Table 1: Variability of some soil physicochemical properties of the VGS plots and accumulated material at 0 to 5cm

Parameter	Depth (cm)	Clay <2μm	Silt 2 – 20μm	Total Sand 20 – 2000 μm	Gravel conc. >2000μm	Moisture content	Bulk Density	pH (H_2O) 1:2	Organic Carbon	Organic Matter	Total N
$\bar{X}$	0 – 5	87.12*	109.84	802.78	86.74	53.12	1.42	5.52**	14.27	24.58	1.26**
S		17.88	34.34	37.77	26.35	1.25	0.07	0.35	0.29	0.48	0.26
CV (%)		17.22	29.99	4.74	27.47	21.52	4.76	4.88	17.89	17.20	15.09
		Clay	**Silt**	**F. Sand**	**C. Sand**	**T. Sand**					
$\bar{X}$	5 – 10	99.94**	104.13	86.94	709.00	795.94	-	5.06**	12.36*	21.33**	1.002
S		15.41	38.03	41.66	51.69	44.30	-	0.60	0.29	0.51	0.297
CV (%)		9.23	39.26	52.15	7.14	5.57	-	8.77	18.99	19.01	25.25
Accumulated material.											
$\bar{X}$	0 – 5	42.83	37.25	203.75	716.17	919.92*	**Texture**	6.18	14.08		1.09
S		9.20	24.13	38.28	59.85	27.46	Sand	0.30	2.96		0.29
CV (%)		19.95	58.59	21.61	8.03	1.91		4.43	21.25		28.57

$\bar{X}$ = Grand mean of the population; S = Standard Deviation; CV= Coefficient of Variation (percent); *P<0.05; **P<0.01

Table 2: Grouping of variabilities of the physico-chemical properties of the accumulated materials soils under the influence of VGS.

Level of variation	Range	Soil property	Depth of sampling (cm)	(cm)	VGS field	Accumulated materials
Low	CV < 15%	Total sand, pH, coarse sand,	0-5	5-10	Yes	No
		bulk density,	0-5	-	Yes	No
		clay content, O. C	-	5-10	Yes	Yes
Medium	CV = 15 – 35%	Clay, silt, gravel, moisture	0-5	-	Yes	No
		O. C, SOM, TN,	0-5	-	Yes	No
		O. C, SOM, TN,	-	5-10	Yes	No
		fine sand, clay, O C, TN, Avail. P,	0-5	-	No	Yes
		fine sand, clay, TN, Avail. P.	-	5-10	No	Yes
High	CV = 35 – 70%	Silt,	0-5	5-10	No	Yes
		Available P.	0-5	5-10	Yes	No
		fine sand, silt	-	5-10	Yes	No
Extremely High	CV>70%	None	None	None	None	None

o.c = Organic Carbon, SOM = Soil Organic Matter, TN = Total Nitrogen, Avail. P. = available phosphorus

ACCUMULANT

Table 3: **Effect of VGS on some soil proper**

	Clay 0 – 5cm g Kg^{-1}	Org. C 5 – 10cm g Kg^{-1}	Total N. 0 – 5cm g Kg^{-1}	Soil pH 0 – 5cm	pH 5 – 10cm	T. Sand 0 – 5cm g Kg^{-1}
Control	87.0^{a}	10.96^{b}	1.16^{b}	5.28^{b}	4.51^{b}	814.0^{C}
A	72.8^{b}	11.30^{b}	1.13^{b}	5.80^{a}	5.41^{a}	945.5^{a}
C	92.8^{a}	12.30^{a}	1.25^{b}	5.66^{a}	5.44^{a}	908.0^{b}
E	96.0^{a}	14.84^{a}	1.49^{a}	5.34^{b}	4.88^{a}	906.3^{b}
	LSD =15.6	LSD =3.45	LSD =0.38	LSD =0.54	LSD =0.65	LSD = 35.11
	P < 0.05	P < 0.05	P < 0.01	P < 0.01	P < 0.05	P < 0.05

Table 4: Effects of lags bounded by VGS and those not bounded by VGS at 0 – 5 cm depth.

	Lags 5 – 20 m (without VGS)		**Lags 25 – 40 m (bounded by VGS)**	
	VGS Plots *	**Control**	**VGS Plots ***	**Control**
Clay (g/kg)	90.50	97.50	83.83	76.50
Silt (g/kg)	117.42	101.50	109.50	96.50
Sand (g/kg)	729.08	801.00	806.67	827.00
Bulk Density(g/cm^3)	1.43	1.45	1.40	1.42
		Chemical properties		
Soil pH	5.59	5.25	5.61	5.30
Org. Carbon (g/kg)	13.29	12.48	15.97	13.74
Total Nitrogen (g/kg)	1.18	1.12	1.40	1.21
Available P (mg/kg)	6.53	3.80	6.16	7.11

*** VGS Plots = Plots A, C, & E combined., Plots B, D, & F are control.**