

CNR activity April-September 2020

C. Monitoring of the impact of the project actions

C.2 Monitoring and validation of the use of remediated sediments as a substrate for plant nursing and cultivation: non food crops production

C.3 Monitoring and validation of the use of remediated sediments as a substrate for nursing and cultivation: food crops production

CNR involvement: Physical, chemical and biochemical properties of the growing media



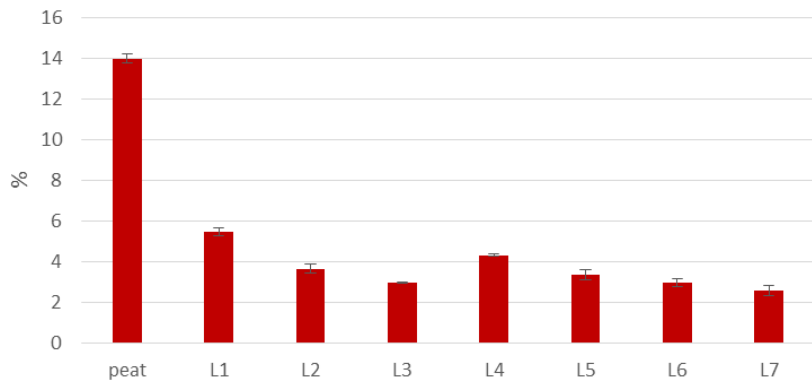
Until now:

- pH, Electrical conductivity, NO₃, NH₄ = all samples
- humidity and volatile solids: Laurel, Protea, Calla
- bulk density= only in Laurel

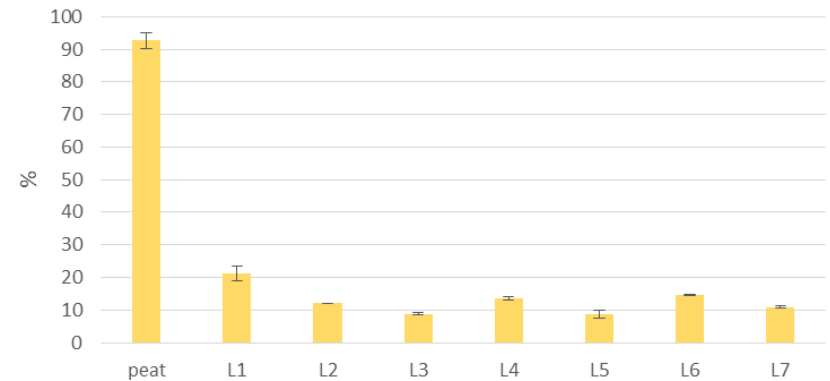
LAUREL

L1	60% peat	40% pumice	
L2	45% peat	30% pumice	25% sediment
L3	30% peat	20% pumice	50% sediment
L4	45% coconut	30% pumice	25% sediment
L5	30% coconut	20% pumice	50% sediment
L6	45% fibril	30% pumice	25% sediment
L7	30% fibril	20% pumice	50% sediment

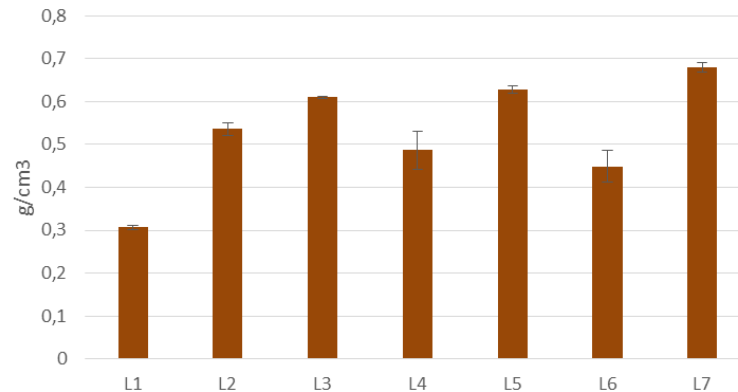
Humidity



Volatile Solid

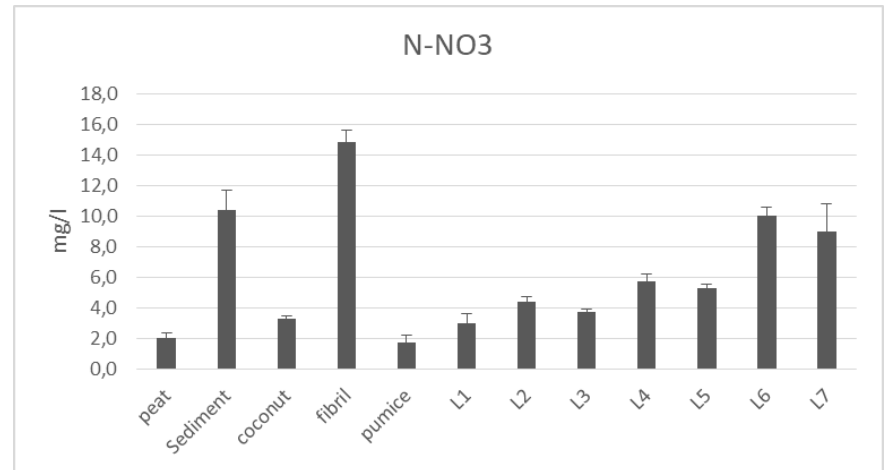
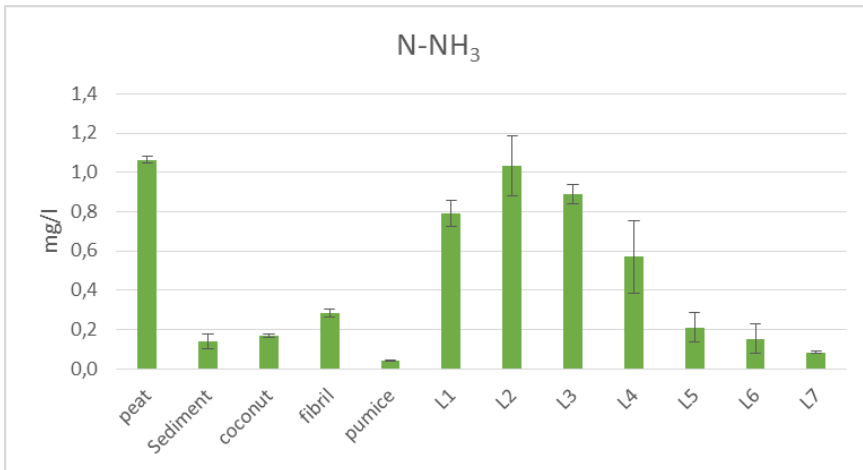
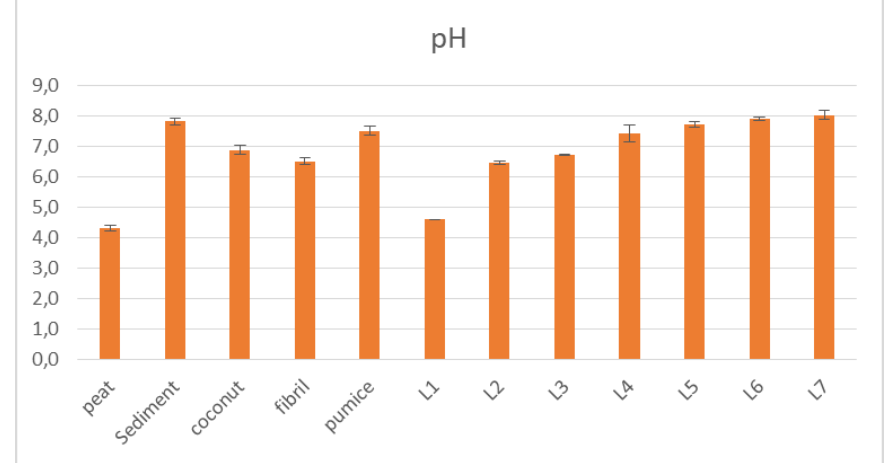
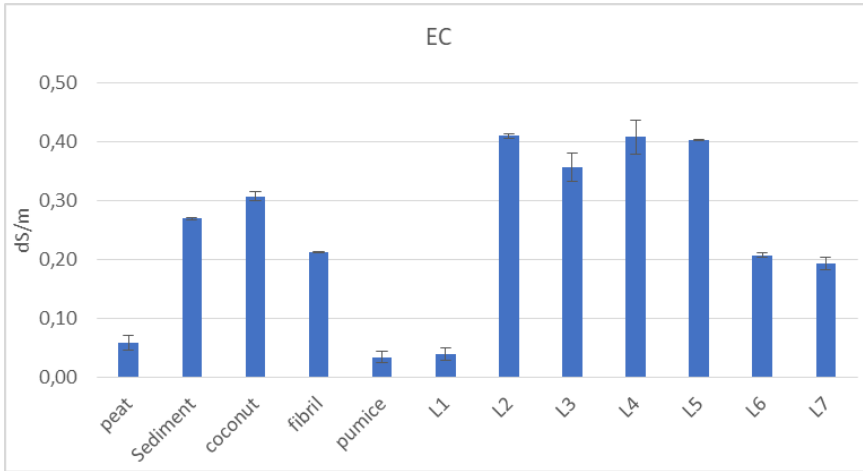


Bulk density



LAUREL

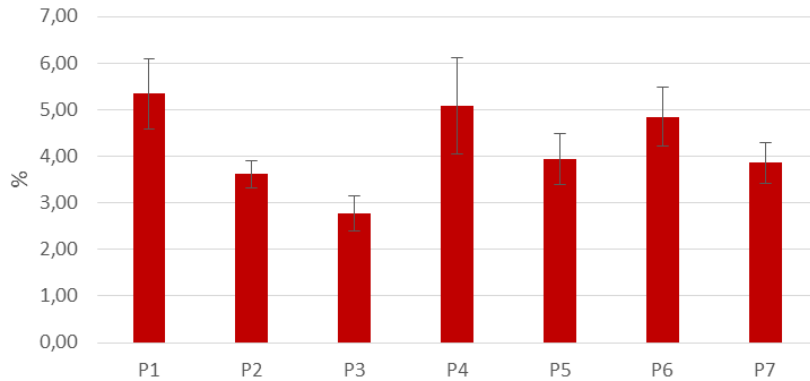
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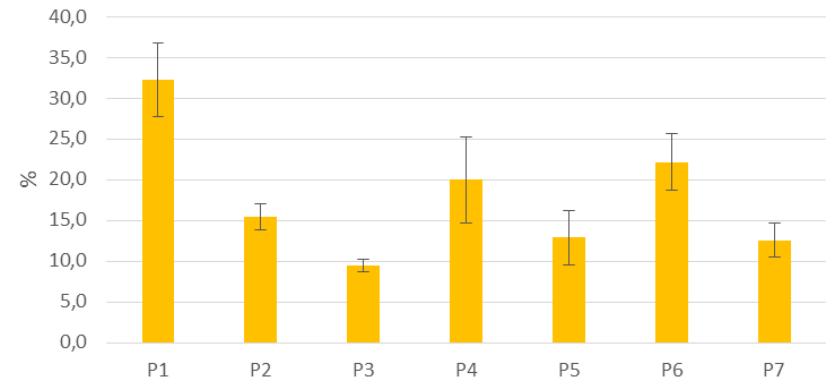
PROTEA

P1	test (8.5% agropelite, 12.4 pumice, 79%peat)	
P2	25% sediment	75%test
P3	50%sediment	50%test
P4	25%sediment	75%pumice/coconut (60%fiber+40%pith)
P5	50%sediment	50%pumice/coconut (60%fiber+40%pith)
P6	25%sediment	75%pumice/coconut (30%fiber+70%pith)
P7	50%sediment	50%pumice/coconut (30%fiber+70%pith)

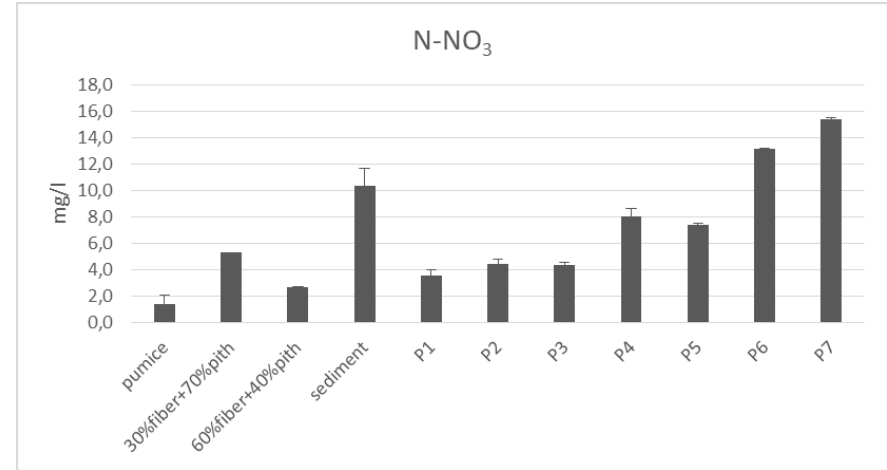
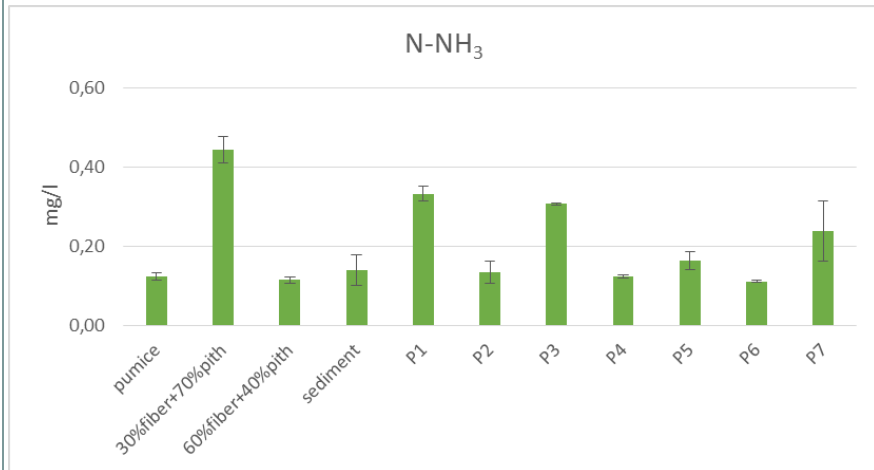
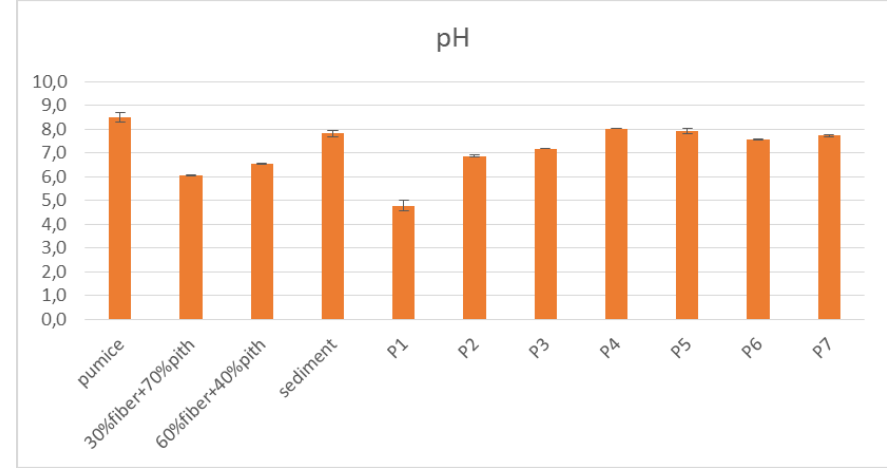
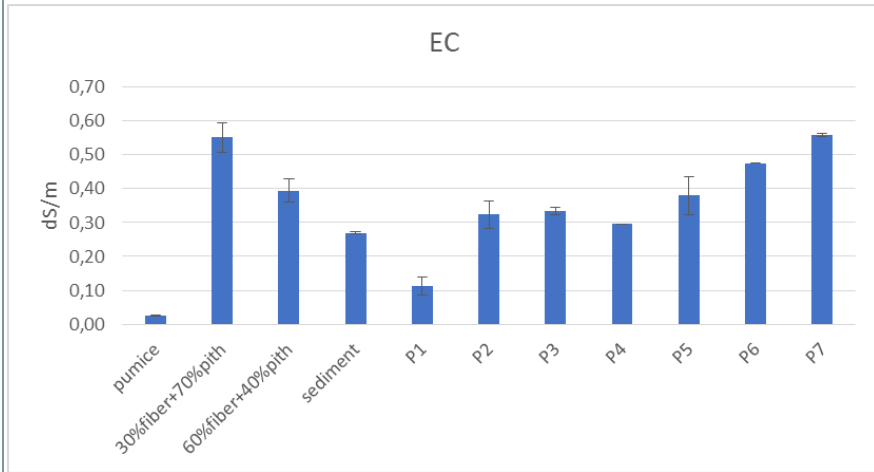
Humidity



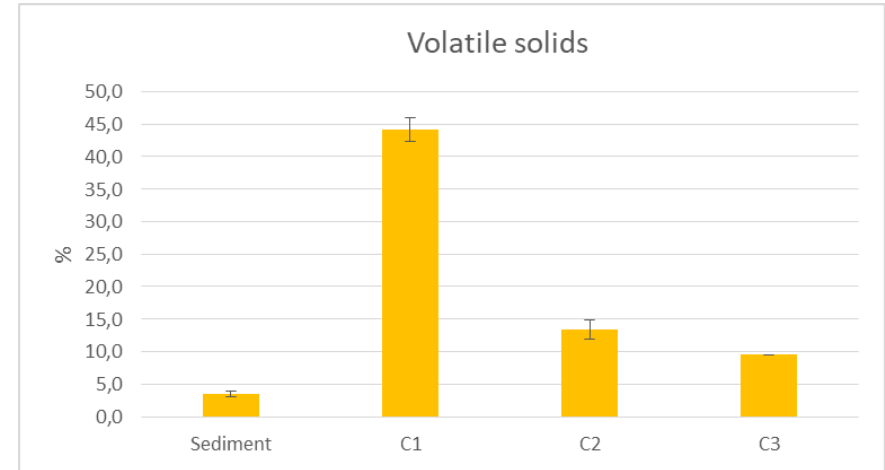
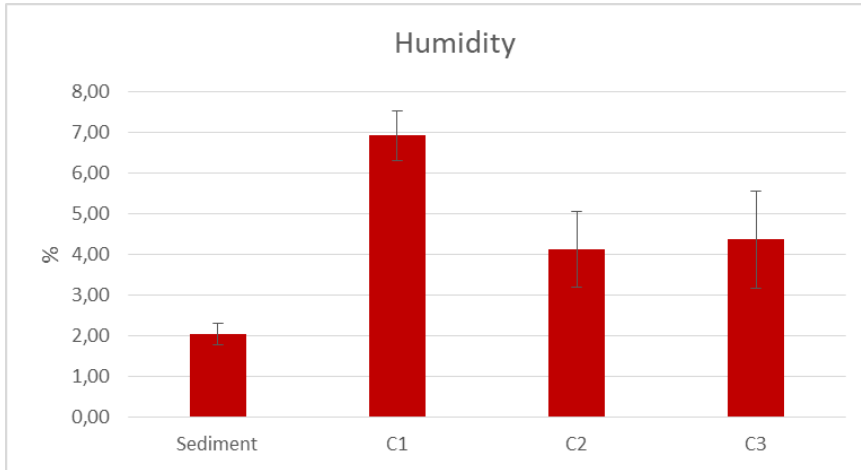
Volatile solids



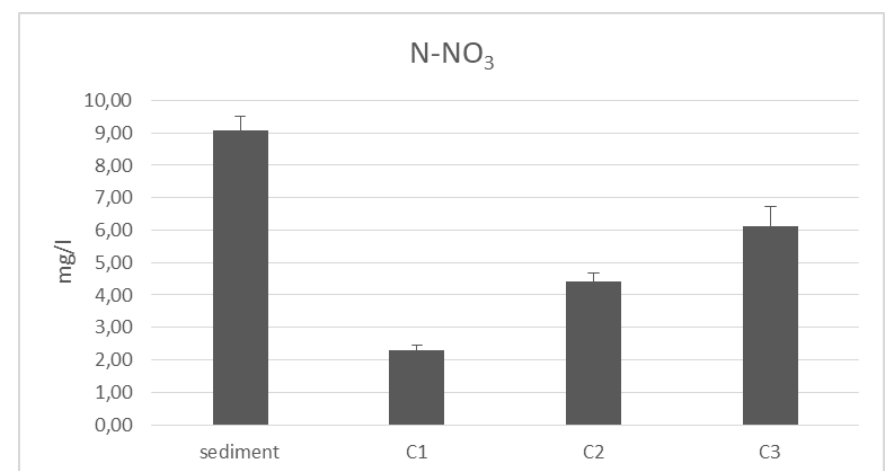
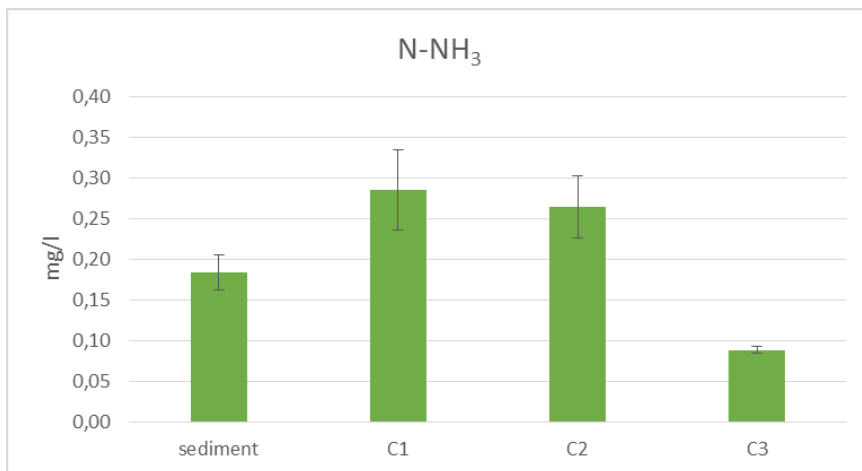
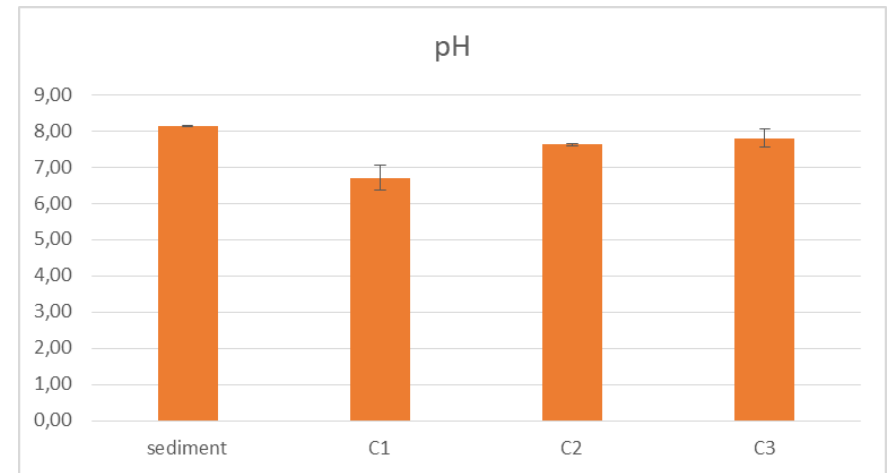
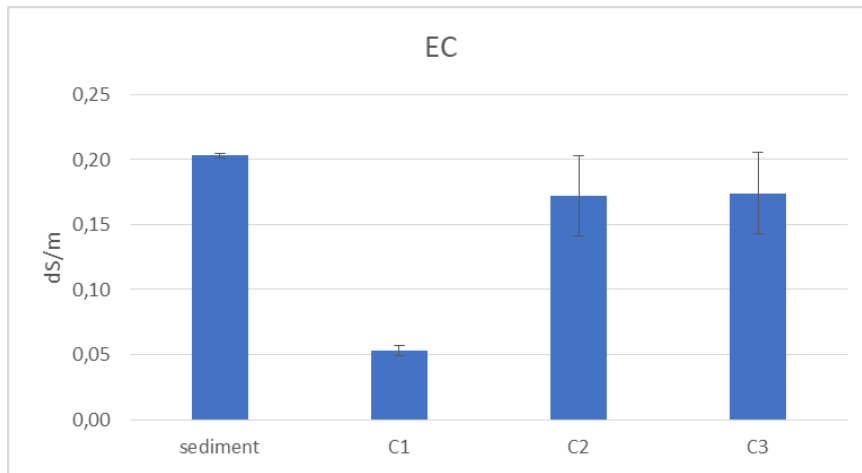
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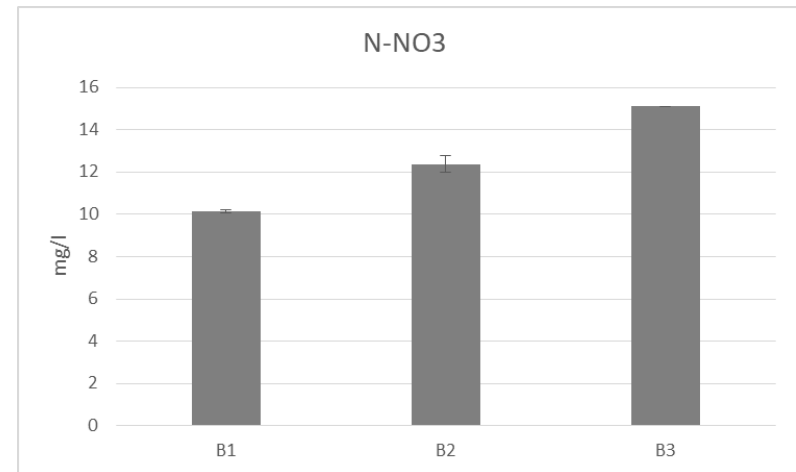
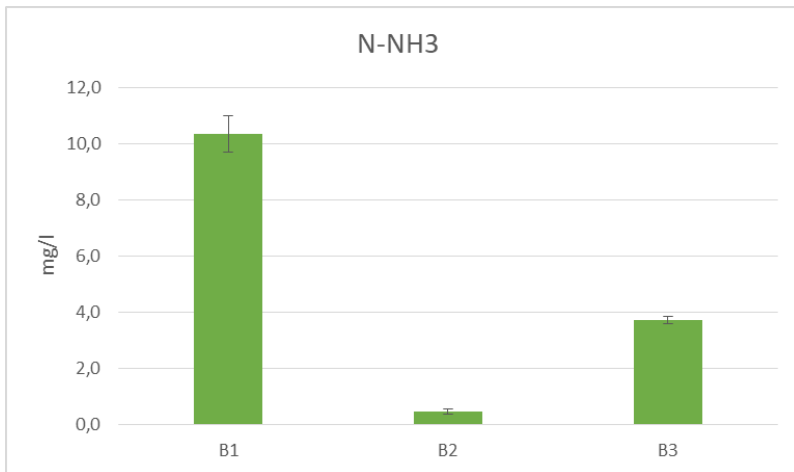
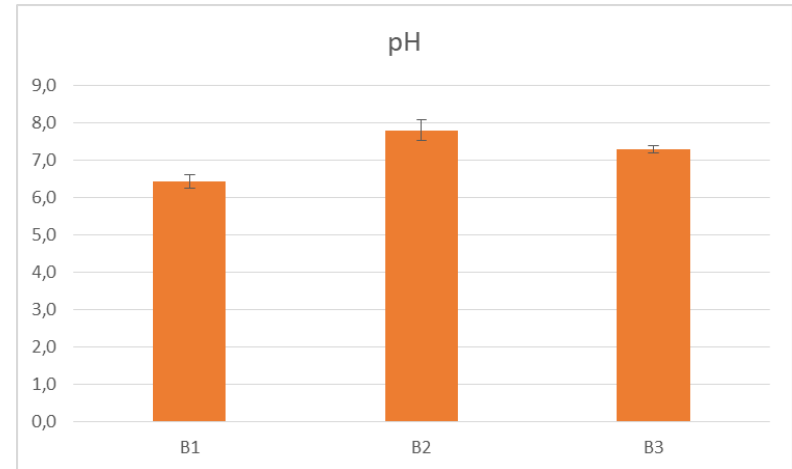
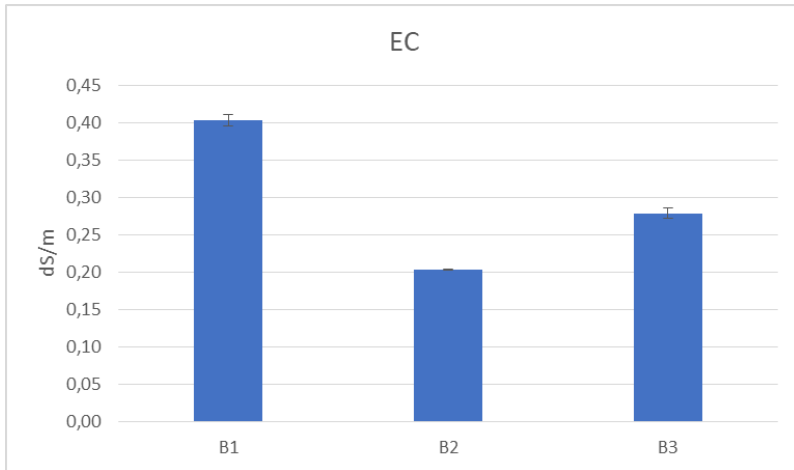
CALLA	
C1	100% peat
C2	75% peat+ 25% sediment
C3	50% peat+ 50% sediment



CALLA	
C1	100% peat
C2	75% peat+ 25% sediment
C3	50% peat+ 50% sediment



BASIL	
B1	100% peat
B2	100% sediment
B3	50% peat 50% sediment



Physical and chemical characteristics of an agronomic substrate (D.lgs 75/2010)

Parameter	D. lgs. 75/2010
Bulk density (g/cm ³)	<0,95
pH	4,5-8,5
Electrical conductivity (dS/m)	<1
TOC %	>4
TN %	<2,5
P ₂ O ₅ %	<1,5
Cd (mg/kg)	1,5
Cu (mg/kg)	230
Hg (mg/kg)	1,5
Ni(mg/kg)	100
Pb(mg/kg)	100
Zn (mg/kg)	500

The started substrate in line with Italian legislation

Question?
Which are the conventional substrates for these plants?

Future activities:

- Finish analyses on received samples:
 - Protea, Basil, Calla: bulk density
 - all samples: enzyme activity, TOC and TN
 - started materials: all analyses
- Receive and analyze first sampling
- Receive and analyze Spanish samples



**Thanks for your attention and GOOD
WORK**