ 10 kg ha^{-1}) (0.921 t ha^{-1}). Lowest seed yield ha^{-1} was found from the treatment using no potassium fertilizer (K_0: 0.511 t ha^{-1}) (Figure 9 and Table 1). Oad and Buriro (2005) found that 10-30-30 kg NPK ha^{-1} was the best treatment for seed yield of mungbean cv. AEM 96 in Tandojam, Pakistan during the spring season of 2004. Different doses of vermicompost showed significant differences in case of seed yield ha^{-1}. Highest seed yield (0.933 t ha^{-1}) was recorded in V_3 (vermicompost @ 8 t ha^{-1}) which was statistically similar with V_2 (0.908 t ha^{-1}) and subsequently followed by V_1 (0.738 t ha^{-1}). Application of no vermicompost (V_0) gave the lowest seed yield (0.401 t ha^{-1}) among the treatments (Figure 10 and Table 2). Roy and Singh (2006) reported in malt barley that the application of vermicompost @10 t per ha recorded higher seed yield (44 q per ha). Aruna and Narsa Reddy (1999) reported that the application of vermicompost @ 15 t per ha to soybean recorded significantly seed yield (1143 kg/ha).

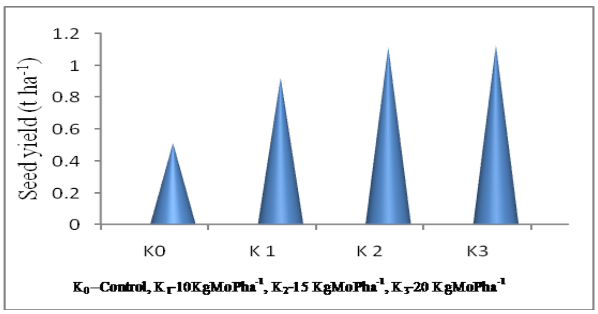

Figure 9: Effect of various doses of potassium fertilizer on seed yield ha^{-1} of BARI Mung 5

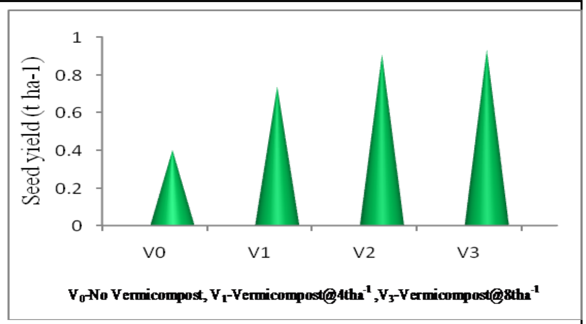

Figure 10: Effect of various doses of vermicompost on seed yield ha^{-1} of BARI Mung 5

Stover yield ha^{-1}

The stover yield ha^{-1} differed significantly due to different potassium treatments. Significantly higher stover yield (2.079 t ha^{-1}) was recorded in K_3 (MoP @ 20 kg ha^{-1}) and it was followed by the application of MoP @ 15 kg ha^{-1} (K_2: 1.690 t ha^{-1}) and then K_1 (MoP @ 10 kg ha^{-1}) (1.570 t ha^{-1}). Lowest stover yield ha^{-1} was found from the treatment using no potassium fertilizer (K_0: 1.367 t ha^{-1}) (Table 1). Different doses of vermicompost showed significant differences in case of stover yield ha^{-1}. Highest stover yield (1.735 t ha^{-1}) was recorded in V_3 (vermicompost @ 8 t ha^{-1}) which was closely followed by V_2 (1.711 t ha^{-1}) and subsequently by V_1 (1.546 t ha^{-1}). Application of no vermicompost (V_0) gave the lowest stover yield (1.107 t ha^{-1}) among the treatments (Table 2).

Table1: Effect of various doses of potassium fertilizer on different yield contributing characters of BARI Mung 5

Treatments	Plant height	Number of leaves plant^{-1}	Number of branches plant^{-1}	Average dry weight plant^{-1} (g)	Number of pods plant^{-1}	Number of seeds pod^{-1}	Number of seeds plant^{-1}	1000-seed weight (g)	Seed yield (t ha^{-1})	Stover yield (t ha^{-1})
K_0	33.85 d	13.43 c	8.46 d	5.94 c	7.56 d	2.23 c	235.06 d	35.99 d	0.511 c	1.367 c
K_1	35.82 c	17.11 b	10.92 c	6.34 b	12.11 c	3.23bc	270.40 c	38.27 c	0.921 b	1.570 b
K_2	37.31 b	19.17 b	11.27 b	7.59 a	15.69 b	3.94a	295.37 b	40.49 b	1.114 a	1.690 b
K_3	40.46 a	23.73 a	12.06 a	7.66 a	16.79 a	4.09 a	311.36 a	41.71 a	1.126 a	2.079 a
LSD	0.3037	2.183	0.3015	0.315	0.7113	0.6123	9.57	0.7912	0.1585	0.3780
CV %	10.50	5.01	5.74	4.33	8.90	13.26	5.40	7.20	6.07	13.90
Level of significance	**	*	*	**	**	**	*	**	*	**

** = Significant at 1% level, * = Significant at 5% level

K_0 – Control, K_1 - K_2O @ 10 kg ha^{-1}, K_2- K_2O @ 15 kg ha^{-1}, K_3 - K_2O @ 20 kg ha^{-1}

Table 2: Effect of various doses of vermicompost on different yield contributing characters of BARI Mung 5

Treatments	Plant height	Number of leaves plant^{-1}	Number of branches plant^{-1}	Average dry weight plant^{-1} (g)	Number of pods plant^{-1}	Number of seeds pod^{-1}	Number of seeds plant^{-1}	1000-seed weight (g)	Seed yield (t ha^{-1})	Stover yield (t ha^{-1})
K_0	30.11 c	12.33 c	6.97 c	3.95 c	4.56 c	2.45 b	179.51 d	32.01 c	0.511 c	1.367 c
K_1	35.82 b	15.61 b	8.97 b	5.15 b	10.11 b	2.72 b	205.91 c	38.03 b	0.921 b	1.570 b
K_2	38.05 a	18.83 a	11.34 a	6.54 a	13.01 a	4.42 a	265.29 b	40.92 a	1.114 a	1.690 b
K_3	38.31 a	20.00 a	11.54 a	6.55 a	13.17 a	4.75 a	285.37 a	40.97 a	1.126 a	2.079 a
LSD	0.3022	2.172	0.2998	0.3124	0.7080	1.354	7.91	0.7874	0.1585	0.3780
CV %	10.50	5.01	5.74	4.33	8.90	13.26	5.40	7.20	6.07	13.90
Level of significance	*	**	**	**	**	*	**	**	*	**

** = Significant at 1% level, * = Significant at 5% level

V_0- No vermicompost, V_1 - Vermicompost @ 4 t ha^{-1}, V_2- Vermicompost @ 6 t ha^{-1}, V_3-Vermicompost @ 8 t ha^{-1}

CONCLUSION

In the experiment Significant variations were found in growth & yield parameters and nutrient contents of BARI Mung 5 at harvest due to the effect of inorganic potassium fertilizers dose performed better than other treatments. Significant variations were found in growth & yield parameters and nutrient contents of BARI Mung 5 at harvest due to the effect of vermicompost. Highest stover yield was recorded in V_3 (vermicompost @ 8 t ha^{-1}) which was closely followed by V_2 and then by V_1.

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