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Annex C1 – Preliminary analysis of soils

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## **Introduction and methods**

In order to chemically and biologically monitor the experimental field, three samples were taken for each type of thesis divided into treated and non-treated soil. The soil samples were dried at room temperature in two to three days. Subsequently, following the soil preparation process, they were sifted to <20 mm. The prepared samples were analyzed following the European UNI EN methodology.

The analyzes carried out were:

- pH in water ([ISO 14254:2001](#))
- Total Organic Carbon ([ISO 14235:1998](#))
- Total Nitrogen ([ISO 11261:1995](#); [ISO 13878:1998](#))
- Available Phosphorus ([ISO 11263:1994](#))
- Cationic exchange capacity ([ISO 11260:1994](#); [ISO 13536:1995](#))
- Potassium exchangeable ([ISO 11260:1994](#); [ISO 13536:1995](#))
- Calcium exchangeable ([ISO 11260:1994](#); [ISO 13536:1995](#))
- Magnesium exchangeable ([ISO 11260:1994](#); [ISO 13536:1995](#))
- Sodium exchangeable ([ISO 11260:1994](#); [ISO 13536:1995](#))
- Metals (Cu, Zn, Mn and Fe) ([ISO 14870:2001](#))
- Calcium Carbonate Content ([ISO 10693:1995](#))
- Soil Texture

The analysis of the soils at the beginning of the test, before distributing the organic matrices, will enable to be compared with the analysis at the end of the experiment. This comparison will allow us to observe if there has been one increase organic matter in the soil, that prevent further soil degradation, allow to contrast the problem of biodiversity soil fall and the definition of the soil quality index.

## **Preliminary results (2016):**

CI= Compost incorporated

C= Compost

DI= Digestate soild fraction incorporated

D= Digestate soild fraction

MI= Manure incorporated

M= Manure

TT= Test tilled

T=Test

## CBON Testing site

CBON												Na	Mg	K	Ca	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Mo	Cd	Pb	P
		pH (in H2O)	TOC g/Kg	N tot mg/g	C/N	CSC cmol +/kg	P <sub>2</sub> O <sub>5</sub> mg/Kg	CaCO <sub>3</sub> g/Kg	% limo	% argilla	% sabbia	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Cl	I	7.56	10.6	0.73	14.5	22.4	97.0	59.4	32.4	30.1	37.5	1943	7189	6476	125480	58.6	834	35190	13.6	79.3	98.1	127	17.5	4.86	6.70	1.52	18.2	4959
	II	7.93	15.7	0.66	23.9	24.9	101	77.7	37.0	33.8	29.2	783	6987	5637	26947	53.2	783	38945	13.9	81.1	107	148	16.3	2.89	6.38	1.11	25.7	4897
	III	7.80	14.9	0.91	16.4	25.3	197	71.6	27.1	31.4	41.5	559	6064	7244	17701	63.8	1201	41066	15.6	80.0	117	191	15.5	0.75	6.07	0.78	29.1	4718
C	I	7.24	7.8	0.41	19.4	12.3	50.0	62.2	29.1	41.2	29.7	335	4419	3973	366801	28.7	460	11917	4.64	49.4	71.7	60.6	3.01	0.23	5.59	0.33	5.87	539
	II	7.83	13.4	0.81	16.5	25.8	128	65.5	28.3	32.9	38.8	448	5728	8280	8427	69.7	1028	41076	13.6	80.0	70.1	132	15.5	0.26	6.45	0.20	22.2	760
	III	7.90	10.9	0.62	17.6	21.9	87.3	63.2	31.8	33.8	34.4	579	6832	8574	8034	76.9	1078	48034	14.5	87.3	68.3	149	18.2	0.24	6.24	0.19	20.3	745
DI	I	7.54	11.3	0.85	13.3	21.6	54.6	65.4	34.5	35.6	29.9	684	7425	8907	7972	84.3	1065	51693	14.9	89.0	61.2	151	20.5	0.28	5.89	0.16	23.1	677
	II	7.41	12.3	1.16	10.6	22.6	97.9	71.6	37.5	33.8	28.7	417	6663	8236	6467	75.3	1183	44660	14.5	84.4	52.0	123	17.3	0.22	5.64	0.14	20.3	706
	III	7.48	11.9	0.67	17.8	21.7	76.2	69.8	35.8	32.5	31.7	478	7367	8278	6598	77.1	1235	46932	13.9	88.2	59.4	143	18.2	0.22	5.74	0.15	22.9	678
De	I	7.16	11.3	0.48	23.6	22.4	42.0	87.1	29.1	31.3	39.6	488	7590	8261	6956	80.9	1267	49489	16.6	90.1	61.7	140	18.8	0.23	5.10	0.17	24.0	638
	II	7.67	11.8	0.65	18.2	25.3	54.9	88.5	32.0	33.8	34.2	475	7937	8174	8463	83.2	1148	50974	14.8	88.2	78.5	134	16.3	0.20	5.02	0.17	25.9	646
	III	7.92	12.3	0.56	21.8	23.6	39.5	87.3	34.6	37.6	27.8	426	6971	7955	15112	83.4	1084	50547	15.3	87.6	94.5	167	19.5	0.20	5.00	0.15	26.0	642
MI	I	7.88	16.0	0.92	17.4	31.2	94.0	476	26.9	24.5	48.6	459	7240	7225	27085	78.4	1037	47454	15.8	88.7	63.2	140	18.3	0.81	6.23	0.48	23.8	791
	II	7.60	11.9	0.60	19.8	30.6	101	65.4	30.4	31.9	37.7	417	6917	8463	6921	80.4	1271	47542	14.8	98.4	69.9	142	17.5	0.76	6.64	0.22	24.5	757
	III	7.83	13.6	0.80	17.0	29.8	91.4	63.4	33.1	27.8	39.1	469	6945	7947	6948	78.4	1423	46940	15.3	97.3	59.3	139	18.2	0.58	6.58	0.21	23.1	765
M	I	7.79	15.4	0.90	17.1	33.1	60.1	430	34.9	28.5	36.6	433	6915	7674	6884	75.5	1463	44373	16.0	101	47.1	140	16.3	0.20	6.18	0.20	20.5	744
	II	8.23	4.1	0.44	9.2	30.5	78.5	703	45.3	13.6	41.1	578	7345	9835	8936	83.2	1389	45672	15.9	98.3	76.4	143	17.3	0.21	6.15	0.31	22.4	724
	III	7.68	11.9	0.53	22.2	29.4	91.9	252	37.2	34.0	28.8	683	7422	11298	10904	93.1	1241	47863	15.8	97.7	90.5	147	18.5	0.46	6.19	0.33	25.4	738
TT	I	8.06	10.4	0.58	17.8	20.9	33.1	715	32.0	16.1	51.9	569	7412	4898	31364	40.5	524	16180	5.29	65.6	186	87.5	5.16	0.29	7.87	0.35	11.1	3272
	II	7.89	10.2	0.56	18.2	25.7	65.7	689	33.2	30.3	36.5	793	7593	8943	15928	83.3	879	34862	19.3	89.3	128	113	16.9	1.89	6.39	1.11	18.3	2849
	III	7.54	10.0	0.48	20.9	33.2	143	68.2	35.4	42.0	22.6	899	7963	11483	8191	99.8	1302	50851	20.8	106	70.8	138	20.2	11.6	5.16	1.78	21.3	1383
T	I	8.06	13.4	0.73	18.4	23.5	38.6	685	47.1	10.2	42.7	542	5130	4874	299791	44.2	500	17054	8.60	77.2	85.8	103	5.90	7.71	9.27	1.27	13.4	843
	II	7.73	13.6	0.62	22.0	31.8	71.8	83.9	34.6	34.6	30.8	599	7339	10481	12107	91.0	1142	45731	15.2	101	88.6	134	18.1	0.31	6.28	0.15	23.6	703
	III	7.94	13.3	0.60	22.2	28.4	54.7	76.3	44.6	23.8	31.6	578	6936	7493	36950	78.4	839	37482	13.4	89.4	86.2	123	15.3	1.32	7.48	0.92	17.3	647

## BDM Testing site

BDM												Na	Mg	K	Ca	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Mo	Cd	Pb	P
		pH (in H <sub>2</sub> O)	TOC g/Kg	N tot mg/g	C/N	CSC cmol <sup>+</sup> /kg	P <sub>2</sub> O <sub>5</sub> mg/Kg	CaCO <sub>3</sub> g/Kg	% limo	% argilla	% sabbia	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
C	I	8.14	10.1	0.67	15.0	20.4	35.8	290	48.0	23.3	28.7	767	28465	11295	90903	78.3	766	32874	18.5	76.3	133	116	11.0	0.54	6.20	0.48	20.1	800
	II	8.00	10.2	0.70	14.6	19.3	27.8	305	43.8	25.3	30.9	639	29374	11938	89384	79.2	792	33678	16.2	80.2	121	109	11.6	0.24	5.89	0.32	21.2	768
	III	8.06	11.0	0.62	17.7	22.5	33.5	276	39.7	24.6	35.7	702	27383	11389	90284	81.3	803	34378	18.3	78.3	125	110	10.3	0.20	6.02	0.19	19.3	693
CI	I	8.00	15.2	0.78	19.5	24.0	35.6	305	36.7	20.5	42.8	508	26511	11279	80885	74.9	776	36710	13.4	82.8	125	110	11.6	0.24	5.70	0.18	19.9	727
	II	8.02	14.8	0.81	18.3	20.3	34.2	279	40.5	26.3	33.2	580	26846	11473	78463	80.3	789	35829	14.3	79.3	119	109	11.4	0.24	6.20	0.16	22.5	732
	III	8.07	15.4	0.73	21.1	23.8	28.6	254	44.3	26.2	29.5	629	27494	11947	83728	78.4	890	34829	15.3	80.5	131	111	10.9	0.31	5.89	0.32	21.7	698
D	I	8.05	10.1	0.58	17.5	22.0	25.2	205	48.7	24.8	26.5	606	23317	11971	62059	83.2	660	36315	12.9	85.3	119	110	12.5	0.26	7.05	0.26	20.6	727
	II	8.00	9.9	0.63	15.7	19.7	23.8	236	45.8	23.7	30.5	589	24691	11847	73832	80.3	682	36292	15.3	83.5	121	104	10.3	0.19	6.32	0.20	19.9	712
	III	8.02	10.3	0.51	20.2	21.6	30.6	215	43.7	26.3	30.0	624	27384	10486	80365	79.5	783	35820	16.3	85.1	125	109	11.1	0.21	6.21	0.19	22.4	739
DI	I	8.05	10.9	0.69	16.0	21.8	27.0	187	44.3	25.6	30.1	549	24832	10641	70377	77.9	906	35219	15.7	85.2	127	106	11.8	0.97	7.24	0.44	21.2	662
	II	8.03	10.0	0.56	17.9	22.4	25.8	165	42.8	27.3	29.9	570	23947	11746	73920	78.2	836	36292	13.5	84.7	132	104	10.4	0.34	7.02	0.31	20.8	684
	III	8.05	11.2	0.61	18.4	20.7	31.6	243	38.6	28.3	33.1	620	26495	10365	69363	80.3	873	35282	15.1	85.3	135	111	10.6	0.31	6.94	0.26	19.5	679
M	I	8.07	11.1	0.67	16.7	16.5	27.0	215	38.1	22.9	39.0	530	27719	11302	73140	81.0	779	37488	14.3	81.8	133	104	13.9	0.35	6.89	0.16	19.6	885
	II	8.00	10.9	0.69	15.8	18.9	25.8	189	40.6	24.4	35.0	573	28433	11749	72943	79.4	830	37292	14.8	80.6	129	109	11.4	0.29	6.48	0.25	20.6	713
	III	8.03	11.3	0.72	15.7	20.3	29.4	196	41.7	27.2	31.1	639	23854	11847	69372	77.2	823	36294	16.2	83.5	132	104	10.9	0.24	6.93	0.31	21.8	694
MI	I	8.06	11.7	0.73	16.0	15.2	23.7	205	51.1	25.7	23.2	586	26454	12480	68332	87.7	830	36252	14.2	86.0	137	109	12.4	0.32	6.62	0.20	21.9	682
	II	8.09	11.3	0.69	16.4	17.5	22.9	256	43.8	28.1	28.1	589	26491	12945	70743	84.9	783	35295	14.5	85.8	113	104	11.0	0.29	6.23	0.34	20.5	732
	III	8.03	12.1	0.81	14.9	21.3	30.1	310	46.3	26.2	27.5	621	23482	11849	68362	82.4	739	34829	17.3	84.9	121	103	10.9	0.31	7.07	0.19	23.4	689
T	I	8.05	12.7	0.70	18.3	21.1	40.7	152	45.3	24.7	30.0	565	24071	11472	60474	78.2	700	35267	14.6	87.6	98.9	106	11.8	0.29	6.87	0.17	20.5	723
	II	8.11	10.0	0.56	17.8	13.5	23.9	264	43.6	25.0	31.4	530	32605	11716	102662	77.6	596	33514	12.7	75.7	116	99.2	11.0	0.21	6.56	0.13	16.6	658
	III	8.09	11.4	0.70	16.3	18.7	29.4	230	44.2	25.8	30.0	648	28464	11946	94373	80.4	738	36292	16.4	85.9	119	110	12.2	0.24	6.89	0.26	18.4	649
TT	I	8.15	9.4	0.53	17.6	20.5	22.8	437	42.9	28.0	29.1	562	31045	10834	122859	68.3	1228	31561	16.0	78.2	84.1	99.0	10.3	0.20	7.68	0.16	16.6	575
	II	8.08	12.2	0.73	16.8	22.4	26.8	271	49.3	24.3	26.4	638	29455	11624	88134	82.6	739	36122	14.2	78.7	133	110	12.6	1.92	7.03	0.56	21.5	768
	III	8.10	11.6	0.67	17.3	21.2	28.3	205	47.2	27.5	25.3	702	29463	10475	103746	78.5	839	34829	13.5	78.8	121	111	11.8	0.68	7.42	0.35	19.2	684

BER Testing site

BER												Na	Mg	K	Ca	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Mo	Cd	Pb	P
		pH (in H2O)	TOC g/Kg	N tot mg/g	C/N	CSC cmol <sup>+</sup> /kg	P <sub>2</sub> O <sub>5</sub> mg/Kg	CaCO <sub>3</sub> g/Kg	% limo	% argilla	% sabbia	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Manure I	I	7.59	9.39	0.67	14.0	18.8	74.7	62.2	33.5	10.4	56.1	486	5736	7287	13828	45.9	572	27880	7.81	72.1	66.1	107	14.0	0.22	9.34	0.10	51.8	1090
	II	7.49	9.21	0.76	12.1	19.3	65.9	64.1	31.7	12.1	56.2	480	5893	7192	11731	44.8	582	27482	7.38	69.3	68.4	99.4	14.2	0.21	8.53	0.11	31.9	783
	III	7.63	9.45	0.61	15.5	20.8	70.3	78.4	35.8	11.8	52.4	468	6038	8027	9473	45.1	602	27491	6.83	70.3	70.3	111	13.7	0.20	9.03	0.08	22.4	843
M	I	7.97	10.7	0.83	12.9	17.3	44.3	121	31.7	11.9	56.4	482	6195	7199	34867	43.1	589	27036	8.09	63.3	87.6	95.2	13.4	0.23	6.46	0.09	19.2	714
	II	7.91	9.89	0.76	13.0	18.1	56.8	118	38.2	10.8	51.0	478	5982	7422	31942	42.7	583	27493	7.73	65.3	88.4	99.4	13.8	0.22	7.93	0.05	25.9	802
	III	7.97	9.97	0.85	11.7	20.7	78.2	83.7	35.5	9.9	54.6	459	5629	8032	19383	43.2	628	27462	8.02	69.4	78.4	112	13.9	0.23	6.63	0.12	26.1	822
DI	I	7.33	10.8	0.67	16.2	16.3	106	43.5	35.8	9.1	55.1	461	4911	7426	5433	42.1	713	27530	8.45	61.4	65.3	98.7	14.3	0.30	7.03	0.15	30.6	878
	II	7.11	10.2	0.58	17.6	20.3	89.3	39.8	38.6	11.8	49.6	478	5284	7482	5739	40.9	647	27491	7.47	59.3	68.4	98.5	13.5	0.31	7.83	0.09	28.3	783
	III	7.48	9.98	0.65	15.4	19.8	78.0	24.7	32.3	10.5	57.2	432	5382	6927	8362	41.7	693	28164	8.34	63.5	70.4	104	15.3	0.24	6.85	0.11	27.4	973
D	I	7.21	14.6	0.81	18.0	21.5	119	52.9	38.3	11.0	50.7	496	5273	8021	5325	44.0	614	29254	7.86	54.0	75.3	106	14.3	0.29	6.44	0.13	32.9	921
	II	7.19	13.4	0.76	17.6	18.6	98.3	67.8	37.6	12.3	50.1	478	5824	7924	5936	43.5	593	29472	7.63	59.3	73.5	114	14.9	0.25	6.83	0.08	30.2	893
	III	7.25	13.9	0.80	17.4	21.1	101	45.3	40.1	8.7	51.2	423	4728	7927	6274	42.5	602	28494	8.03	58.3	69.3	99.4	13.3	0.31	5.93	0.11	31.4	748
CI	I	6.97	12.7	1.01	12.6	21.6	118	15.6	32.5	6.0	61.5	426	4963	6907	4903	42.6	824	29196	9.07	57.4	74.6	113	15.2	0.24	6.03	0.16	33.8	933
	II	7.11	11.8	0.93	12.7	18.7	99.4	33.8	35.8	9.4	54.8	436	5284	7492	5037	41.8	732	29464	8.74	57.9	70.5	103	13.9	0.23	5.89	0.08	28.4	835
	III	7.09	12.0	0.98	12.2	17.4	97.5	25.8	33.5	10.1	56.4	478	5482	7037	6046	43.5	783	28451	8.93	62.4	69.6	98.4	14.2	0.20	6.32	0.14	23.5	893
C	I	7.16	14.5	0.77	18.7	19.5	141	31.2	38.3	7.7	54.0	424	5515	6727	6112	41.7	749	27395	9.22	52.6	79.8	105	13.5	0.21	6.20	0.13	33.5	961
	II	7.23	13.7	0.70	19.6	21.2	104	39.5	36.7	9.6	53.7	457	4972	6937	6284	40.8	693	27493	8.73	58.4	80.4	113	15.3	0.19	6.46	0.21	30.4	903
	III	7.09	14.0	0.76	18.4	21.6	99.3	43.9	36.3	11.1	52.6	455	5284	7037	7393	42.7	705	28494	8.46	50.3	68.4	99.5	14.8	0.28	7.23	0.17	28.4	942
TT	I	7.61	12.5	0.67	18.6	18.2	97.3	77.9	41.2	9.2	49.6	481	5287	7229	12355	43.5	585	26123	7.41	59.1	69.2	105	12.1	0.26	6.93	0.13	33.4	845
	II	7.77	11.2	0.65	17.2	17.9	76.3	37.8	35.8	9.4	54.8	478	4829	7103	11747	41.6	603	27494	7.37	60.3	70.5	103	11.5	0.21	5.83	0.08	29.3	893
	III	7.89	9.9	0.62	16.1	18.3	42.8	83.7	38.6	10.9	50.5	450	5229	7049	17772	42.2	695	30819	8.42	59.2	53.8	90.1	16.4	0.26	5.86	0.09	28.5	536
	IV	7.83	11.2	0.62	18.1	19.7	55.8	62.2	37.8	10.2	52.0	439	4928	6937	13764	41.8	593	29464	6.38	58.3	58.9	99.5	15.3	0.18	6.93	0.05	26.3	783
T	I	7.19	10.8	0.72	15.1	20.1	146	34.3	35.5	7.1	57.4	570	4924	6902	5651	41.2	676	26716	7.99	59.1	77.7	115	13.1	0.73	7.52	0.17	37.9	1295
	II	7.67	9.9	0.70	14.1	19.3	101	45.2	37.3	8.6	54.1	462	5193	6739	8393	40.6	573	25484	6.83	60.4	74.6	104	12.1	0.32	7.03	0.15	33.2	1120
	III	7.88	7.9	0.52	15.1	18.0	29.0	165	35.9	12.5	51.6	490	5311	6727	19171	39.6	619	26963	6.87	58.8	53.9	89.1	12.9	0.25	6.46	0.09	24.5	473
	IV	7.35	9.3	0.69	13.5	21.6	45.8	121	33.8	9.3	56.9	467	4982	7032	13748	42.3	532	28464	8.37	59.4	58.5	90.6	13.5	0.24	6.32	0.11	28.4	638

## CDA Testing site

CDA												Na	Mg	K	Ca	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Mo	Cd	Pb	P
		pH (in H <sub>2</sub> O)	TOC g/Kg	N tot mg/g	C/N	CSC cmol <sup>+</sup> /kg	P <sub>2</sub> O <sub>5</sub> mg/Kg	CaCO <sub>3</sub> g/Kg	% limo	% argilla	% sabbia	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
CI	I	8.11	8.75	0.95	9.21	24.6	35.2	618	34.9	43.4	21.7	644	12905	11849	117437	123	848	41927	14.7	105	78.8	117	9.60	0.25	7.02	0.11	16.5	729
	II	8.13	9.23	0.99	9.32	27.8	39.2	650	38.6	36.9	24.5	673	13927	11745	138273	111	745	38262	12.3	110	80.4	118	8.64	0.21	7.64	0.03	15.9	849
	III	8.15	12.7	1.07	11.8	24.9	41.6	689	42.2	36.6	21.2	705	14323	11090	179577	104	686	33985	11.6	105	85.5	112	7.12	0.22	7.80	0.06	11.5	1229
C	I	8.20	8.36	0.90	9.29	29.9	32.9	652	38.6	38.9	22.5	601	13471	10327	146383	114	720	37690	14.0	113	87.5	110	8.46	0.21	7.21	0.12	13.6	750
	II	8.25	8.36	0.91	9.19	25.3	29.3	669	40.3	37.4	22.3	648	12843	10927	134623	108	801	36282	13.9	109	79.5	109	7.84	0.19	7.43	0.12	12.5	1119
	III	8.26	8.54	0.85	10.1	22.1	31.9	698	39.8	39.6	20.6	642	14002	11996	174282	112	674	36290	11.6	104	86.2	112	7.35	0.20	6.89	0.11	11.5	838
DI	I	8.22	8.88	0.79	11.2	30.0	29.9	632	44.7	38.0	17.3	672	14081	10777	142436	121	772	38805	15.5	111	86.5	113	8.74	0.57	6.72	0.09	14.4	709
	II	8.22	10.1	0.89	11.3	28.4	36.3	701	42.9	36.4	20.7	701	13824	11846	153943	112	783	37292	12.5	121	80.4	121	7.93	0.23	6.93	0.07	15.3	983
	III	8.23	13.0	1.33	9.80	24.9	41.7	686	40.6	37.2	22.2	692	13659	11519	172991	110	658	34942	11.6	104	109	113	7.54	0.69	7.82	0.11	10.9	872
D	I	8.21	8.89	0.63	14.1	28.5	31.3	650	40.2	42.4	17.4	633	13677	10210	149884	143	670	37638	12.5	256	84.0	113	8.55	0.19	22.3	0.11	13.1	737
	II	8.23	9.23	0.71	13.0	25.7	27.3	652	43.7	40.3	16.0	653	13936	11745	139264	132	693	35272	13.1	120	79.5	108	8.23	0.45	6.83	0.10	13.5	783
	III	8.25	8.48	0.85	9.99	25.1	18.3	748	45.0	41.3	13.7	591	13670	10067	177435	106	675	34377	11.7	95.0	72.7	97.6	7.43	0.19	5.70	0.08	10.7	700
MI	I	8.28	7.74	0.74	10.5	20.6	16.6	673	39.1	41.6	19.3	656	13870	10477	163502	112	693	36474	12.7	111	71.0	109	8.19	0.25	6.35	0.08	12.9	652
	II	8.25	8.87	0.83	10.7	21.6	23.2	714	43.6	38.5	17.9	700	12846	10935	154836	124	702	38264	12.9	117	80.5	99.3	8.03	0.23	7.92	0.07	14.2	937
	III	8.23	9.61	0.98	9.83	24.8	22.7	704	44.9	39.1	16.0	620	13574	10403	184575	108	632	35378	11.4	102	84.9	108	7.68	0.28	6.41	0.10	11.5	803
M	I	8.25	13.4	1.30	10.3	28.2	60.3	704	38.6	38.8	22.6	718	12838	10787	177732	107	815	34718	13.1	107	96.3	110	8.96	0.30	7.53	0.15	13.3	955
	II	8.20	10.8	0.94	11.5	27.4	45.3	687	40.1	37.5	22.4	678	13264	11845	142836	112	784	35481	11.4	109	92.4	100	9.05	0.18	6.73	0.13	11.9	1043
	III	8.18	7.46	0.84	8.93	24.8	29.0	678	38.4	41.2	20.4	581	13018	10059	184066	107	661	34300	12.1	98.9	78.4	98.5	7.24	0.15	4.83	0.09	10.9	663
TT	I	8.23	11.9	0.96	12.4	30.3	37.3	661	32.9	41.3	25.8	643	12687	10675	131901	120	755	39590	13.5	104	82.2	108	8.94	0.25	5.68	0.10	14.8	737
	II	8.23	9.67	0.90	10.7	29.3	26.1	686	39.3	37.5	23.2	692	12845	11004	127454	128	683	36484	14.3	107	90.4	111	7.94	0.31	7.01	0.06	15.2	935
	III	8.22	8.77	0.82	10.8	22.0	14.3	700	37.5	39.5	23.0	617	12556	10082	188312	107	646	34037	11.5	111	89.0	104	7.25	0.14	7.20	0.09	11.0	689
T	I	8.27	9.81	0.83	11.8	28.1	20.7	660	36.7	39.5	23.8	608	12977	10482	132410	125	835	42696	15.8	112	91.4	118	9.58	0.22	6.54	0.11	16.4	752
	II	8.25	8.74	0.87	10.0	27.5	20.9	645	35.9	36.7	27.4	710	13294	11243	148237	115	839	38546	13.7	124	86.8	121	8.37	0.25	5.89	0.12	11.9	830
	III	8.25	7.94	0.78	10.2	27.8	21.5	714	36.7	38.0	25.3	552	11989	9442	191066	108	937	33927	14.5	127	84.4	114	7.47	0.16	6.10	0.09	12.5	669

# CSV Testing site

CSV												Na	Mg	K	Ca	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Mo	Cd	Pb	P
		pH (in H2O)	TOC g/Kg	N tot mg/g	C/N	CSC cmol <sup>+</sup> /kg	P <sub>2</sub> O <sub>5</sub> mg/Kg	CaCO <sub>3</sub> g/Kg	% limo	% argilla	% sabbia	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
CI	I	7.62	14.5	1.22	11.8	24.7	39.4	54.4	24.7	15.2	60.1	357	20003	13453	10460	225	886	48962	22.8	188	137	141	8.15	0.20	4.88	0.05	22.5	932
	II	7.80	13.1	1.05	12.5	22.9	27.3	43.1	20.6	16.9	62.5	423	19646	13948	15483	245	738	47824	21.8	180	128	137	7.63	0.21	5.63	0.03	21.0	879
	III	7.53	14.6	1.21	12.1	25.1	33.2	36.9	19.8	17.2	63.0	397	20074	15382	16349	209	902	49632	19.5	193	131	123	8.21	0.18	5.27	0.05	19.9	1009
C	I	7.76	14.7	1.08	13.7	23.2	21.8	36.7	21.2	12.7	66.1	413	19770	16169	15102	264	715	49957	20.0	191	124	155	8.27	0.32	6.59	0.06	22.8	795
	II	7.76	14.2	1.10	12.9	21.4	26.1	36.2	20.4	17.3	62.3	402	19946	15393	15438	270	849	48264	22.8	185	117	162	7.67	0.24	6.32	0.04	21.5	894
	III	7.80	14.7	1.07	13.7	25.8	23.7	43.9	23.7	15.9	60.4	384	20746	16498	16493	251	932	48653	24.5	180	153	142	8.01	0.25	5.73	0.05	22.4	804
DI	I	7.89	15.9	1.25	12.7	24.6	31.8	41.6	14.2	16.6	69.2	426	19841	15038	24050	213	920	48621	26.7	190	168	165	7.58	0.19	5.59	0.08	23.4	1371
	II	7.83	14.7	1.28	11.5	25.1	29.1	48.2	18.4	17.7	63.9	378	20452	14956	23826	203	894	49628	20.5	189	142	131	7.48	0.15	4.93	0.02	21.4	1104
	III	7.91	15.1	1.16	13.0	23.6	28.4	37.2	20.8	16.3	62.9	421	19464	16046	19474	227	878	47293	25.3	193	127	129	7.93	0.21	5.02	0.04	20.5	997
D	I	7.95	12.9	1.30	9.9	24.0	11.2	27.3	18.8	17.3	63.9	360	20316	13594	22127	207	982	49408	27.0	197	111	133	7.11	0.19	5.78	0.05	23.6	767
	II	7.91	13.1	1.31	10.0	25.3	21.4	33.1	20.5	18.5	61.0	409	20452	13946	20462	209	934	48353	26.1	189	142	114	8.05	0.24	4.63	0.05	22.7	893
	III	7.89	12.5	1.27	9.8	21.2	19.4	27.9	21.7	16.9	61.4	394	19464	14836	19464	216	905	49623	22.9	195	153	143	6.93	0.16	5.02	0.03	21.8	793
MI	I	8.05	16.2	1.29	12.6	27.4	52.2	43.6	16.6	18.2	65.2	355	21310	13053	15644	217	853	48137	22.2	191	127	137	7.58	0.20	4.26	0.05	22.2	932
	II	8.00	16.0	1.35	11.8	25.6	34.8	41.4	20.6	17.5	61.9	367	20463	14063	18465	253	974	47829	20.8	189	143	118	7.73	0.25	4.73	0.08	20.4	843
	III	7.98	15.5	1.21	12.8	22.9	41.0	37.2	22.8	16.9	60.3	463	21045	15474	17474	228	893	47964	24.1	194	137	124	6.63	0.19	5.21	0.02	23.1	1003
M	I	8.02	16.7	1.12	14.8	26.9	10.2	23.8	20.7	17.4	61.9	490	20929	16161	22788	224	994	48260	27.0	202	131	164	7.51	0.26	9.26	0.05	23.2	1283
	II	8.00	15.8	1.11	14.2	23.1	13.9	37.2	25.2	16.8	58.0	471	19453	15483	20462	229	797	48629	25.3	193	128	152	7.03	0.21	7.37	0.06	22.7	1184
	III	7.98	16.0	1.07	15.0	24.9	25.3	25.8	22.3	18.1	59.6	394	20463	14835	21846	201	945	49625	26.9	199	138	123	7.63	0.25	6.32	0.00	19.7	984
TT	I	8.05	15.5	1.26	12.4	25.5	13.4	36.2	22.4	17.6	60.0	324	20592	11709	28719	208	993	46628	22.6	197	124	134	7.29	0.18	5.11	0.05	21.3	900
	II	8.00	14.9	1.03	14.5	22.2	10.6	33.8	16.2	19.6	64.2	364	21046	13854	16493	253	863	47896	23.0	189	121	119	6.95	0.19	6.02	0.04	22.5	894
	III	8.07	15.1	1.11	13.6	27.1	18.3	36.3	19.7	18.3	62.0	423	19458	15483	23835	211	893	48294	20.9	193	110	142	8.11	0.24	6.63	0.02	23.6	1084
T	I	8.16	14.3	1.18	12.2	25.1	10.2	27.9	23.8	16.8	59.4	376	20043	12739	32385	247	885	46737	21.5	181	120	135	6.56	0.39	5.09	0.05	21.5	763
	II	8.10	15.3	1.13	13.5	21.8	19.2	36.9	18.7	20.1	61.2	382	19463	16036	26482	231	962	47935	22.7	189	119	137	7.93	0.32	4.73	0.02	19.6	893
	III	8.16	14.9	1.21	12.3	28.3	22.1	31.4	22.4	18.2	59.4	405	19976	15483	23725	253	905	46935	25.9	195	123	125	7.69	0.28	4.92	0.06	20.1	1046

## **Final results (2019):**

CI= Compost incorporated

C= Compost

DI= Digestate soild fraction incorporated

D= Digestate soild fraction

MI= Manure incorporated

M= Manure

TT= Test tilled

T=Test



CBON Testing site

CBON																												
		pH	TOC	N tot	C/N	CSC	P <sub>2</sub> O <sub>5</sub>	CaCO <sub>3</sub>	limo	argilla	sabbia	Na	Mg	K	Ca	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Mo	Cd	Pb	P
		(in H <sub>2</sub> O)	g/Kg	mg/g		cmol +/kg	mg/Kg	g/Kg	%			mg/kg																
CI	I	7.52	70.0	5.00	14.0	47.6	221	110	30.6	26.4	43.0	459	7020	8694	28069	65.2	887	31385	11.6	39.1	91.0	149	18.4	2.17	0.37	0.26	29.4	1673
	II	7.48	65.7	4.12	15.9	45.3	212	100	30.6	25.5	43.9	430	6845	8945	25314	63.4	948	30156	12.0	41.3	111	137	17.2	1.89	0.27	0.21	33.4	1456
	III	7.67	62.7	3.44	18.2	41.9	229	109	30.9	26.7	42.4	422	6147	9045	21599	70.6	1008	30647	13.5	43.9	128	156	16.9	1.08	0.20	0.31	35.3	1370
C	I	7.27	63.3	4.83	13.1	46.3	185	74.8	33.7	29.5	36.8	412	5997	7921	13285	69.8	1028	29387	12.3	51.6	110	147	15.3	0.81	1.33	0.28	28.1	1492
	II	7.52	58.3	3.56	16.4	40.5	179	99.5	34.5	30.8	34.7	401	6003	8039	25486	65.9	1003	31369	11.9	55.8	89.4	136	16.3	0.97	0.56	0.19	27.9	1364
	III	7.66	43.2	2.86	15.1	38.5	180	111	35.2	31.0	33.8	394	6010	8419	27323	68.8	969	32075	12.6	58.6	71.3	114	17.9	0.65	0.26	0.21	28.6	1198
DI	I	7.29	52.2	2.92	17.9	42.5	184	78.8	35.2	31.1	33.7	480	6696	8837	11785	85.0	886	34287	12.7	56.9	73.0	113	20.6	0.73	0.22	0.20	25.7	981
	II	7.32	63.8	3.21	19.9	43.7	202	73.4	34.2	30.5	35.3	469	6489	8647	10145	79.4	934	30156	11.7	50.9	73.1	125	18.5	0.61	0.13	0.27	26.3	1397
	III	7.20	78.3	4.69	16.7	46.9	233	61.3	33.9	29.8	36.3	399	6297	8714	13692	72.2	1108	29050	12.8	44.9	106	138	15.0	0.50	0.15	0.32	27.4	1644
D	I	7.28	39.6	2.66	14.9	41.0	145	74.4	34.8	30.6	34.6	409	6082	8225	7692	73.3	1020	31804	13.5	40.3	64.4	112	17.2	0.59	0.55	0.19	28.5	931
	II	7.29	61.3	4.19	14.6	45.6	186	70.6	33.8	28.9	37.3	401	6073	9036	11367	74.3	943	31289	12.6	41.0	89.4	128	16.4	0.60	0.41	0.20	28.0	1125
	III	7.31	91.2	5.51	16.6	48.0	226	81.1	29.8	25.7	44.5	400	6069	9123	14237	73.8	819	31933	11.9	40.3	113	126	18.6	0.55	0.03	0.21	28.2	1322
MI	I	7.63	29.3	1.54	19.0	37.2	181	117	41.1	36.8	22.1	441	6132	8883	12617	86.0	926	34745	14.4	52.2	55.6	99.1	20.5	0.46	0.18	0.16	20.6	956
	II	7.49	53.1	3.26	16.3	41.6	198	85.3	33.4	35.1	31.5	489	6039	8549	11364	83.4	920	30128	13.7	49.6	84.3	112	18.4	0.34	0.23	0.22	29.3	1324
	III	7.07	77.0	4.76	16.2	47.0	204	60.7	28.6	24.4	47.0	559	5832	8150	10605	76.0	929	29345	11.0	46.4	160	131	16.5	0.34	0.22	0.24	31.5	1391
M	I	7.97	21.0	1.75	12.0	19.8	91	834	17.0	12.9	70.1	430	6312	8495	20136	68.1	923	29785	12.9	51.0	89.4	112	15.6	0.51	0.26	0.23	29.7	1264
	II	7.65	43.6	2.58	16.9	36.1	185	81.3	29.3	28.1	42.6	458	5978	8597	15453	73.0	889	30156	14.0	49.7	94.8	134	19.7	0.24	0.31	0.18	25.6	1389
	III	7.33	59.5	3.98	14.9	45.7	241	79.3	30.8	26.6	42.6	399	6006	8306	19756	68.9	911	31456	13.7	45.8	101	113	16.3	0.61	0.18	0.21	30.1	1146
TT	I	7.99	26.0	2.01	12.9	26.7	89	709	18.9	14.8	66.3	221	6313	3726	17534	33.1	417	12567	4.70	25.8	66.0	71.3	6.46	0.10	1.32	0.27	15.5	712
	II	7.63	32.6	2.35	13.9	33.2	134	88.1	34.2	30.7	35.1	336	5973	4223	15439	35.4	403	11259	3.81	26.3	59.1	89.0	5.99	0.09	0.89	0.20	13.7	814
	III	7.52	39.3	2.51	15.7	41.2	155	91.5	36.9	32.8	30.3	376	5632	8041	8646	87.9	1016	31698	14.2	49.0	92.5	106	19.0	0.10	0.09	0.25	24.2	1227
T	I	7.87	18.2	2.15	8.47	27.4	61	803	17.1	13.0	69.9	199	3263	2711	20063	33.2	344	9824	3.89	25.2	81.2	46.5	5.12	0.00	0.37	0.22	11.2	668
	II	7.61	51.3	4.69	10.9	38.1	159	79.5	30.3	25.4	44.3	256	4961	3017	17543	36.1	312	10369	4.08	24.9	79.3	36.9	6.01	0.03	0.26	0.24	13.4	548
	III	7.38	76.8	6.14	12.5	49.6	231	80.8	27.8	23.7	48.5	348	5088	7234	12930	99.1	719	26660	10.6	52.1	179	142	16.8	0.04	0.51	0.30	32.6	1088

BDM Testing site

BDM																												
		pH	TOC	N tot	C/N	CSC	P <sub>2</sub> O <sub>5</sub>	CaCO <sub>3</sub>	limo	argilla	sabbia	Na	Mg	K	Ca	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Mo	Cd	Pb	P
		(in H <sub>2</sub> O)	g/Kg	mg/g		cmol +/kg	mg/Kg	g/Kg	%			mg/kg																
CI	I	7.99	12.3	1.07	11.5	23.9	45.3	445	39.3	35.2	25.5	301	26600	8944	94645	55.4	676	26865	10.7	24.0	96.1	66.5	10.2	0.17	0.90	0.37	19.4	771
	II	7.89	12.8	1.13	11.3	22.6	44.2	463	36.7	32.6	30.7	297	26486	8549	93156	53.0	597	25843	8.15	15.2	98.6	60.3	9.64	0.03	0.12	0.28	20.1	658
	III	7.74	11.9	1.09	10.9	24.1	43.1	421	35.9	31.4	32.7	194	25489	7964	92481	52.7	631	26048	7.98	16.3	101	59.7	9.99	0.57	1.30	0.22	19.6	745
C	I	7.63	14.2	1.24	11.5	26.5	53.0	534	37.7	33.5	28.8	291	25887	7456	99793	45.1	545	23912	7.42	6.43	93.0	72.8	8.31	0.09	2.16	0.56	17.4	760
	II	7.32	11.3	1.11	10.2	25.7	48.3	511	36.7	34.6	28.7	288	23978	8015	95760	43.9	531	21684	8.45	11.6	101	70.2	9.84	0.07	1.26	0.35	15.3	802
	III	7.56	13.8	1.06	13.0	24.6	51.5	496	34.9	30.7	34.4	278	24687	7624	89631	46.1	608	26004	6.99	8.39	99.4	68.9	7.89	0.12	1.56	0.41	16.7	783
DI	I	7.68	25.7	1.87	13.7	30.7	85.4	342	34.1	30.0	35.9	259	23675	8380	74487	48.1	599	25591	9.93	6.60	104	65.5	9.78	0.34	0.53	0.23	19.9	658
	II	7.63	16.7	1.38	12.1	26.4	64.2	334	33.1	31.6	35.3	236	22364	8215	69485	49.1	603	23971	8.15	5.91	111	58.3	10.0	0.31	0.58	0.12	20.1	587
	III	7.72	13.9	1.23	11.3	26.1	55.9	321	31.9	29.8	38.3	301	24136	7942	70249	47.6	584	25418	10.0	4.65	98.3	60.1	9.80	0.12	1.06	0.28	17.6	498
D	I	7.94	12.5	1.01	12.4	25.0	44.9	462	38.8	34.6	26.6	292	26482	8395	90144	51.7	623	26765	10.1	12.9	102	64.0	10.2	0.17	1.63	0.27	20.4	579
	II	7.56	13.8	1.35	10.2	24.9	43.8	431	37.5	33.9	28.6	312	25648	8126	89517	49.5	582	24997	9.02	10.3	99.8	63.1	8.74	0.21	1.09	0.19	18.4	630
	III	7.83	15.3	1.12	13.7	23.5	45.7	451	34.9	30.4	34.7	289	26314	7961	78433	50.2	603	24060	8.64	9.89	87.6	60.0	8.64	0.30	0.86	0.30	15.6	658
MI	I	7.82	12.4	1.00	12.4	25.3	30.8	236	26.7	22.5	50.8	254	29923	7159	94171	47.0	618	23180	8.42	4.01	99.0	49.9	9.37	0.28	0.44	0.20	16.5	453
	II	7.81	13.8	1.08	12.8	26.7	31.6	254	29.4	26.1	44.5	248	25648	7015	75438	45.7	603	25481	10.3	5.03	113	58.4	10.2	0.12	0.09	0.31	15.9	601
	III	7.76	12.3	1.16	10.6	24.3	30.9	261	28.9	25.1	46.0	267	26334	6973	76481	50.9	587	26791	9.62	4.90	124	55.9	8.94	0.10	0.87	0.25	20.6	583
M	I	7.80	12.3	1.07	11.5	21.1	35.0	168	29.5	25.3	45.2	168	23959	5636	67161	39.9	696	24263	10.3	5.37	82.1	49.3	10.3	0.31	0.35	0.27	22.9	493
	II	7.82	12.9	1.09	11.8	20.6	34.8	320	28.9	27.3	43.8	254	22348	7034	65428	41.2	581	23048	9.65	6.28	85.6	52.6	7.56	0.18	0.69	0.15	20.3	561
	III	7.79	13.1	1.16	11.3	22.5	35.1	297	29.7	31.2	39.1	306	21697	6997	70139	39.8	634	22007	7.85	3.94	91.4	61.0	8.69	0.06	0.34	0.14	18.4	367
TT	I	7.69	20.1	1.80	11.2	31.1	72.9	204	29.2	25.0	45.8	258	21600	9034	59574	54.2	1378	28314	15.4	4.58	172	90.4	11.3	0.13	0.13	0.32	25.6	776
	II	7.83	16.9	1.65	10.2	25.1	45.3	264	30.1	26.3	43.6	218	20135	8016	62487	53.0	622	26749	11.2	5.24	121	78.4	9.68	0.12	0.32	0.13	23.4	624
	III	7.96	14.8	1.33	11.1	19.1	46.2	209	33.3	29.1	37.6	217	21693	7426	64474	47.2	602	25861	9.06	6.14	106	69.8	10.1	0.26	0.16	0.21	20.0	554
T	I	7.71	16.9	1.43	11.8	29.6	45.5	188	29.0	24.8	46.2	207	20563	7316	55751	46.8	868	28336	11.8	8.61	136	84.3	11.8	0.11	0.11	0.26	26.8	615
	II	7.60	15.9	1.38	11.5	25.7	33.7	238	31.6	27.2	41.2	231	24667	7843	65413	45.8	726	24831	7.49	7.65	99.5	65.3	8.94	0.25	1.09	0.29	18.4	489
	III	7.69	16.6	1.37	12.1	23.9	44.4	282	35.7	31.5	32.8	240	25769	8136	75584	46.7	575	25844	8.06	10.0	101	72.8	10.2	0.48	0.35	0.26	19.4	554

## BDM Testing site

BDM																												
		pH	TOC	N tot	C/N	CSC	P <sub>2</sub> O <sub>5</sub>	CaCO <sub>3</sub>	limo	argilla	sabbia	Na	Mg	K	Ca	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Mo	Cd	Pb	P
		(in H <sub>2</sub> O)	g/Kg	mg/g		cmol +/kg	mg/Kg	g/Kg	%			mg/kg																
UI	I	7.71	11.1	1.19	9.33	23.6	35.5	207	33.9	29.7	36.4	189	23617	4851	74398	38.8	523	21322	9.32	3.93	104	53.6	8.86	0.11	0.34	0.17	16.7	474
	II	7.63	12.8	1.21	10.6	24.3	36.9	216	32.5	28.3	39.2	194	22369	4736	71248	37.3	530	20158	9.62	4.56	99.7	49.5	8.67	0.07	0.89	0.15	15.8	398
	III	7.59	17.9	1.45	12.3	26.3	35.8	213	31.6	27.4	41.0	231	21483	4612	70394	35.0	618	22964	9.00	3.98	88.6	51.2	8.06	0.03	0.54	0.10	14.6	401
U	I	7.73	10.8	0.97	11.1	28.0	43.3	129	23.1	18.9	58.0	173	17834	5761	49069	41.7	633	24905	9.87	4.53	74.3	61.8	10.2	0.22	0.45	0.22	22.4	462
	II	7.69	11.6	1.12	10.4	26.7	38.1	159	30.4	26.9	42.7	285	19181	7202	56474	47.3	615	23725	9.21	2.62	65.0	71.4	10.0	0.25	0.15	0.18	18.2	475
	III	7.73	16.4	1.29	12.7	25.0	50.1	201	30.3	26.1	43.6	213	27269	4603	83228	36.8	904	22928	15.5	13.71	86.2	54.6	9.93	0.12	0.28	0.22	18.7	421

UI= Urea incorporated

U= Urea

BER Testing site

BER																												
		pH	TOC	N tot	C/N	CSC	P <sub>2</sub> O <sub>5</sub>	CaCO <sub>3</sub>	limo	argilla	sabbia	Na	Mg	K	Ca	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Mo	Cd	Pb	P
		(in H <sub>2</sub> O)	g/Kg	mg/g		cmol +/kg	mg/Kg	g/Kg	%			mg/kg																
CI	I	7.32	14.1	3.37	4.2	17.1	82.8	134	14.6	14.6	70.8	296	4082	4780	15419	33.2	385	16968	5.88	19.6	66.6	55.3	12.5	0.09	0.17	0.15	20.8	716
	II	7.12	13.7	1.51	9.1	18.5	116	121	15.6	14.3	70.1	293	3458	4985	10258	33.5	426	15286	5.63	16.3	73.4	60.2	12.8	0.08	0.25	0.12	18.9	1020
	III	6.98	15.0	2.11	7.1	19.8	121	99.7	15.9	13.4	70.7	284	4268	4732	9681	35.1	389	16315	6.03	18.4	75.0	58.2	12.6	0.05	0.30	0.16	20.4	986
C	I	7.43	15.0	4.20	3.6	19.5	91.6	260	16.7	16.7	66.6	274	5602	4577	37510	32.5	392	17816	5.35	21.0	71.5	46.2	13.4	0.02	0.34	0.12	14.9	891
	II	7.13	14.8	1.68	8.8	21.6	135	132	15.4	14.6	70.0	303	4581	4125	10258	29.8	403	16328	6.11	19.3	69.8	48.4	13.0	0.07	0.19	0.14	16.8	1036
	III	6.98	13.9	2.12	6.6	18.6	169	78.4	14.6	17.2	68.2	284	3965	4632	9365	31.0	482	15790	5.98	20.1	85.3	50.1	12.9	0.03	0.15	0.09	19.7	896
DI	I	6.54	14.3	2.42	5.9	19.4	156	70.3	15.8	15.8	68.4	280	3412	4824	3351	34.1	390	16983	5.23	16.9	64.9	48.7	12.3	0.05	0.14	0.14	23.2	868
	II	6.63	22.7	1.59	14.3	20.1	168	69.7	14.9	16.1	69.0	264	3548	4589	3256	33.8	415	16384	5.68	17.4	68.4	60.3	13.1	0.10	0.36	0.15	26.7	1028
	III	6.70	16.7	1.69	9.9	21.9	187	55.9	13.8	15.1	71.1	278	3614	4638	4128	31.5	369	15982	5.15	18.1	85.2	58.6	12.9	0.05	0.28	0.13	25.8	968
D	I	6.87	24.1	3.94	6.1	23.9	211	73.2	14.1	14.1	71.8	287	3784	5008	6323	34.7	473	17833	6.57	19.5	90.8	61.3	13.8	0.16	0.28	0.19	25.8	1002
	II	6.61	13.7	2.01	6.8	19.8	168	67.9	15.9	14.6	69.5	302	3269	4836	5218	32.9	398	15289	6.08	19.0	69.8	55.9	13.1	0.08	0.16	0.18	23.8	785
	III	7.03	17.3	1.84	9.4	24.3	197	64.2	16.1	15.7	68.2	289	3958	4586	4968	31.8	415	13647	5.48	18.6	72.8	56.7	12.5	1.11	0.11	0.13	25.6	958
MI	I	6.70	15.3	1.41	10.9	18.1	158	60.0	15.6	15.6	68.8	363	3132	4380	4068	31.7	439	15898	5.80	15.0	50.3	57.9	12.0	0.14	0.34	0.17	24.5	1298
	II	6.87	23.1	1.51	15.3	19.5	125	62.2	16.7	13.5	69.8	336	3268	4586	4025	29.3	485	15298	5.36	16.3	75.6	58.2	11.9	0.09	0.58	0.11	23.8	1125
	III	6.69	13.8	1.32	10.5	20.1	136	35.1	17.8	15.4	66.8	298	3367	4526	4128	30.8	501	15762	5.15	17.5	62.8	60.3	11.8	0.10	0.45	0.15	30.5	1039
M	I	6.66	30.9	2.29	13.5	23.8	202	46.7	14.0	14.0	72.0	245	3339	4662	4265	34.0	516	16686	5.25	18.9	100.9	63.1	12.9	0.15	0.97	0.19	33.0	1032
	II	6.58	15.9	2.11	7.5	23.5	189	61.3	15.6	17.1	67.3	301	3648	5002	3697	33.6	368	16384	6.02	15.9	86.6	58.7	12.3	0.08	0.84	0.11	29.3	1128
	III	6.49	24.9	1.68	14.8	22.6	176	55.6	14.9	16.8	68.3	297	3674	4258	3589	31.5	401	15397	6.10	17.0	90.1	60.1	12.5	0.06	0.52	0.09	25.8	982
TT	I	7.49	15.3	2.49	6.1	18.5	38.8	176	18.2	18.2	63.6	280	4372	5093	19538	34.9	415	19182	6.21	22.0	67.0	45.3	14.7	0.05	0.20	0.14	18.7	662
	II	7.01	14.1	1.85	7.6	19.3	137	132	15.9	16.4	67.7	261	4012	5006	11258	32.5	501	15896	5.65	15.8	61.8	48.3	13.4	0.10	0.09	0.18	20.1	758
	III	6.89	12.0	1.64	7.3	22.1	99.8	121	17.3	13.4	69.3	275	3697	4893	9872	33.1	398	16487	6.01	16.3	85.3	50.4	12.8	0.05	0.14	0.06	23.6	894
T	I	7.40	9.6	2.15	4.5	16.9	67.1	177	16.3	16.3	67.4	274	3779	4377	12132	36.7	634	18012	7.99	14.4	68.1	53.5	13.6	0.10	0.20	0.19	33.9	645
	II	7.31	13.7	1.98	6.9	20.3	132	164	15.6	15.6	68.8	296	3895	4528	10281	34.1	448	16975	6.36	15.4	63.9	49.5	12.8	0.01	0.09	0.12	30.1	864
	III	7.23	14.2	1.68	8.5	19.7	111	136	16.7	13.5	69.8	284	4012	4369	10369	33.2	426	17025	5.89	16.0	71.5	48.6	13.0	0.09	1.15	0.14	28.6	702

CDA Testing site

CDA																												
		pH	TOC	N tot	C/N	CSC	P <sub>2</sub> O <sub>5</sub>	CaCO <sub>3</sub>	limo	argilla	sabbia	Na	Mg	K	Ca	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Mo	Cd	Pb	P
		(in H <sub>2</sub> O)	g/Kg	mg/g		cmol +/kg	mg/Kg	g/Kg	%			mg/kg																
CI	I	7.70	11.9	2.11	5.64	35.5	30.7	379	45.4	41.3	13.3	474	11097	9714	65753	109	888	34531	17.1	73.4	80.4	93.3	9.03	0.25	0.49	0.11	17.6	755
	II	7.71	11.4	2.22	5.14	29.3	32.0	521	43.5	39.8	16.7	451	10365	9587	84579	99.6	785	29058	12.5	63.5	78.6	89.1	8.36	0.11	0.58	0.08	12.6	684
	III	7.71	11.0	2.33	4.72	23.9	33.3	722	44.9	40.8	14.3	446	12249	9254	134581	82.0	582	26093	11.7	53.8	71.8	78.9	6.71	0.02	1.13	0.09	11.5	924
C	I	7.69	13.2	2.15	6.14	30.1	48.3	582	45.1	40.9	14.0	498	9882	9010	82796	89.6	715	28738	13.2	56.8	59.7	84.6	7.98	0.08	0.42	0.09	13.8	792
	II	7.78	11.1	1.75	6.34	25.4	43.2	631	44.3	39.7	16.0	364	10365	9563	112640	83.1	631	25681	15.2	55.1	63.8	76.3	5.24	0.09	0.34	0.05	11.4	852
	III	7.86	8.02	1.35	5.94	23.2	40.1	734	43.2	39.1	17.7	535	12439	9816	150865	84.3	631	27338	11.6	58.6	65.6	75.3	6.99	0.02	0.41	0.09	12.2	914
DI	I	7.65	19.4	1.29	15.0	27.5	239	693	39.7	35.5	24.8	478	11180	9319	138118	87.3	608	27856	12.6	56.9	74.6	74.2	7.51	0.11	0.37	0.11	13.0	1174
	II	7.70	13.2	2.21	5.97	25.1	142	711	41.6	37.1	21.3	458	11258	9256	125790	79.6	587	26394	10.9	55.0	70.6	70.4	5.21	0.12	0.41	0.10	10.9	964
	III	7.80	8.95	2.52	3.55	23.1	73.0	723	42.9	38.8	18.3	475	12371	9317	149485	83.1	592	25455	11.3	54.0	68.7	75.2	6.46	0.08	0.29	0.10	11.1	1025
D	I	7.77	11.2	1.69	6.63	26.9	91.1	573	45.3	41.1	13.6	505	11886	9147	87714	101	747	32088	15.1	61.2	68.8	86.6	8.73	0.02	0.35	0.12	16.6	990
	II	7.81	9.93	1.69	5.88	25.3	69.4	633	43.9	39.4	16.7	432	10369	8750	98736	100	623	30158	12.5	58.3	69.4	85.4	7.00	0.03	0.22	0.09	13.5	901
	III	7.87	8.61	1.25	6.89	23.4	42.0	692	44.2	40.1	15.7	459	12747	9079	151707	84.2	593	26071	11.4	58.2	63.3	77.9	6.71	0.02	0.38	0.10	11.6	934
MI	I	7.90	11.5	0.88	13.1	25.6	67.6	690	41.5	37.4	21.1	471	12103	8941	139914	87.9	652	27242	13.5	52.5	66.8	77.4	7.46	0.02	0.15	0.11	13.6	962
	II	7.85	11.6	1.24	9.35	24.9	69.3	678	39.6	35.1	25.3	458	12547	8936	112647	85.4	589	25468	13.0	56.1	65.3	79.4	6.34	0.10	0.34	0.06	12.8	964
	III	7.80	11.8	1.84	6.41	23.5	72.0	694	40.2	36.0	23.8	443	12703	8965	155036	82.4	660	26828	11.4	54.9	69.5	77.0	6.89	0.04	0.95	0.09	11.9	1090
M	I	7.87	8.92	1.02	8.75	27.0	39.1	682	41.5	37.4	21.1	456	11963	8835	151931	85.0	625	27078	12.7	61.1	72.0	78.7	7.49	0.02	0.35	0.09	13.1	933
	II	7.80	9.89	1.62	6.10	25.9	37.9	711	40.6	38.1	21.3	450	10369	8597	145970	83.6	611	26301	12.8	60.3	70.8	73.4	6.91	0.05	0.65	0.11	12.6	925
	III	7.79	11.5	1.28	8.98	25.5	36.8	739	39.6	35.5	24.9	449	11597	8460	154523	81.0	604	25972	11.6	53.4	72.3	76.4	7.02	0.02	0.71	0.12	14.9	908
TT	I	7.93	7.79	1.24	6.28	22.8	43.1	683	42.6	38.4	19.0	571	12643	9023	145158	86.2	595	27305	11.2	59.7	91.9	70.9	7.70	0.00	0.46	0.10	18.3	1033
	II	7.91	8.56	1.68	5.10	18.1	39.1	659	40.2	37.9	21.9	536	11257	9034	136917	101	602	24591	10.9	52.0	87.1	80.4	7.01	0.04	0.34	0.03	15.4	905
	III	7.95	9.27	1.05	8.83	13.9	32.6	703	40.1	36.0	23.9	434	11604	8231	156567	84.9	594	25836	12.1	49.2	74.6	75.7	6.82	0.02	0.90	0.09	11.9	942
T	I	7.95	6.71	1.11	6.05	32.3	32.9	388	41.5	37.4	21.1	556	10933	9249	70173	102	977	33152	18.4	61.7	60.4	79.8	9.49	0.16	0.05	0.11	21.3	802
	II	7.89	9.42	1.27	7.42	28.2	42.1	498	40.6	36.4	23.0	567	11230	8972	97820	98.4	625	30891	12.9	58.1	58.6	78.1	6.98	0.03	0.14	0.08	20.3	910
	III	7.78	10.3	1.44	7.15	25.6	52.1	723	39.7	35.5	24.8	593	11127	8501	159345	84.2	582	26083	11.0	56.0	69.7	67.3	7.21	0.03	0.33	0.10	11.6	919

CSV Testing site

CSV																												
		pH	TOC	N tot	C/N	CSC	P <sub>2</sub> O <sub>5</sub>	CaCO <sub>3</sub>	limo	argilla	sabbia	Na	Mg	K	Ca	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Mo	Cd	Pb	P
		(in H <sub>2</sub> O)	g/Kg	mg/g		cmol +/kg	mg/Kg	g/Kg	%			mg/kg																
CI	I	7.53	36.9	2.49	14.8	33.4	187	61.8	13.2	9.0	77.8	311	21382	10874	11252	207	993	38468	25.4	146	136	129	7.40	0.07	0.05	0.10	27.9	1518
	II	7.62	35.6	2.20	16.2	24.7	99.7	62.9	15.9	11.6	72.5	289	21368	9857	9986	198	923	38420	23.5	139	111	123	8.65	0.07	0.05	0.07	25.8	1368
	III	7.56	33.4	1.99	16.8	31.6	89.4	70.6	16.7	16.4	66.9	306	20361	10250	10258	201	945	37849	20.1	138	121	119	8.29	0.03	0.01	0.11	23.6	1458
C	I	7.57	28.4	1.61	17.6	28.2	84.3	77.6	14.7	10.5	74.8	271	21594	9593	9259	200	912	39495	26.0	145	113	121	9.45	0.12	0.05	0.09	26.5	1222
	II	7.49	29.1	2.23	13.0	23.2	68.4	61.9	15.9	13.4	70.7	298	20369	9968	9364	185	869	38952	23.8	140	129	115	10.3	0.11	0.05	0.08	22.9	1156
	III	7.61	27.6	1.78	15.5	26.4	78.1	58.9	16.7	13.4	69.9	302	21458	9861	9856	230	697	38124	24.6	136	99.1	103	9.87	0.08	0.06	0.08	24.1	1985
DI	I	7.34	27.8	1.65	16.8	26.4	151	67.3	13.7	9.5	76.8	266	20555	10205	7835	220	842	38828	21.9	136	121	113	10.1	0.07	0.07	0.09	25.2	1257
	II	7.26	29.8	2.01	14.8	24.6	131	61.9	12.9	14.3	72.8	259	20156	10364	8567	189	965	36971	22.0	137	118	110	9.64	0.07	0.03	0.05	23.8	1367
	III	7.56	31.0	1.98	15.7	26.7	89.7	76.8	11.6	14.9	73.5	236	19891	10258	6988	197	854	37541	24.1	140	136	101	8.48	0.07	0.01	0.05	24.8	998
D e	I	7.45	17.2	1.10	15.6	26.7	60.1	48.3	14.1	10.0	75.9	250	20920	8956	6979	222	736	36903	20.5	145	91.0	96.3	7.64	0.02	0.02	0.04	21.7	988
	II	7.39	19.8	1.87	10.6	25.9	98.1	58.1	15.9	11.6	72.5	301	21364	9648	10060	230	931	32651	20.9	130	118	99.5	8.62	0.01	0.10	0.03	20.8	1058
	III	7.64	22.6	1.86	12.2	30.1	101	61.3	13.5	17.6	68.9	269	20036	9964	7854	185	910	36980	19.9	129	124	112	7.59	0.00	0.09	0.00	21.8	1125
M I	I	7.26	23.7	1.84	12.9	28.1	82.9	49.3	15.2	11.0	73.8	255	19952	11758	6613	189	713	34750	22.3	138	120	103	6.87	0.02	0.14	0.05	23.0	1013
	II	7.31	26.4	1.97	13.4	26.7	98.1	57.6	14.6	15.9	69.5	254	19680	10247	6985	193	825	33640	23.4	131	125	106	8.15	0.01	0.01	0.01	22.6	968
	III	7.56	22.1	2.01	11.0	29.0	78.1	61.9	13.7	14.3	72.0	201	19758	11000	8125	201	861	35971	21.6	140	119	105	9.01	0.06	0.14	0.05	21.5	1102
M	I	7.34	23.9	1.73	13.8	26.4	95.1	61.3	14.1	10.0	75.9	254	20781	10287	7035	190	741	35974	20.8	126	121	103	7.04	0.02	0.16	0.05	23.6	1009
	II	7.21	23.7	1.75	13.5	25.7	89.1	77.1	16.9	14.6	68.5	236	20364	9684	9314	219	795	36871	23.4	126	111	114	7.61	0.10	0.03	0.04	23.0	936
	III	7.19	22.9	1.67	13.7	31.6	86.3	68.6	17.9	11.3	70.8	248	20364	9831	10256	196	769	36215	22.8	131	136	99.8	7.56	0.05	0.05	0.05	21.8	978
T T	I	7.38	19.8	1.52	13.0	28.8	59.4	67.2	18.5	14.3	67.2	278	18571	13271	12760	194	1019	37116	24.0	132	117	103	7.01	0.03	0.10	0.09	23.0	985
	II	7.41	23.4	2.01	11.6	25.9	60.9	57.9	18.9	13.7	67.4	303	19862	10364	9686	195	1002	38492	23.0	128	125	110	7.06	0.06	0.01	0.11	25.6	1125
	III	7.38	31.0	1.87	16.6	27.1	87.9	67.1	15.9	14.3	69.8	268	18699	11581	9348	203	861	40215	24.7	129	124	104	8.15	0.06	0.12	0.09	24.3	1036
T	I	7.42	24.7	1.81	13.6	28.0	62.0	85.5	16.4	12.2	71.4	272	19792	10571	17686	209	926	41940	22.2	135	151	118	7.52	0.05	0.05	0.10	29.0	1112
	II	7.40	25.6	2.02	12.7	26.4	56.7	76.9	15.4	13.2	71.4	301	20158	9867	12036	193	789	39725	20.1	130	136	114	7.69	0.08	0.03	0.04	22.1	1038
	III	7.35	19.9	1.67	11.9	30.2	46.8	83.1	16.9	14.2	68.9	263	21036	10364	9681	201	894	36870	19.9	145	112	103	9.01	0.11	0.03	0.00	26.4	967