

Impact of EM on Soil Chemical Properties

The long-term soil amendments caused significant changes in soil physical-chemical properties (Table below). Soil bulk density and pH were significantly ($p < 0.05$) lower in the two compost plots than in the control plot. Moreover, soil pH was significantly ($p < 0.05$) lower in the EM compost plot than in the traditional compost plot. Soil organic matter, total N, alkaline-hydrolysable nitrogen, and available K content was significantly ($p < 0.05$) higher in the two compost plots than in the control plot. Soil available P and K content was significantly ($p < 0.05$) higher in the EM compost plot than in the traditional compost plot.

Treatment	Soil organic matter (g/kg)	Total N (g/kg)	Alkaline N (mg/kg)	Available P (mg/kg)	Available K (mg/kg)	pH	Bulk Density (g/cm ³)
Control	12.86b	0.81b	68.43b	4.07c	80.86c	7.53a	1.47a
Traditional Compost	20.86a	1.20a	103.71a	36.29b	161.75b	7.26b	1.32b
EM Compost	21.32a	1.29a	111.98a	50.69a	207.21a	7.15c	1.33b

Another trial (Lim, Pak, & Jong, 1997) conducted in Korea, looked at the effect of EM treatment on the content of nutrients in the soil. The EM treatment increased the content of soluble nutrients. The contents of soluble nitrogen, phosphorous and potassium increased 4.4, 3.6 and 2.8 mg/100g soil, respectively. The increase of soluble N, P and K contents might be attributed to activity of nitrogen fixers and organic acids excreted by the different organisms in EM.

Treatment	pH (KCl)	Content of Soluble Nutrients (mg/100g soil)		
		Nitrogen	Phosphorus	Potassium
Control	5.1	8.3	12.3	20.0
EM + Bokashi	5.2	12.7	15.9	22.8

