

Tipiese Foute wat Gemaak word met Interpretasie van Grondontledings

Pieter Raath

📞 086 137 0290

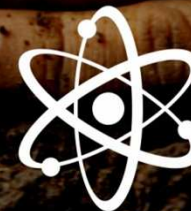
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Tipiese Foute wat Gemaak word met Interpretasie van Grondontledings

1. Hoekom is dit 'n belangrike saak?
2. Ses voorbeelde van foute gemaak
3. Hoekom die regte keuse van 'n ontledingsprofiel belangrik is
4. Kort bespreking

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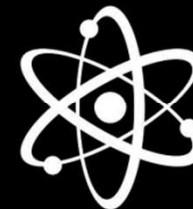
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Sample Name	Depth (cm)	Soil Text.	pH (KCl)	Resist. (ohm)	H (cmol/kg)	Stone (v/v) %	P (mg/kg)	K (mg/kg)	Exchangeable cations (cmol/kg)				Cu	Zn	Mn	B	Fe	S (mg/kg)	C (%)
									Na	K	Ca	Mg							
1	30	Sa	5.75	1020	0.240	15	29.1	51	0.16	0.13	4.1	0.5	0.8	1.4	1.3	0.25	86	31	0.55
2	60	Sa	5.37	1134	0.320	30	22.3	36	0.21	0.09	3.4	0.7	0.6	0.7	0.5	0.19	79	21	0.30
3	90	Sa	4.71	1372	0.460	40	5.2	37	0.17	0.09	1.7	0.4	0.5	0.5	0.4	0.16	80	10	0.21

Sample Name	Depth (cm)	Base saturation (%)				T-Value (cmol/kg)	EC mS/cm
		Na	K	Ca	Mg		
1	30	3.02	2.52	79.53	10.29	5.18	0.223
2	60	4.44	1.96	72.27	14.53	4.70	0.218
3	90	5.88	3.38	58.93	15.43	2.81	0.178

‘n

Grondontledingsverslag

kan oorweldigend wees.



- **1 500 spelde**
- **100 spykers**
- **330 knope**
- **167 muntstukke**
- **12 gordynringe**
- **11 sleutels**
- **176 ander voorwerpe soos vishoeke, klippe, fietsspeke, ens.**

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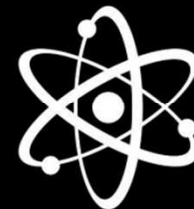
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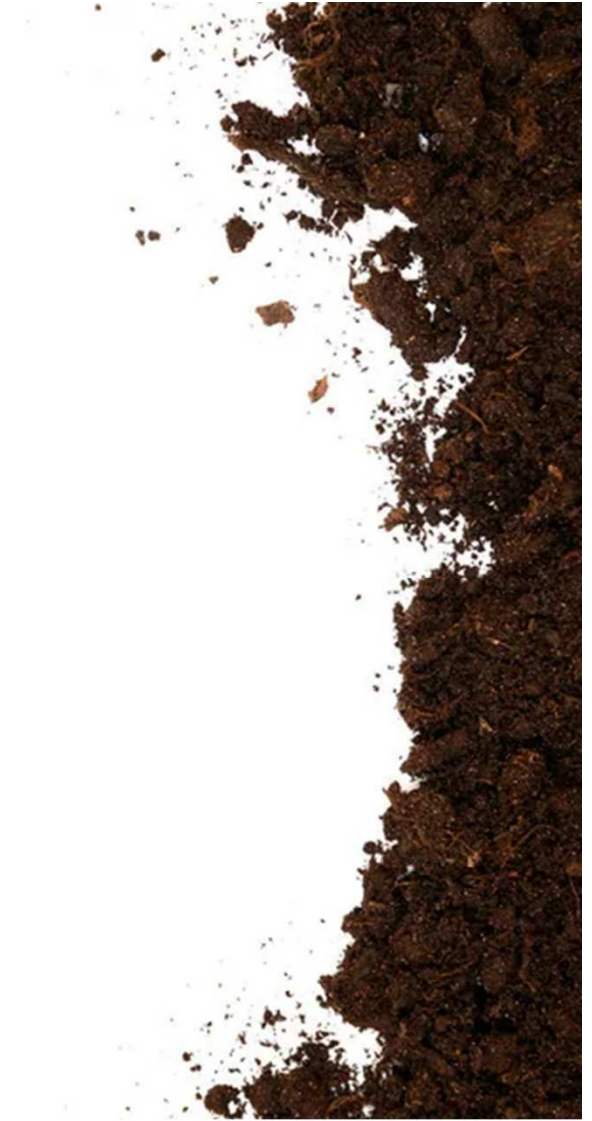


Wat is die *patroon in grondchemie* te verwagte vir elk van hierdie profiele?



Tragedie #1

Diepte van grondmonster word ignoreer



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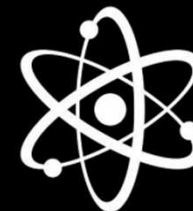
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2	60	Sa	5.37	1134	0.320	30	22.3	36	0.21	0.09	3.4	0.7	0.6	0.7	0.5	0.19	79	21	0.30
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3	90	5.88	3.38	58.93	15.43	2.81	0.178

MONSTER DIEPTE SAMPLING DEPTH

Horison dieptes moet in ag geneem word
 Horisonte verskil in chemiese samestelling
 Horisonte se tekstuur kan dramaties verskil



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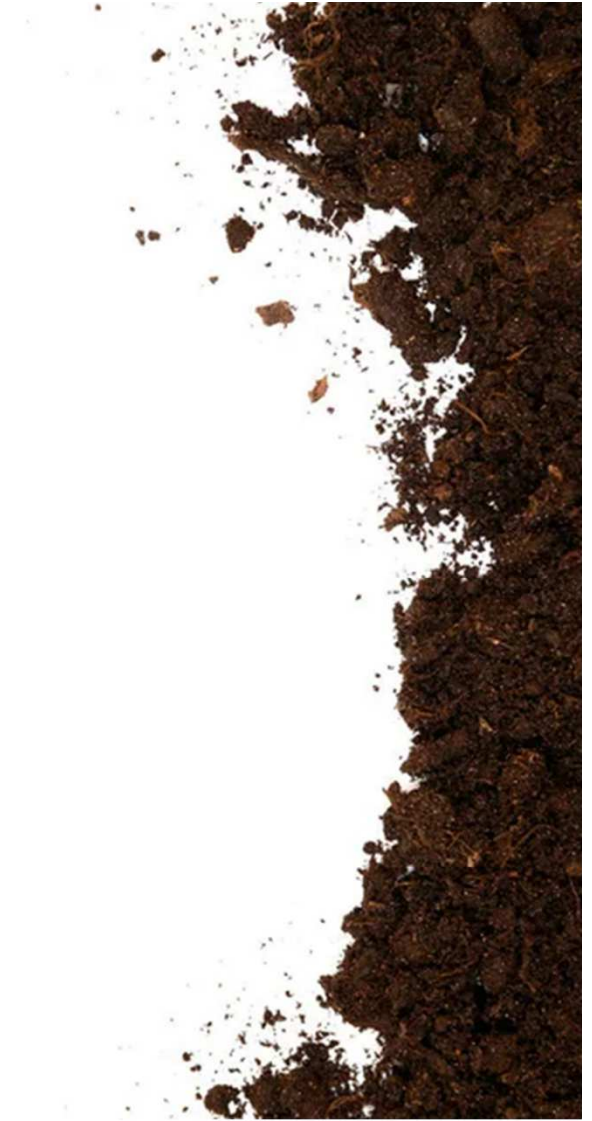
Wat is die *patroon in grondchemie* te verwagte vir elk van hierdie profiele?



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Tragedie #2

Tekstuur van grond word nie in ag geneem



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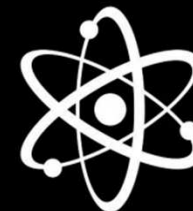
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TEKSTUUR TEXTURE

Dit help met kwaliteitsbeheer, en het implikasies rakende:

- K-bemesting
- Nodigheid vir gips

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Tragedie #3

Verkeerde H⁺-analise (tipe analise word nie in ag geneem)

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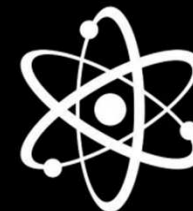
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RESIDUELE SUURHEID RESIDUAL ACIDITY

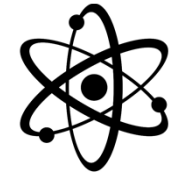
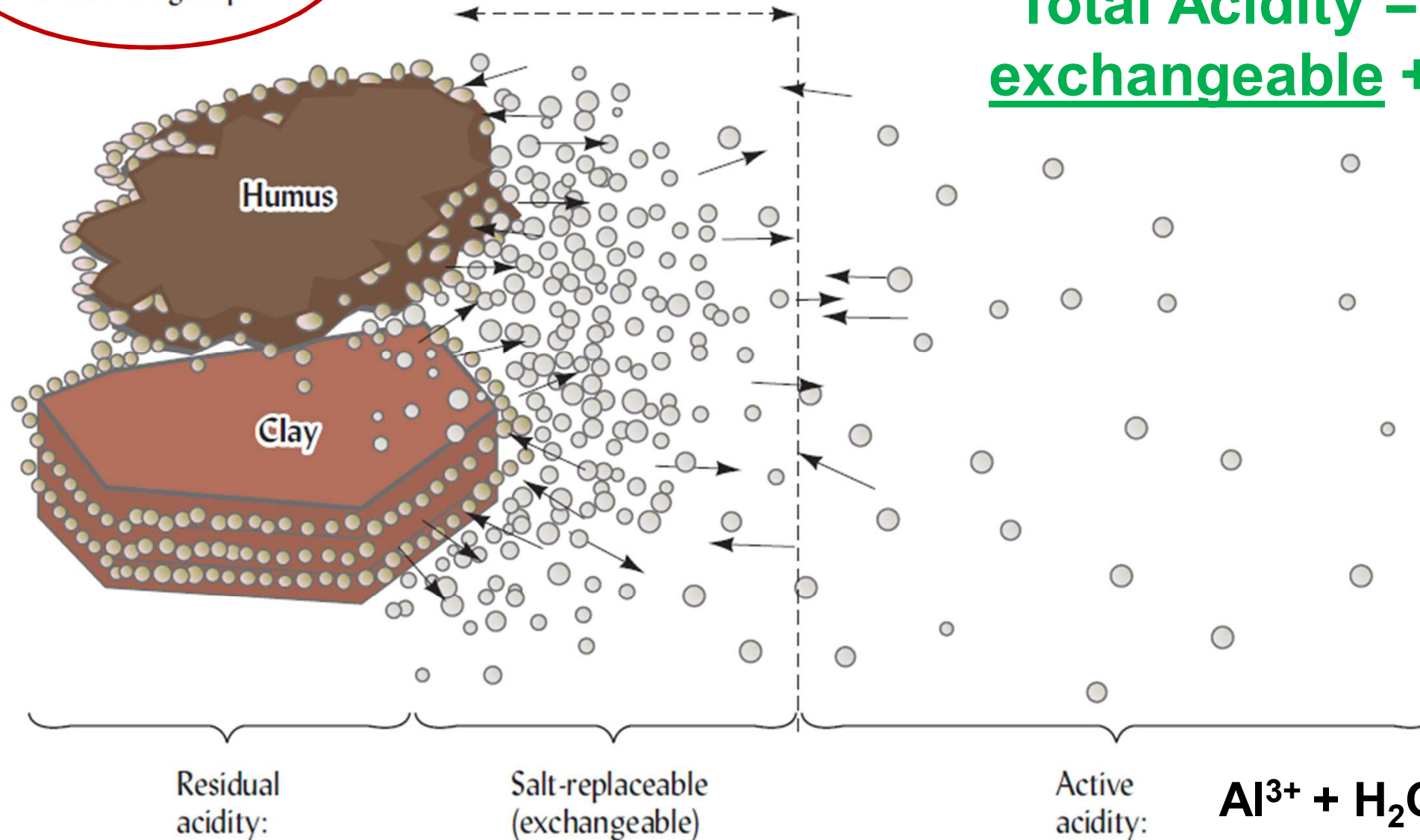
Onderbekalking 'n groot probleem

● = Al and H bound to clay surfaces or humus functional groups

Limit of colloidal attraction

○ = Al^{3+} , $\text{Al}(\text{OH})_x^{y+}$ and H^+ ions

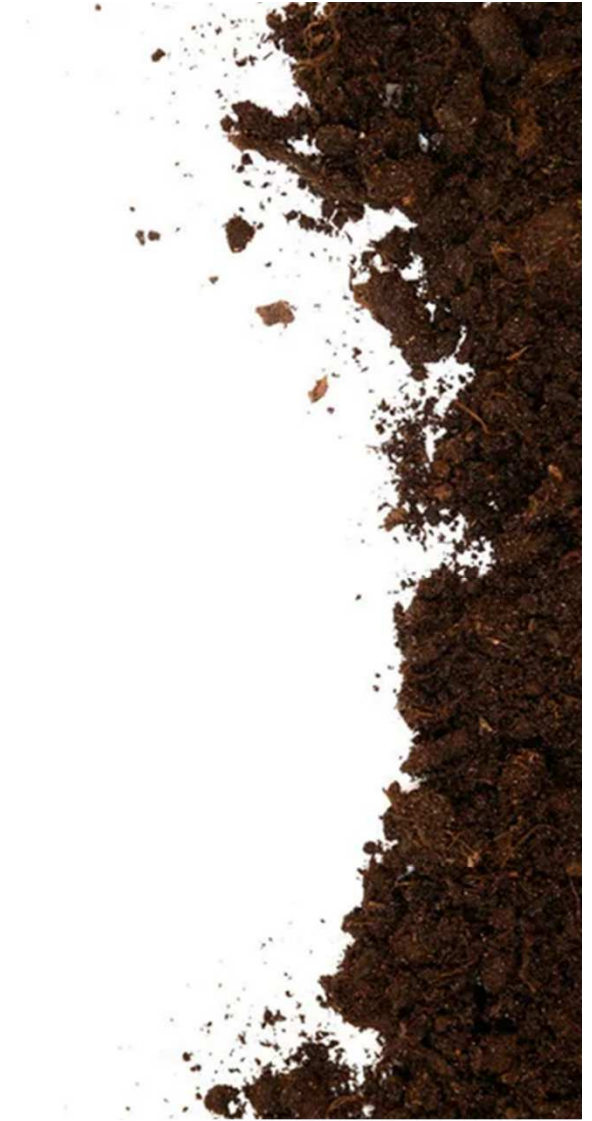
Total Acidity = active + exchangeable + residual



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Tragedie #4

Klipvolume word nie in ag geneem nie



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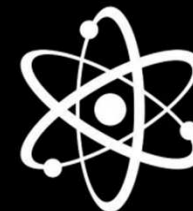
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Sample Name	Depth (cm)	Soil Text.	pH (KCl)	Resist. (ohm)	H (cmol/kg)	Stone (v/v) %	P (mg/kg)	K (mg/kg)	Exchangeable cations (cmol/kg)				Cu	Zn	Mn	B	Fe	S (mg/kg)	C (%)
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Sample Name	Depth (cm)	Base saturation (%)				T-Value (cmol/kg)	EC mS/cm
		Na	K	Ca	Mg		
1	30	3.02	2.52	79.53	10.29	5.18	0.223
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KLIP VOLUME STONE VOLUME

Gevolglike risiko van oorbekalking
Oormatige K-konsentrasie in
swaarder grond

Tragedie #5

Die T-waarde word met KUK verwar



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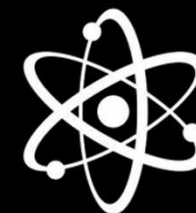
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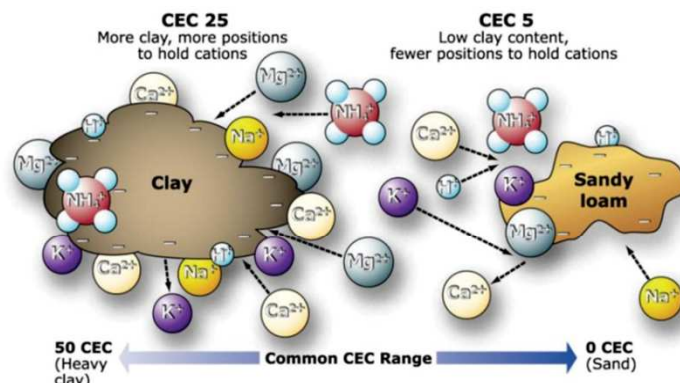
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Sample Name	Depth (cm)	Soil Text.	pH (KCl)	Resist. (ohm)	H (cmol/kg)	Stone (v/v) %	P (mg/kg)	K (mg/kg)	Exchangeable cations (cmol/kg)				Cu	Zn	Mn	B	Fe	S	C (%)
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Sample Name	Depth (cm)	Base saturation (%)				T-Value (cmol/kg)	EC mS/cm
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T-WAARDE is nie KUK
T-VALUE is not CEC

Totale katione word ge-ekstraheer
Oppas vir basisversadiging by brak, alkaliese, sand en oormatig bemeste gronde (dan is “Albrecht” ‘n fout)



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Watter grond se ontleding was hierdie?



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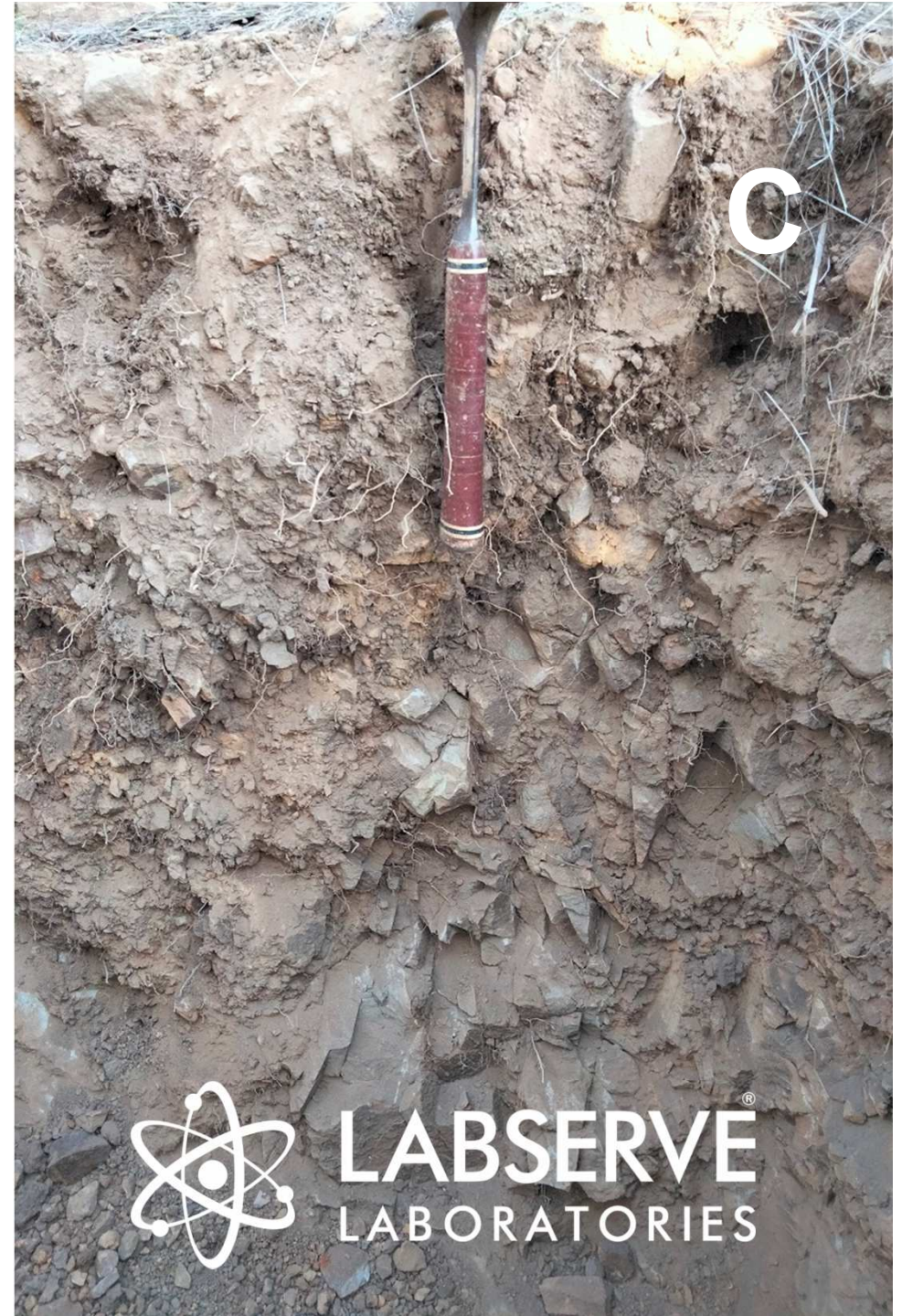
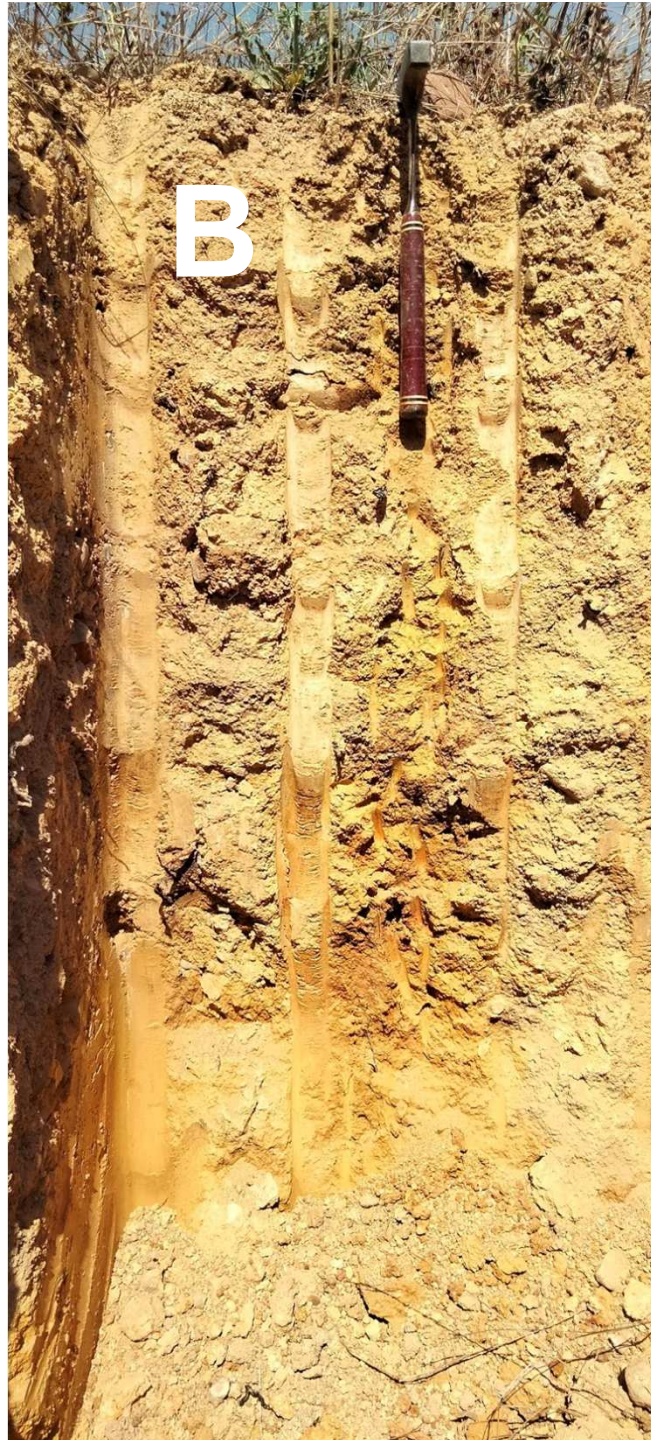
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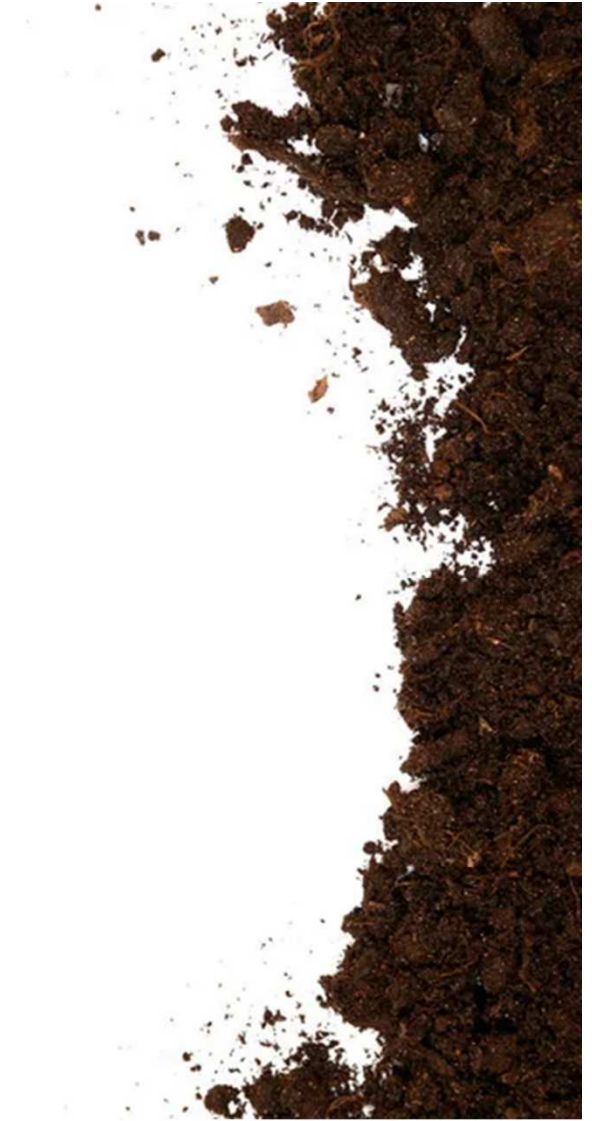


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Tragedie #6

Gips word onnodig aanbeveel



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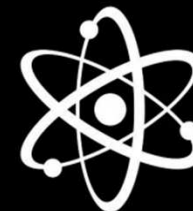
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Soil	pH	Resist.	H	Stone	P	K	Exchangeable cations (cmol/kg)				S	C
Texture	(KCl)	(ohm)	(cmol/kg)	%	(mg/kg)		Na	K	Ca	Mg	mg/kg	(%)
LmCl	4.85	316	1.52	25	44.6	264	0.05	0.68	4.3	2.4	63	0.51

Base saturation (%)				T-Value	EC
Na	K	Ca	Mg	(cmol/kg)	mS/cm
5.3	7.2	45.7	25.5	9.4	1.494



MOET MENS *GIPS* TOEDIEN? SHOULD ONE APPLY *GYPSUM*?

Soil	pH	Resist.	H	Stone	P	K	Exchangeable cations (cmol/kg)				S	C
Texture	(KCl)	(ohm)	(cmol/kg)	%	(mg/kg)		Na	K	Ca	Mg	mg/kg	(%)
Lm	6.50	316		25	44.6	90	0.95	0.23	4.8	3.2	63	0.51

Base saturation (%)				T-Value	EC
Na	K	Ca	Mg	(cmol/kg)	mS/cm
10.35	2.51	52.28	34.86	9.18	1.494

MOET MENS *GIPS* TOEDIEN?
SHOULD ONE APPLY *GYPSUM*?

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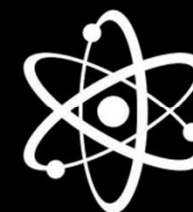
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Keuse van ontledingsprofiel en lab is dus 'n belangrike saak

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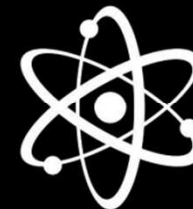
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Le Mans 1955

Fransman Pierre Levegh

