

CDR Symposium Tue 16 & Wed 17 June 2026

CHEAT SHEET

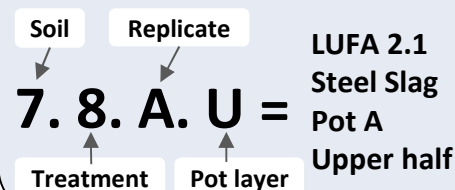


Carbon
Drawdown
Initiative

THE GREENHOUSE EXPERIMENT 2023 - 2025

- Four replicate pots per treatment
- Monthly leachate sampling (02/2023–12/2024) with analyses of pH, dissolved O₂, EC, and alkalinity
- Plant: *Lolium perenne*

SAMPLE CODE



TABLES & SOILS

TABLE 2: Fürth 2



TABLE 5: LUFA 6S A

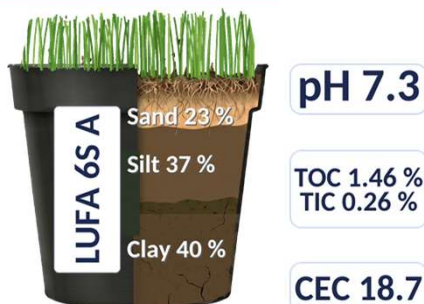


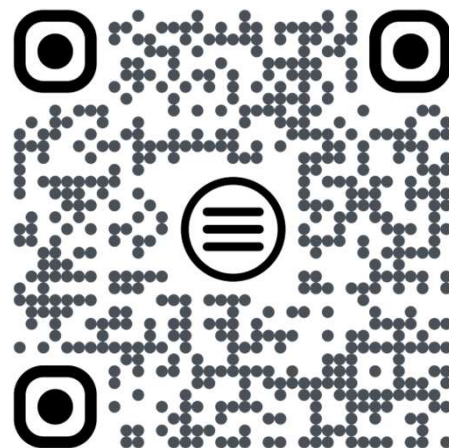
TABLE 6: LUFA 2.2 A



TABLE 7: LUFA 2.1



TABLE 9: Fürth 1



Further info on soils and feedstocks.

TREATMENTS & FEEDSTOCKS

Tables 5 · 6 · 7 · 9 ALL 40 t/ha

.0 Control Soil only (Baseline) Feedstock type main reactive minerals BET specific surface area Grain size	.2 Basanite Mafic rock 22% feldspathoids, 11% olivine, 49% clinopyroxene 2.3 m ² /g <850 µm	.6 Metabasalt Calcite-rich mafic rock 27% calcite, 16% plagioclase, 10% K-feldspar 2.6 m ² /g <90 µm	.7 Peridotite Ultramafic rock 79% olivine, 10% serpentine 1.9 m ² /g <110 µm	.8 Steel Slag Industrial material 20% portlandite, 24% larnite, 8% calcite 13.3 m ² /g <320 µm
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BASANITE DOSAGE VARIATIONS

Tables 5 · 6 · 7 · 9

Only on Table 9

.1 Basanite 20 t/ha	.3 Basanite 100 t/ha	.4 Basanite 200 t/ha	.5 Basanite 400 t/ha
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FEEDSTOCKS

FROM ERW COMPANIES

Table 2

.0 Control
.1 - .7 EW 1 - EW 7: Different ERW feedstocks

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TALKS



Carbon
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Table 2

Tables 5 · 6 · 7 · 9

Topic 1 — Soil Properties & Exchangeable Cations

Samples: Soil

09:35

Mike Kelland
University of Sheffield

Why Is CDR Efficiency Low?
A Solid-Phase Geochemistry Perspective on Enhanced Weathering

Project Team: Mike Kelland (Uni Sheffield) · Paul Nelson (James Cook University, Australia)

Methods: CEC, Exchangeable cations, Total C/N, Exchangeable acidity, Soil pH,

Topic 2 — Soil Cation Pools & Secondary Minerals

Samples: Soil

10:00

Lucilla Boito
University of Antwerp

Where are the weathered cations?
Following their fate using sequential extraction

10:15

Philip Pogge v. Strandmann
JGU Mainz

Expensive and (slightly) less expensive ways to quantify
secondary mineral formation

Methods: Sequential extraction: Exchangeable / Carbonate / Fe-Mn-oxide / Clay.
Isotopic & geochemical proxies for secondary mineral formation

Topic 3 — Biomass

Samples: Biomass (+ Soil/crop properties: Dupla only)

11:30

Xavier Dupla
ETH Zürich

Impact of a 2-year ERW trial on soil and crop properties

11:45

Mathilde Hagens
Wageningen University

Base cation uptake by English ryegrass:
Links with feedstock and soil type

12:00

Benjamin Möller
ETH Zürich

Phytolith-occluded organic carbon - an overlooked CO₂
removal pathway in ERW

Methods: Harvested biomass · Elemental composition · Phytolith extraction & Occluded-C analysis

Topic 4 — Soil Organic Carbon

Samples: Soil

14:00

Lucilla Boito
University of Antwerp

Does EW increase organo-mineral associations?
A sequential extraction method

14:15

Mathilde Hagens
Wageningen University

Soil Organic Carbon characterization via Rock-Eval analysis

14:30

Manuel Ruben & Malte Höhn
Alfred-Wegener-Institute Bremerhaven

Soil Organic Carbon characterization via AWI-RPO
(Ramped-Pyrolysis-Oxidation)

Methods: Sequential SOC extraction (organo-mineral associations) · Rock-Eval pyrolysis · AWI Ramped-Pyrolysis-Oxidation (RPO)

How it all fits together

A full mass balance of the same samples across
leachate, plant, mineral, and organic carbon pools

COMPARTMENT	METHOD	GROUP
Leachate ... what left the pot	Monthly Alkalinity	CDI
Solid-phase geochemistry ... bottleneck diagnosis	CEC, Total C/N, Exchangeable acidity, Soil pH,	Kelland · Nelson
Soil cation pools ... where the cations went	Sequential base cation extraction, Secondary minerals	Boito · Pogge von Strandmann
Biomass ... what the crop took up & locked away	Biomass Elemental, Phytolith-C	Hagens · Möller · Dupla
Soil organic carbon pools ... how SOC responded	Sequential SOC, Rock-Eval, AWI-RPO	Boito · Hagens · Ruben/Höhn