

Elite Soils

Benefits of Biochar

- A carbon soil amendment
- Less than 10% ash
- Enhances plant growth
- Reduces water consumption
- Prevents leaching of moisture and nutrients into ground water
- Scientists found that soil improved by biochar is more efficient in retaining critical nutrients
- Nutrients present in the soil are more available to plants, making good soil even better
- Biochar reduces salts and adds carbon to help save water and grow crops more efficiently

Biochar Application

- Apply through lagoon water
- Apply with spreaders, or by airplane
- Apply singular or mix with compost or with your fertilizer package
- For best results biochar can be ripped, disked or plowed into the soil
- Perform soil test prior to planting and during the growing season to determine fertilizer requirements
- Always consult your agronomist for fertilizer needs
- Biochar is a soil amendment, not a fertilizer



ELITE ENVIRONMENTAL PRODUCTS LLC

EMAIL: eliteenvironmentalproducts@gmail.com

Elite Lagoon

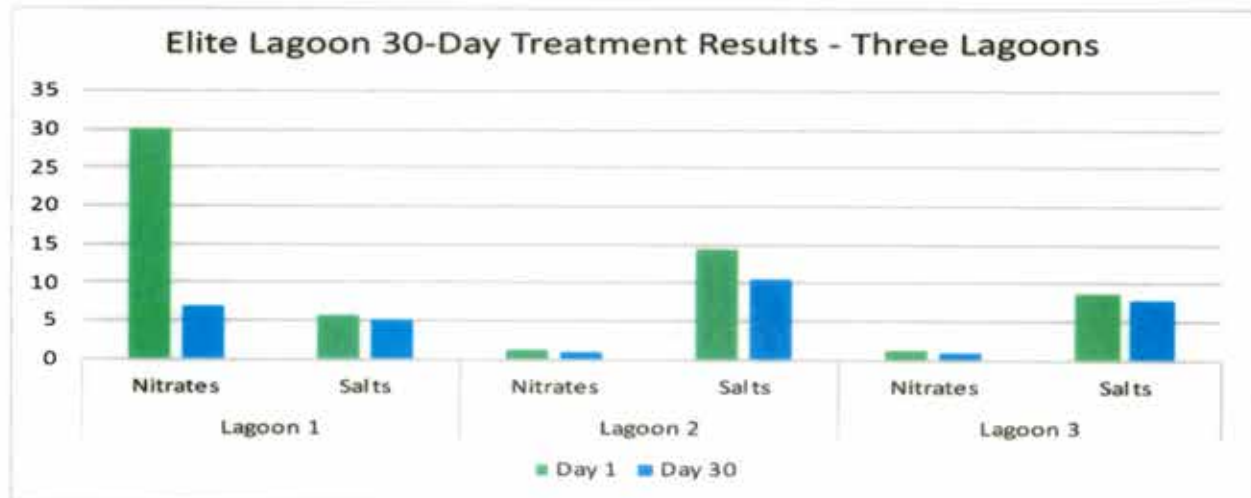
- ↓ Reduces odor
- ↓ Reduces trucking of sludge
- ↓ Reduces irrigation water usage
- ↓ Reduces nitrates up to 40% in lagoons
- ↓ Reduces salts up to 25% in lagoons
- ↑ Increases crop yields



DAY #1



DAY #15

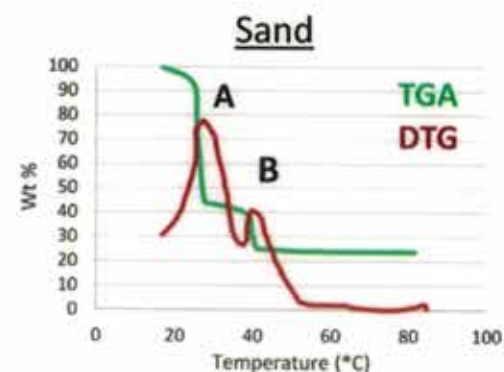
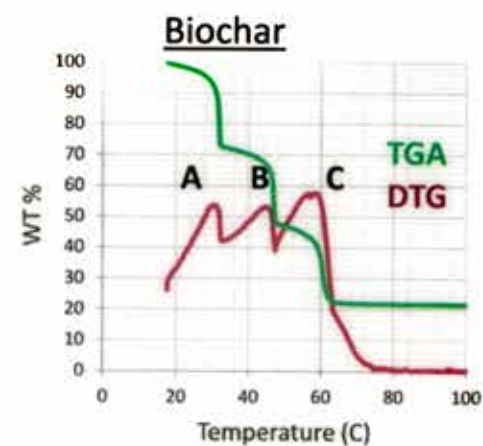
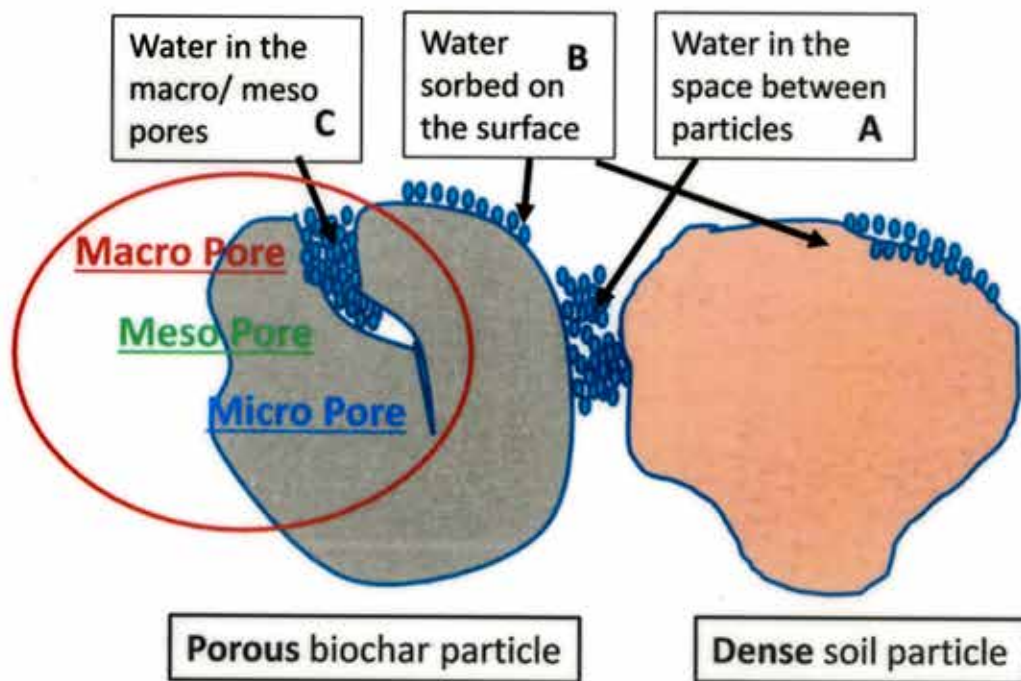


	Lagoon 1		Lagoon 2		Lagoon 3	
	Nitrates (ppm)	Salts (ppm)	Nitrates	Salts	Nitrates	Salts
Day 1	30	5.88	1.27	14.41	1.32	8.8
Day 30	7	5.26	0.92	10.72	0.92	8

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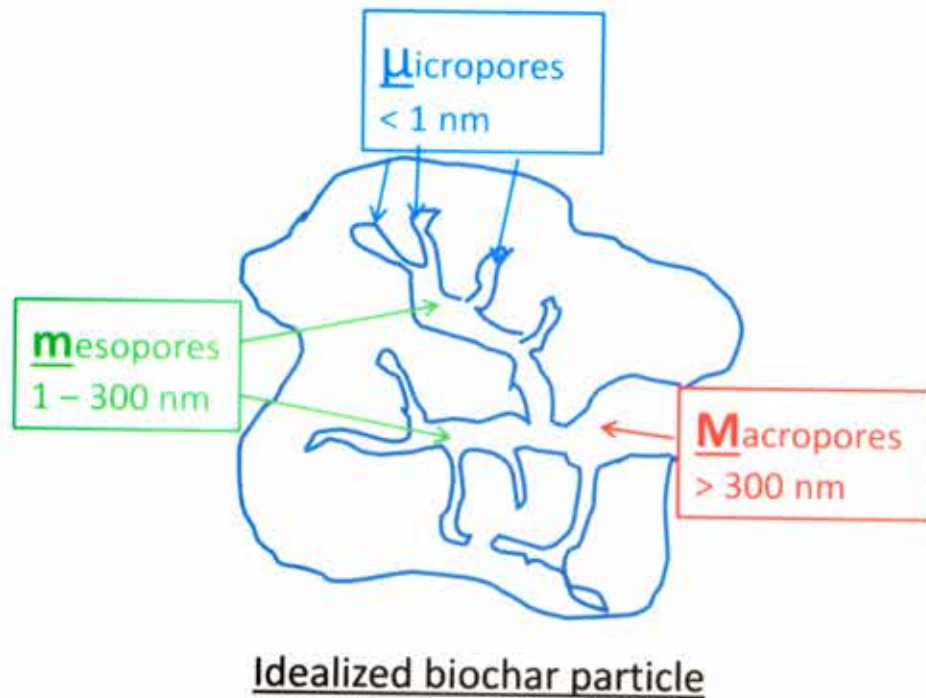
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Water retention by soils and biochars



There is additional water located in the biochar pores, none in soil particles

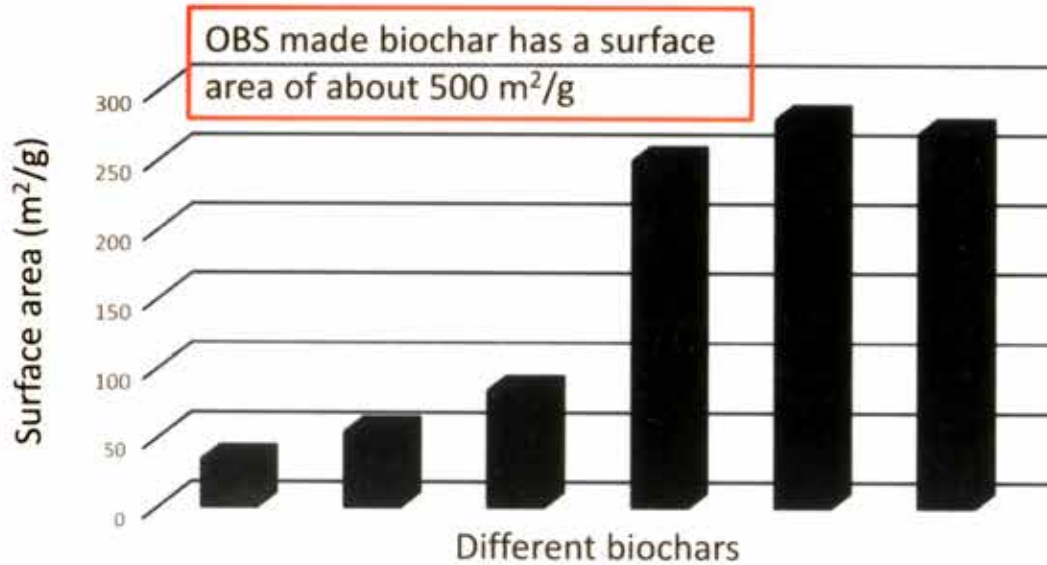
Relations between biochars porosity and incorporated species



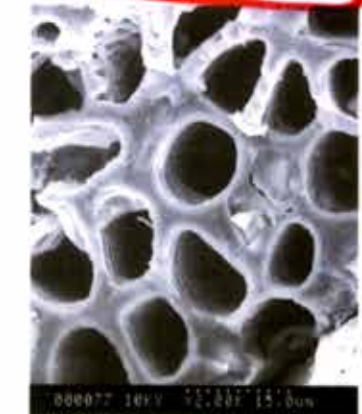
Incorporated species	μicro	Meso	Macro
Air (CO_2 , O_2 , N_2), CH_4	yes	yes	yes
Water, solutions, organic nutrients		yes	yes
Microorganisms			yes

The **pores size** determines **what** could be incorporated into specific pores while the **pores volumes** determine **how much**

Examples of biochars with different surface area and porosity



OURS



One would expect different performance based on these different basic properties

Elite products will increase the fertilizer value of your compost

Elite products will help increase your soil moisture retention

Manure/Compost Testing **Untreated**

	100% DRY	AS SPREAD	
		LBS/100 LBS	LBS/TON/ACR
pH	8.8		
EC - mmhos (SS)	4.03		
Dry Matter - Percent	74		
Moisture - Percent	26.0		
Carbon - Percent	9.7		
Nitrogen - Percent	1.06	0.78	15.60
Phosphate (P2O5) %	1.22	0.90	18.00
Potash (K2O) %	3.16	2.34	46.80
Calcium - Percent	1.96	1.45	29.00
Magnesium - Percent	1.08	0.80	16.00
Sodium - Percent	0.19	0.14	2.80
Sulfur - percent	0.55	0.41	8.20
Zinc - ppm	193	0.01	0.20
Copper - ppm	22	0.00	0.00
Manganese - ppm	386	0.03	0.60
Iron - ppm	10599	0.78	15.60
Boron - ppm	25	0.00	0.00
Nitrate - ppm	122		
Ammonium - ppm	3		
Carbon to Nitrogen Ratio	Ideal 15:1	19:1	
Compost Maturity	Years	MATURE	

John P. Taberna, Soil Scientist

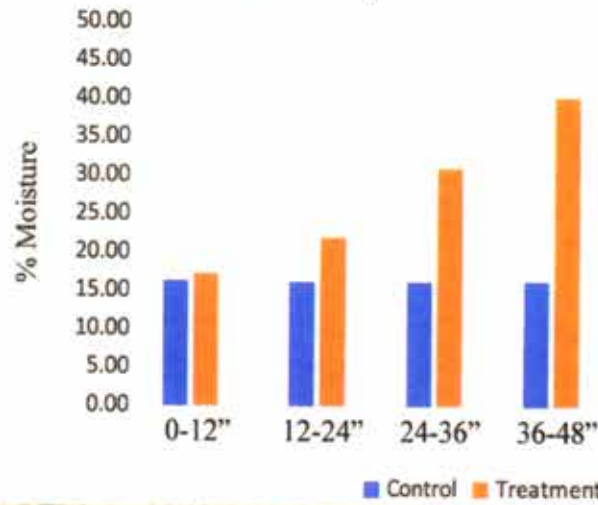
Manure/Compost Testing **Treated**

	100% DRY	AS SPREAD	
		LBS/100 LBS	LBS/TON/ACR
pH	8.9		
EC - mmhos (SS)	5.79		
Dry Matter - Percent	62.08		
Moisture - Percent	37.92		
Carbon - Percent	15.9		
Nitrogen - Percent	2.14	1.33	26.60
Phosphate (P2O5) %	2.02	1.26	25.20
Potash (K2O) %	4.46	2.77	55.40
Calcium - Percent	2.72	1.69	33.80
Magnesium - Percent	1.20	0.81	14.80
Sodium - Percent	0.33	0.20	4.00
Sulfur - percent	0.86	0.53	10.60
Zinc - ppm	361	0.02	0.40
Copper - ppm	34	0.00	0.00
Manganese - ppm	372	0.02	0.40
Iron - ppm	6438	0.40	8.00
Boron - ppm	41	0.00	0.00
Nitrate - ppm	170		
Ammonium - ppm	3		
Carbon to Nitrogen Ratio	Ideal 15:1	13:1	
Compost Maturity	Years	MATURE	

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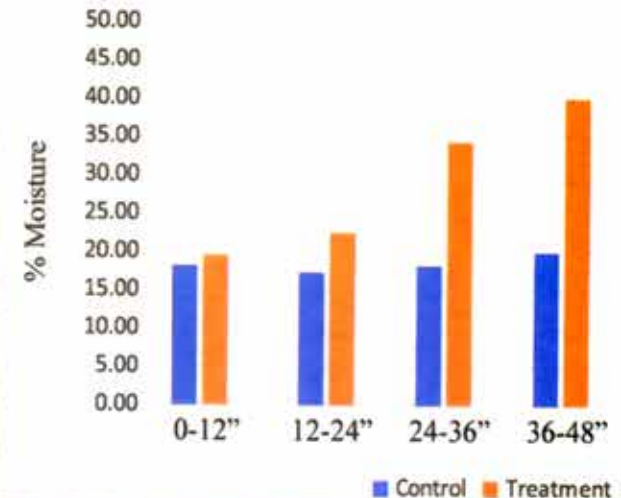
University of Idaho Soil Moisture Test Results

U of I soil moisture test April 4 2022



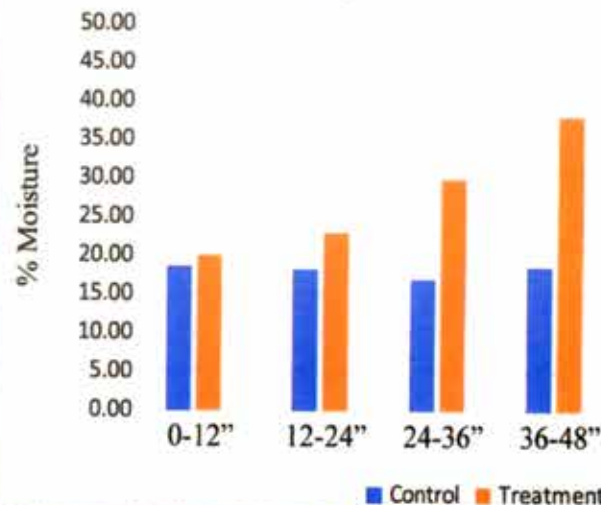
Control 16.23% Treated 26.02%

U of I soil moisture test April 28th



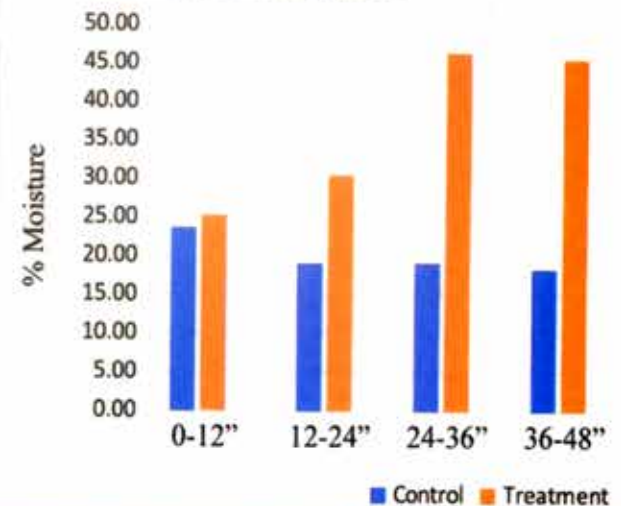
Control 18.37% Treated 29.04%

U of I moisture test May 27th



Control 17.8% Treated 27.1%

U of I moisture test Nov. 22



Control 20.0% Treated 30.86%

Manure Analysis Report



Account No. 4882
 Elite Enviromental Products LLC
 PO Box 163
 Twin Falls, ID 83303

Report for:



LAB #: M-17391

Date 4/5/2021
 Sample #1 - 3-25-21 [Liquid Dairy]
 Moisture 97.98% Dry Matter 2.02%

All Values Reported in Pounds Per 1000 Gallon on an As Is Basis

	Total Nutrients	Estimated Available Nutrient Credits for Manure		
		In 1st Year of Application	If Applied 2 Consecutive Years	If Applied 3 Consecutive Years
Total Nitrogen (Incorporated after 72 hours or not incorporated)	5.35	1.61	2.14	2.41
Total Nitrogen (Incorporated in 1 to 72 hours)	5.35	2.14	2.68	2.94
Total Nitrogen (Incorporated within 1 hour or injected)	5.35	2.68	3.21	3.48
Total Phosphorus as P2O5	4.49	3.59	3.59	3.59
Total Potassium as K2O	10.71	8.57	8.57	8.57
Sulfur	1.14	0.63	0.74	0.80

pH: 7.19
 Electrical Conductivity: 9.54 mmohs

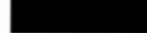


Manure Analysis Report



Account No. 4882
 Elite Enviromental Products LLC
 PO Box 163
 Twin Falls, ID 83303

Report for:



LAB #: M-17911

Date 7/30/2021
 Sample 6-5-21 [Liquid Other]
 Moisture 98.91% Dry Matter 1.09%

All Values Reported in Pounds Per 1000 Gallon on an As Is Basis

	Estimated Available Nutrient Credits for Manure			
	Total Nutrients	In 1st Year of Application	If Applied 2 Consecutive Years	If Applied 3 Consecutive Years
Total Nitrogen (Incorporated after 72 hours or not incorporated)	9.74	2.44	3.41	3.90
Total Nitrogen (Incorporated in 1 to 72 hours)	9.74	2.92	3.90	4.38
Total Nitrogen (Incorporated within 1 hour or injected)	9.74	3.41	4.38	4.87
Total Phosphorus as P2O5	1.52	1.21	1.21	1.21
Total Potassium as K2O	14.69	11.75	11.75	11.75
Sulfur	0.46	0.25	0.30	0.32

EC = 14.2 mmohs/cm

Nitrate 1.73 ppm on an as-is basis.

pH 8.42

Ammonia Pounds Per 1000 Gallon = 7.18

Ammonia % of Total N = 73.72

Since the species is not known, the availability estimates are an estimate based on using the values from solid dairy and beef manure and should be monitored by subsequent soil testing.

Organic N: 0.03%

