Valorization of Agricultural Residues or Wastes into Biochar for a Circular Economy

Presenters name(s):

Affiliation : INP-HB

B4A Final Conference/BLP 2025,

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BLP 2025
BIOENERGY FOR LOCAL PRODUCTION

www.Bio4Africa.eu

This project has recieved funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101000762

PRODUCTION OF BIOCHAR

WATER FILTRATION

SOIL AMENDMENT

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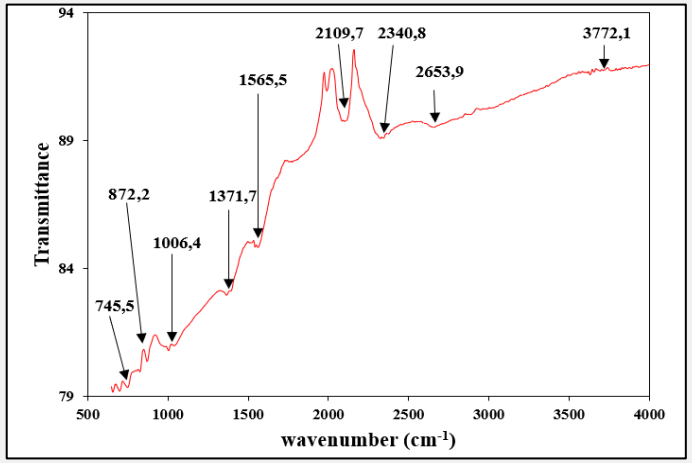
Raw materials



FTIR analysis

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Chemical analysis

Elements	Values (%)
C	76,65
O	18,65
P	0,26
K	1,91
Ca	0,30
Mg	0,13
Si	0,10

Bresilen kiln

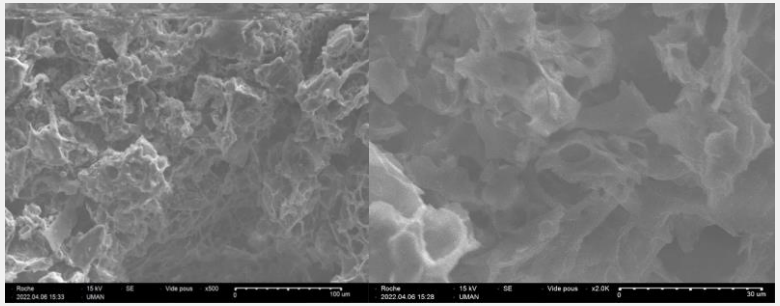
Biochar

BET analysis

Specifique Surface (m^2/g)	total Volume of pores (cm^3/g)	Mean dameter of pores(nm)
341,11	0,80	1,44

Traditionnel kiln

SEM analysis



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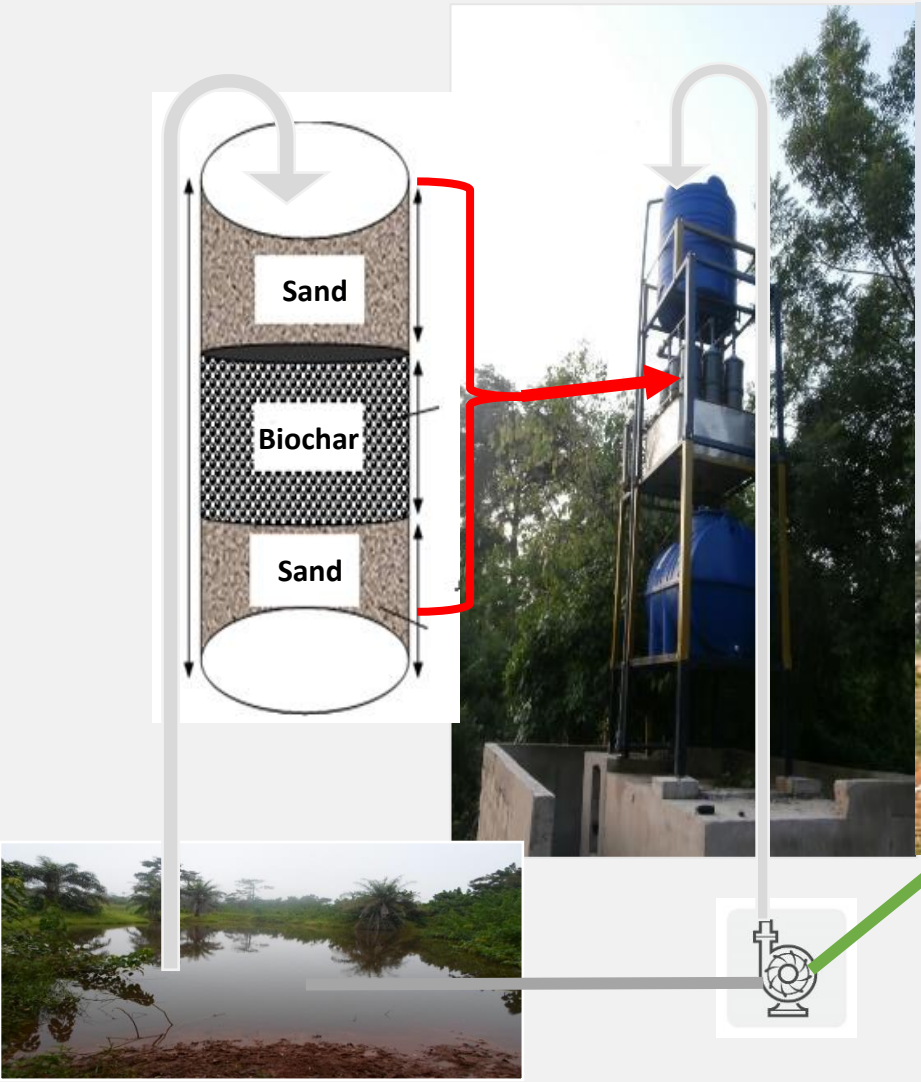
Water filtration

Rural area device in installed in the village of Dougba. Filtration tests will begin soon

Filtration tests on the INP-HB experimental site have been completed



River

	Before Trait.	After Trait.	Before Trait.	After Trait.	Normes OMS	
pH	6,69	**6,4**	6,63	6,3	**6,5-8,5**	-
DCO	610,1	**10**	518,4	13	**30**	mg/L
AMMONIAQUE	0,49	**0,19**	0,21	0,16	**1,5**	mg/L
SULFATE	33,6	**20,76**	36,54	25,85	**250**	mg/L
CHLORURE	60,35	**21,3**	49,7	24,85	**200**	mg/L
MES	56	**0**	62	0	**25**	mg/L
NITRATE	69,35	**3,11**	57,54	3,6	**50**	mg/L

Treated water

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Sol témoin	Sol témoin	Sol témoin
Sol+10% de biochar	Sol+10% de biochar	Sol+10% de biochar
Sol+5% de biochar	Sol+5% de biochar	Sol+5% de biochar
Sol+2% de biochar	Sol+2% de biochar	Sol +2% de biochar
Bloc 1	Bloc 2	Bloc 3

Biochar soil amendment trials

Biochar

Biochar soil amendment trials in the farm

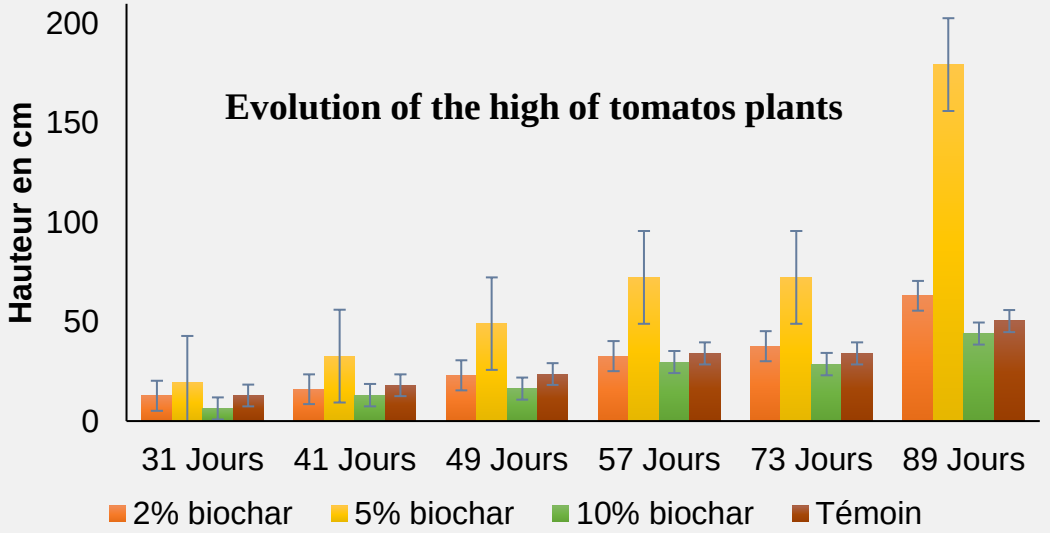

Tableau XII: Rendement moyen de tomate en grammes(g)

	0% biochar	2% biochar	5% biochar	10% biochar
Sol-K	700±0,2	2836,7±0,7	1856,7±0,2	316,7±0,6
Sol-D	733,3±0,5	1866,7±1,3	1600±1;0	168,3±0,6
Sol-Y	220,3±0,7	840±0,3	658,3±1,2	136,7±0,5

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SOIL AMENDMENT

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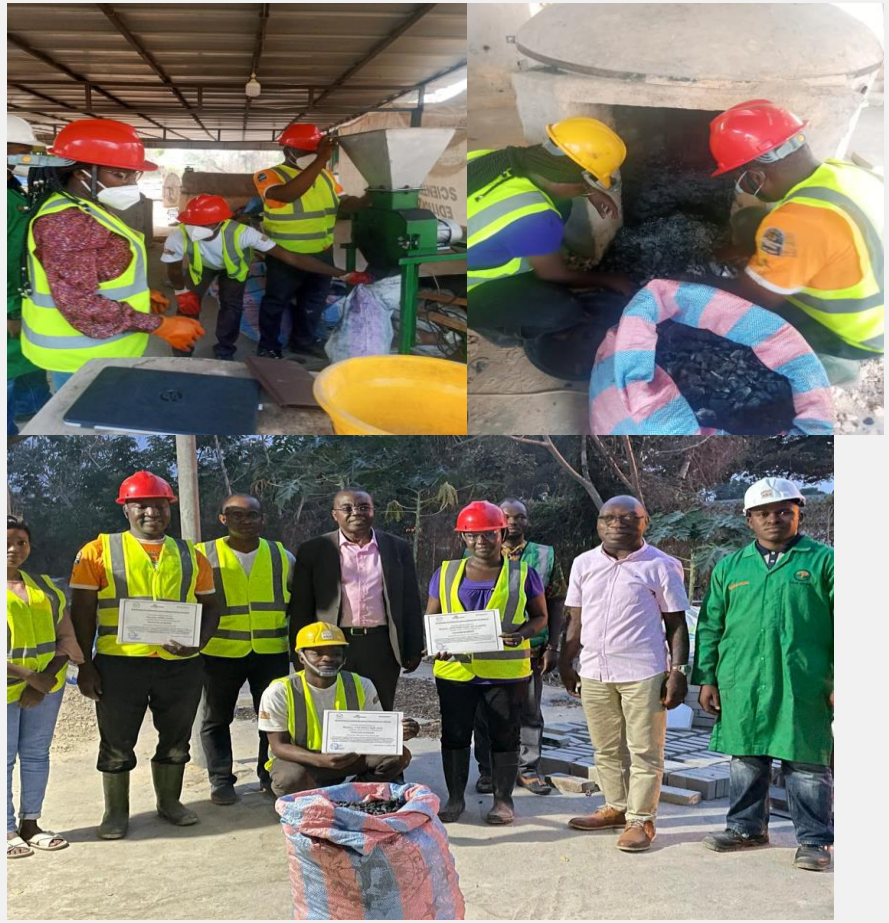
Valorization of cassava peelings into biochar: Physical and chemical characterizations of biochar prepared for agricultural purposes

Ibrahim Grema Maman Hamissou[a,b,*], Kouassi Esaie Kouadio Appiah[a], Konan Affoué Tindo Sylvie[c], Sanda Mamane Ousmaila[d], Brou Yao Casimir[b], Yao kouassi Benjamin[a]



One pyrolysis kiln construction and Field soil amendment trials : to be implemented in cooperative Kapatchiva zone. Contract signed (*see photos*)

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Characterization of cassava peelings as a precursor for biochar preparation

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Water filtration

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