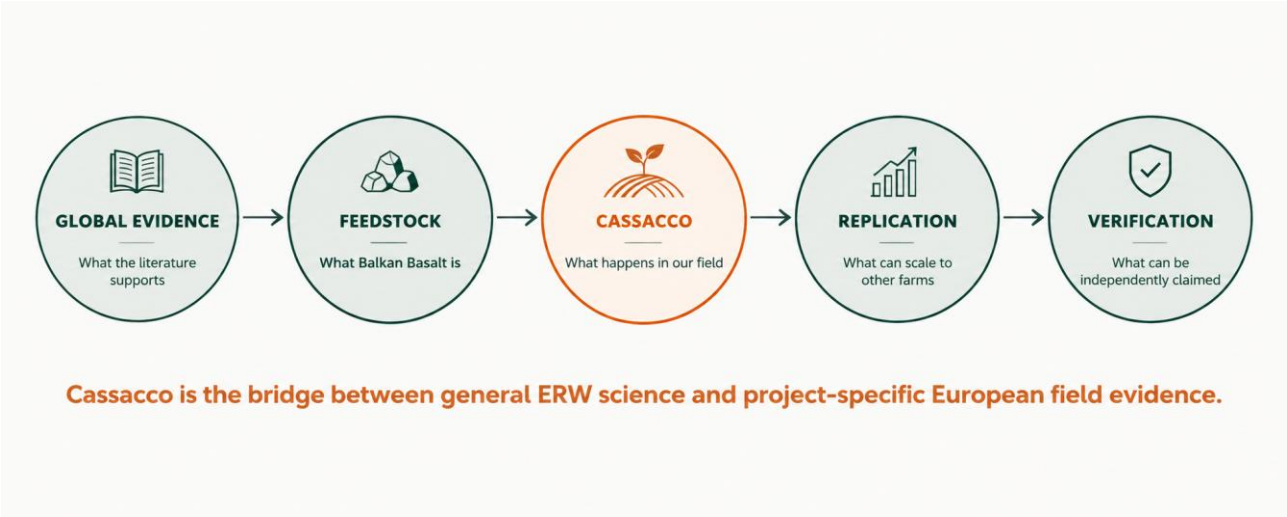
TARCASSO FIELD LAB

TarCasso Longevity Field

Research & Demonstration Dossier v1

Soil Functionality | Basalt | MRV | Enhanced Rock Weathering

> **CORE RESEARCH QUESTION**
>
> Can we measure soil improvement before we talk about carbon removal? Cassacco is designed to find out.



Cassacco, Friuli-Venezia Giulia, Italy

Version 1.0 | Document date and research cut-off: 26 September 2026

tarcassofieldlab.com | flour-yield.com

STATUS NOTE

Research concept and public project dossier. It is not an agronomic prescription, a carbon-credit Project Design Document, a medical or nutrition claim, an investment document, or a crypto-asset white paper. University of Udine participation is proposed and subject to a formal agreement.

Contents

0 Document Purpose & Status

A compact concept paper for a soil-first European field laboratory in Cassacco.

This dossier defines the research logic, evidence rules, measurement architecture and staged work programme for the TarCasso Longevity Field in Cassacco. It is designed to serve three functions at the same time: a scientific concept note, a briefing document for prospective research partners, and a transparent public description of what the field will - and will not - claim.

> **POSITIONING**
>
> Soil functionality and soil resilience are the primary research objectives. Enhanced Rock Weathering (ERW) and carbon removal are secondary research pathways that will be measured only where field evidence supports them.

~2.1 ha	10	SOIL	NO CLAIM
SITE AREA	AGRICULTURAL PARCELS	PRIMARY RESEARCH FOCUS	CARBON STATUS

Current project status at the cut-off date

Element	Current fact	Status / implication
Site	Agricultural land in Cassacco, Friuli-Venezia Giulia; approximately 21,000 m^2 across ten agricultural parcels.	Established project site; final survey/site file to be verified.
Acquisition	Signed preliminary purchase agreement is in place; final notarial transfer remains pending.	In progress.
Research protocol	No field baseline, final treatment design or validated sampling plan has yet been completed.	To be developed before deployment.
University cooperation	A scientific collaboration with the University of Udine is proposed.	Not yet a formal agreement.
Balkan Basalt feedstock	Intended as the principal basalt research feedstock.	Field batch must be characterised before application.
ERW / carbon	No project-specific CDR rate, credit, registry status or carbon claim exists.	Research pathway only.

Contents

1 Strategic Context - Why Soil First

The field is designed around a soil problem first and a carbon opportunity second.

Healthy soils underpin agricultural productivity, water regulation, biodiversity and food security. FAO continues to communicate that around one-third of global soils are already degraded and that, if current trends continue, the share could rise toward 90% by 2050. The figure is a global risk framing rather than a site-specific forecast, but it captures the direction of travel: soil degradation is becoming a strategic agricultural constraint, not merely an environmental topic. [1]

The European policy context now points in the same direction. The EU Soil Monitoring Law entered into force on 16 December 2025 and establishes a framework for Member States to monitor and assess soil health, address key soil threats and support improved soil resilience. The European Commission states that 60-70% of EU soils are currently in an unhealthy state. Cassacco is not presented as a compliance project under that law; the relevance is that the project aligns with a wider European shift from generic sustainability claims toward measured soil condition. [2]

The commercial ERW sector is also increasingly adopting a soil-first narrative. InPlanet currently describes its work as delivering durable carbon removal while building healthier, more resilient soils and explicitly frames soil degradation as the agricultural problem ERW can help address. Cassacco should not copy a tropical model. Its opportunity is to test the soil-first logic under temperate European conditions, with a deliberately small site and unusually deep measurement. [3]

> **STRATEGIC PROPOSITION**
>
> SMALL FIELD. DEEP MEASUREMENT. OPEN EVIDENCE. Cassacco aims to become a temperate-climate European pilot for soil-function MRV and basalt-based enhanced weathering research.

What changes in the project narrative

Issue	Soil-first approach	Why it matters
Old risk	ERW becomes the headline before Cassacco has field data.	Carbon claims can outrun the evidence and make the soil project look secondary.
New hierarchy	Soil functionality -> basalt response -> ERW signal -> independent verification.	Each layer remains valuable even if the next layer is not demonstrated.
Research value	A null or mixed result is still useful.	The project is structured to learn, not to prove a predetermined outcome.
Public value	The field becomes a demonstrator for measurement-led regenerative agriculture.	Partners can inspect methods, data and limitations, not only marketing claims.

2 Cassacco as a European Living Field Laboratory

A controlled, accessible site for repeated measurement under real agricultural conditions.

The planned TarCasso Longevity Field comprises approximately 21,000 m^2 of agricultural land in Cassacco, Friuli-Venezia Giulia. The site is intentionally small enough for dense sampling, repeat measurements and controlled treatment plots, while being large enough to operate as a real agricultural field rather than a laboratory-only experiment. The land is divided across ten agricultural parcels; detailed field geometry, management history, drainage and within-site variability will be documented in Gate 1.

> **MEANING OF LONGEVITY**
>
> In this dossier, "Longevity" refers first to the long-term functionality, fertility and resilience of soil and the agricultural system. It does not imply that basalt application, crops grown on the field, or TarCasso products deliver a human-health, anti-ageing or medical outcome.

Project roles - proposed operating architecture

Participant	Proposed role	Boundary
TarCasso	Field-lab operator and local coordinator; crop strategy; field operations; public demonstration and farmer/community interface.	Operational role subject to final land-use structure.
Balkan Basalt	Feedstock supplier; batch identification; logistics; source documentation and technical cooperation on feedstock characterisation.	No feedstock performance claim before Gate 3.
Flour Yield / Insela UAB	Research-framework alignment, evidence labelling, data transparency and optional ecosystem reporting.	FYT does not acquire rights to the field, basalt, environmental attributes or future credits.
University of Udine - proposed	Scientific design, soil baseline, soil-function monitoring, interpretation and publication support.	Subject to formal agreement; no endorsement is implied by this dossier.
Accredited laboratories / MRV specialists	Specialist feedstock, soil, water and trace-element analyses; future ERW methodology support.	Independent services to be scoped.
Local farmers / agronomic advisers	Practical cultivation, machinery, management records and local agronomic knowledge.	Critical for real-world transferability.

Why Cassacco can be useful despite its small scale

Sampling intensity can be much higher per hectare than in commercial-scale deployments.

Control and treatment logic can be designed before application rather than reconstructed afterward.

The site can combine soil chemistry, agronomy, hydrology and ERW-relevant measurements in one protocol.

Long-term access allows repeated measurement across seasons, which is essential because mineral weathering and soil responses may be slow.

The field can function as a research, demonstration and partner-training site before any larger replication.

3 Research Hypothesis and Evidence Rules

The project tests a hypothesis; it does not assume the result.

> **CORE HYPOTHESIS**
>
> Properly characterised Balkan Basalt flour, applied under a site-specific agronomic protocol, may improve selected dimensions of soil functionality and resilience in Cassacco. The same deployment may also create a measurable enhanced-weathering signal. The magnitude, timing and reliability of either outcome remain to be established.

Primary research questions

1. Which soil functions are actually limiting at baseline, and which are already adequate?
2. Does the qualified basalt feedstock measurably change pH, base saturation, nutrient availability, plant-available silicon or other selected indicators relative to untreated controls?
3. Do any soil changes translate into observable crop response without introducing trace-element, pH or nutrient-imbalance risks?
4. Can a weathering signal be detected with sufficient statistical confidence under Cassacco climate, soil and management conditions?
5. If weathering is measurable, can the carbon pathway be quantified conservatively after non-carbonic acids, lifecycle emissions and uncertainty are considered?
6. Which measurements are scientifically useful and economically scalable to a future network of participating farms?

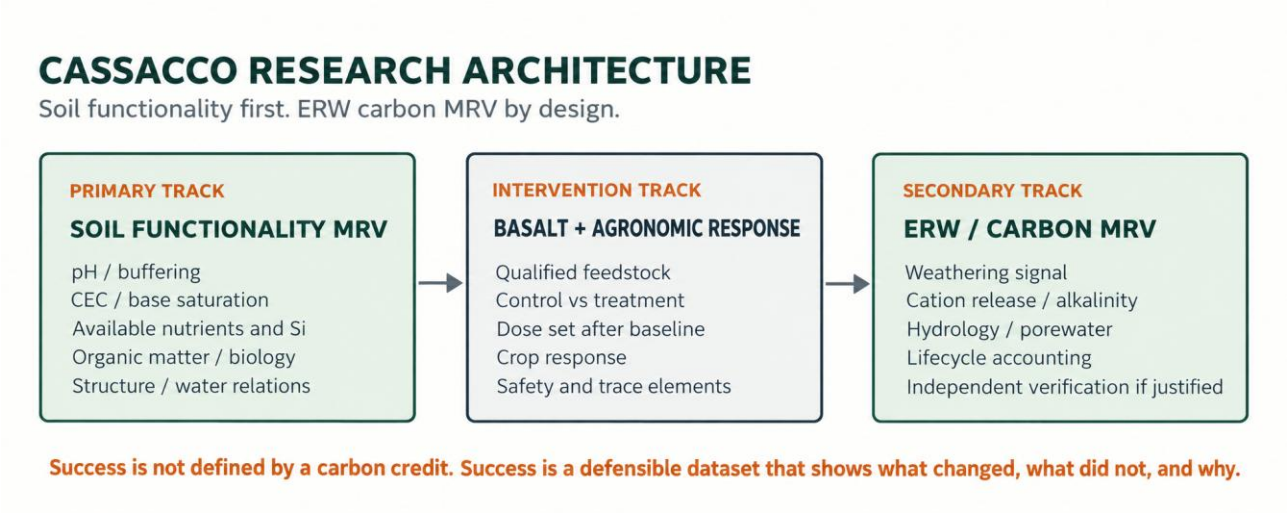
Non-negotiable evidence distinctions

Observation	must not be confused with	Higher-order claim
Basalt applied	is not	Basalt weathered
Basalt weathered	is not	Atmospheric CO2 removed
Gross geochemical uptake	is not	Net lifecycle CDR
Net CDR estimate	is not	An independently verified credit
Change in soil chemistry	is not	Improved crop performance
Change in crop composition	is not	A human-health or longevity effect
Project data recorded on-chain	is not	Scientific verification
FYT ecosystem use	is not	Ownership of field assets or environmental attributes

These distinctions mirror the evidence discipline adopted in the Flour Yield Basalt & ERW Research Dossier. Cassacco is intended to generate project-specific evidence that can move selected claims up the evidence ladder - not to bypass it. [6]

4 Dual-MRV Architecture

One field, two measurement systems: soil functionality first; ERW carbon MRV second.



The dual-MRV concept deliberately separates a primary Soil Functionality MRV layer from a secondary ERW / Carbon MRV layer. Both rely on the same disciplined baseline, field records and feedstock documentation, but they answer different questions and have different evidentiary thresholds.

Why the separation matters

A field can show useful agronomic or soil-function changes without producing quantifiable or creditable CDR within the same period.

ERW can occur without improving every measured soil parameter; the mechanisms should not be bundled into a single success claim.

Soil-health monitoring is valuable for TarCasso and farmers even if the project never seeks a carbon credit.

Carbon MRV imposes additional system-boundary, lifecycle, uncertainty and verification requirements that should not dilute the soil programme.

> **WORKING PRINCIPLE**
>
> Soil MRV from Day One. ERW MRV by Design.

5 Track A - Soil Functionality and Resilience

Primary research track: measure the condition and function of the soil before, during and after intervention.

The soil programme should not rely on a single "soil health score". It should use a panel of physical, chemical and biological indicators selected for the actual Cassacco soils, crop system and research questions. Final methods and sampling density should be set with the scientific partner after the spatial baseline is understood.

Proposed Cassacco Soil Function Panel

Domain	Candidate indicators	Purpose
Chemical	pH; CEC; base saturation; exchangeable Ca/Mg/K; available P; selected micronutrients; plant-available Si; EC/salinity where relevant.	Fertility, buffering and nutrient availability.
Carbon / organic matter	SOC / TOC; organic matter fractions where justified.	Long-term soil condition and carbon-cycle context.
Physical	Texture; bulk density; aggregate stability; infiltration / water-holding proxies; compaction.	Structure, rooting environment and water resilience.
Biological	Microbial biomass / ATP or selected enzyme activity, subject to research design.	Biological activity and soil-function response.
Safety / contaminants	Cr, Ni, Co, As, Cd, Pb, Hg and other relevant elements; leachability/speciation where required.	Environmental and agronomic safeguards.
Crop / plant	Growth, phenology, yield, tissue mineral profile and plant-available Si response where justified.	Whether soil changes translate into plant response.

The University of Udine Environmental Soil Functionality group is a strong prospective fit for this architecture: its published capabilities include soil fertility analyses, plant-soil interactions, carbon-cycle and microbial-activity work, trace-metal analysis by high-resolution ICP-MS and development of rhizosphere microsensor capabilities. Its Soil Fertility Laboratory also lists physical, chemical and biological soil analyses. A formal collaboration would allow the field protocol to be designed with scientific independence before the first intervention. [4][5]

Baseline rule

> **NO TREATMENT BEFORE BASELINE**
>
> No basalt should be applied to any research plot until the baseline sampling plan, control/treatment design, sample handling, laboratory methods and field-management recordkeeping are documented. A pre-intervention dataset is the asset that makes every later comparison meaningful.

6 Track B - Basalt and Agronomic Response

The intervention must be a qualified material, not a generic label called "basalt".

Balkan Basalt is the intended research feedstock, but the specific material delivered to Cassacco must be characterised before field use. The purpose is twofold: first, to establish safety and agronomic suitability; second, to make later weathering and carbon measurements interpretable.

Minimum field-feedstock dossier

Component	Required information
Identity & chain of custody	Source, batch ID, sampling locations, sample preparation, transport and delivery records.
Whole-rock chemistry	Major oxides by suitable XRF/ICP method; total Ca, Mg, Fe, K, Na and relevant trace elements.
Quantitative mineralogy	qXRD / Rietveld; identify reactive phases and any quartz or other relevant minerals.
Particle characteristics	Particle-size distribution; fines fraction; specific surface area where useful.
Environmental safety	Quantitative trace elements; relevant leaching/speciation tests; Cr(VI) where warranted; dust / respirable silica screening as applicable.
ERW suitability	Parameters required by the selected MRV methodology, including inputs needed for cation or immobile-tracer approaches.
Batch consistency	Enough data to show whether the field-applied batch is representative and internally consistent.

Current ERW protocols reinforce this sequence. Isometric's Enhanced Weathering in Agriculture protocol requires detailed feedstock characterisation, a defined sampling framework, control/treatment logic, documented monitoring and independent validation/verification for crediting projects. Cassacco does not need to become a crediting project at the start, but designing the field so that these requirements remain technically possible avoids costly retrofitting later. [7]

Dose policy

The dossier intentionally does not prescribe a public application rate. Peer-reviewed ERW and basalt-amendment studies use a wide range of doses, and transfer from one soil, climate or feedstock to another is not justified without site data. Cassacco treatment rates should therefore be selected only after Gates 1-3, with agronomic justification and statistical review.

7 Track C - ERW and Carbon MRV

Secondary research track: preserve the option to quantify weathering and carbon removal without allowing carbon to drive the experiment.

The ERW track asks a narrower question than the soil programme: can the dissolution of the applied silicate feedstock be detected, and can any resulting atmospheric CO2 removal be quantified conservatively? A positive soil response does not answer that question. Carbon accounting requires additional evidence about acid sources, hydrological export, carbonate formation, lifecycle emissions and statistical uncertainty.

MRV-ready measurements - subject to method selection

- Pre-deployment and post-deployment solid-phase soil sampling with georeferenced sample locations.
- Feedstock-normalised cation or immobile-tracer measurements suitable for the chosen quantification pathway.
- Porewater / soil-solution measurements where justified: Ca, Mg, alkalinity, dissolved inorganic carbon and supporting chemistry.
- Weather, irrigation, fertiliser and liming records because they alter the acid budget and field interpretation.
- Hydrology and drainage context sufficient to understand where generated alkalinity may move.
- Lifecycle inventory for crushing/grinding, transport, spreading, sampling and laboratory activity if net CDR is later calculated.
- Uncertainty budget and independent review before any verified carbon statement.

> **CARBON STATUS LADDER**
>
> NOT ASSESSED -> UNDER MEASUREMENT -> WEATHERING SIGNAL DETECTED -> CDR QUANTIFIED -> INDEPENDENTLY VERIFIED. Cassacco communications should never skip a stage.

What the project is not trying to optimise in Phase 1

The first research cycle is not designed to maximise tonnes of CO2 removed or maximise credit issuance. It is designed to maximise evidence quality per hectare. That means denser baseline work, conservative controls, repeat sampling and transparent treatment of null or adverse results.

8 Experimental Architecture and Sampling

The design should be statistically defensible before it becomes visually impressive.

The final field design should be prepared after the spatial baseline reveals how heterogeneous the site is. The ten-parcel structure may help create operational blocks, but cadastral boundaries should not substitute for scientific replication. Plot placement should follow soil and topographic variability, management practicality and statistical power.

Proposed design principles

Design element	Cassacco principle	Reason
Control	Maintain untreated areas under the same crop and management regime.	Separates treatment response from weather and management.
Treatment	Use one or more application levels only after feedstock and baseline review.	Tests dose-response without assuming the correct dose in advance.
Replication	Replicate within the site where geometry and power analysis justify it.	Avoids a single treated plot being mistaken for causal evidence.
Randomisation / blocking	Use blocks or random allocation where operationally possible.	Reduces bias from within-field variation.
Predefined endpoints	Define primary and secondary soil/crop metrics before application.	Prevents selective reporting of only favourable results.
Sampling custody	Unique sample IDs, coordinates, depth, date, operator and laboratory chain of custody.	Makes the dataset auditable and reusable.
Management parity	Document fertiliser, lime, irrigation, tillage and crop-protection actions.	Controls confounding variables.

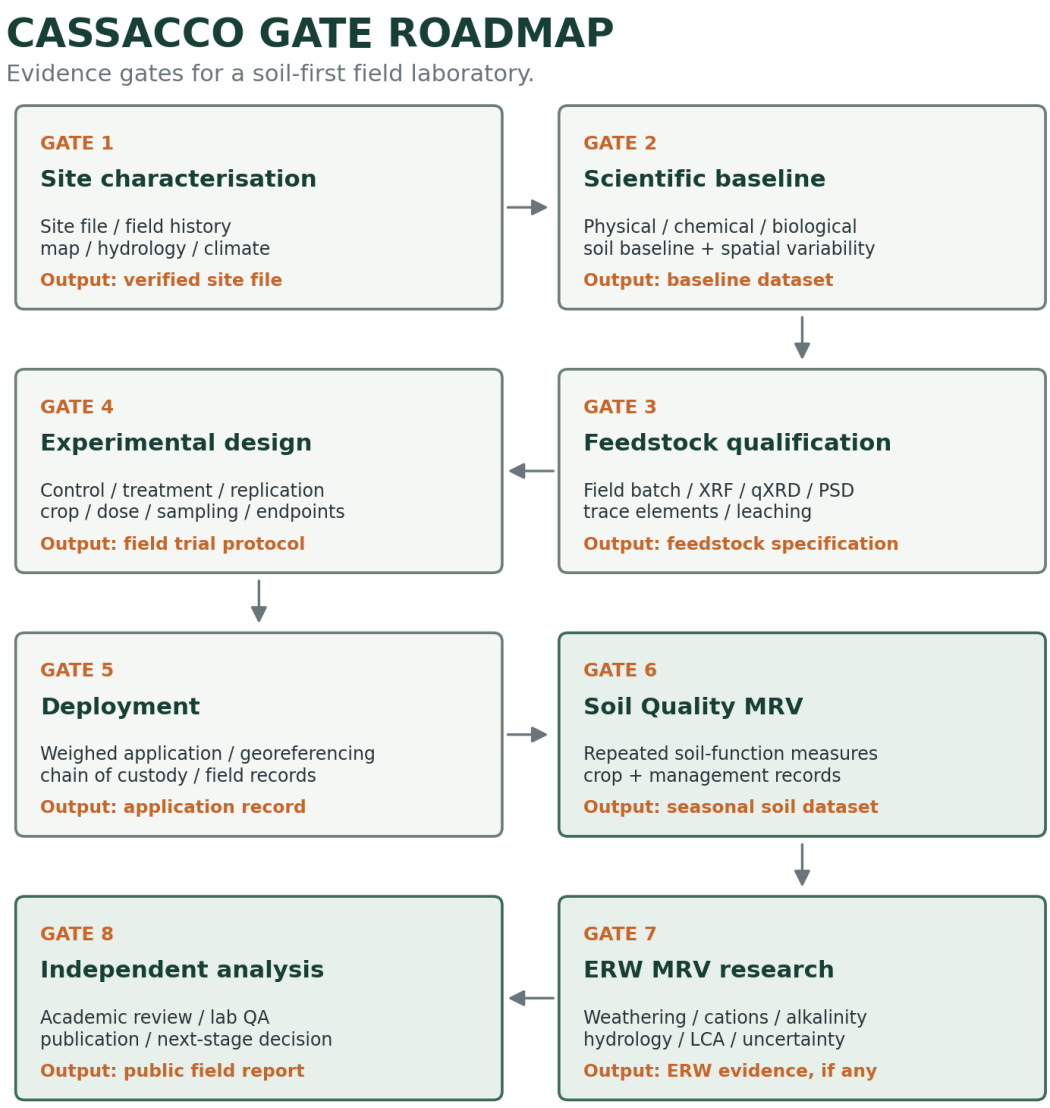
Indicative sampling rhythm - not a calendar promise

Stage	Timing logic	Purpose
T0	Before any treatment	Full spatial baseline; feedstock specification completed.
T1	After deployment / early establishment	Operational verification; targeted safety and chemistry checks.
T2	End of first growing cycle	Soil-function panel + crop response; first comparative analysis.
T3+	Annual / seasonally justified follow-up	Persistence, delayed mineral release, weathering signal and longer-term resilience.

Exact intervals, depths, sample numbers and analytical methods remain part of the scientific protocol and should be set by the research team rather than by communications material.

9 Gate Roadmap

A gate closes when its output exists and has passed review.



Gate 1 and Gate 2 can begin in parallel. No claim advances beyond the evidence produced by its gate.

Hard rules encoded in the gates

No Balkan-Basalt-specific soil-benefit statement before controlled evidence exists.

No yield or input-reduction statement before field data are analysed against controls.

No CDR rate, basalt-to-CO2 ratio or "carbon-backed" statement before the relevant ERW evidence and verification exist.

No carbon-credit or offtake statement unless a registry process has actually produced the corresponding public record.

No date promise overrides an incomplete evidence gate.

10 Proposed Scientific Collaboration - University of Udine

The academic partner should help design the experiment before baseline sampling, not merely review the result afterward.

The University of Udine is geographically and scientifically well positioned for a Cassacco collaboration. The Department of Agricultural, Food, Environmental and Animal Sciences (DI4A) combines agricultural, environmental, biological and chemical expertise and explicitly works on environmentally and economically sustainable agricultural practices. [8]

Within DI4A, the Environmental Soil Functionality / Soil Chemistry group publicly describes research in soil fertility, plant-soil interactions, organic matter, contamination and trace-metal analysis, with high-resolution ICP-MS and developing rhizosphere microsensor capabilities. These competences map closely onto the proposed Cassacco soil-function panel. [4][5]

> **STATUS DISCIPLINE**
>
> This dossier proposes a University of Udine collaboration. It does not state or imply that the University has agreed to participate, endorsed Balkan Basalt, validated the project, or accepted any project claim.

Suggested scope of a first academic work package

Work package	Proposed content
WP1 - Baseline design	Sampling grid / blocks; soil depths; core physical, chemical and biological indicators; statistical framework.
WP2 - Treatment protocol	Control/treatment architecture; dose-selection logic; crop and management controls; predefined endpoints.
WP3 - Laboratory plan	Methods, QA/QC, sample preservation and division between university and accredited external laboratories.
WP4 - Monitoring	Seasonal soil-function measurements; selected crop and rhizosphere observations; interpretation.
WP5 - Publication	Independent analysis of Year-1 dataset; technical report and, if justified, academic publication or conference output.
WP6 - ERW interface	Advise which soil / porewater measurements can support an ERW workstream without distorting the primary soil-health design.

Partner principle

Scientific independence should be explicit. TarCasso and Flour Yield may fund or facilitate the field work, but methods, data interpretation and publication rules should be agreed in advance so that negative or null results can be reported with the same visibility as positive results.

11 Data Governance, Transparency and Dashboards

A public pilot becomes credible when the provenance and status of each data point are visible.

Minimum research data architecture

Layer	Content	Rule
Raw data	Laboratory files, field sheets, sample coordinates, crop records, weather and management logs.	Retained with immutable version history.
Metadata	Sample ID, date, depth, plot, operator, method, laboratory, units, detection limits.	Required for interpretability.
QA/QC	Blanks, duplicates, standards, outlier rules and documented corrections.	Separates measurement quality from narrative.
Evidence status	Proposed / measured / field-observed / independently reviewed / registry-verified.	Visible beside every public claim.
Public release	Methods, core data tables, limitations and versioned field reports.	Supports external scrutiny and replication.
On-chain layer - optional	Hash or timestamp of final reports / datasets.	Proof of document integrity only; not proof of scientific validity.

Two public dashboards - different questions

Dashboard	What it shows	Communication rule
Soil Health Dashboard	Baseline versus treatment/control changes in selected soil-function indicators; crop observations; field management.	Primary public dashboard.
ERW Research Dashboard	Feedstock batch; tonnes applied; sampling status; weathering evidence status; carbon status ladder; verifier/registry status if ever applicable.	Secondary dashboard; no CDR figure until justified.

> **FYT BOUNDARY**
>
> If Cassacco data are displayed in Flour Yield or FYT ecosystem interfaces, the data should retain the same evidence label and source provenance. FYT does not represent ownership of the field, basalt, soil improvements, carbon removals or future environmental credits.

12 Risk Controls, Success Criteria and Scaling

The research programme should be robust enough to learn from outcomes that are positive, neutral or adverse.

Principal research and operating risks

Risk	Failure mode	Control
Site heterogeneity	Treatment effect obscured by pre-existing variability.	Spatial baseline; blocking; replication; predefined statistics.
Feedstock variability	Field-applied basalt differs from tested material.	Batch IDs; representative sampling; chain of custody; retain reference samples.
pH / nutrient imbalance	High or unsuitable dose alters micronutrient availability.	Baseline compatibility screen; conservative dose; repeated monitoring.
Trace elements / dust	Material contains or mobilises undesirable constituents.	Quantitative feedstock testing; leachability/speciation; worker controls.
Weather confounding	Rainfall / heat dominates crop response.	Control plots; weather records; multi-season interpretation.
Slow weathering signal	No resolvable ERW signal within early monitoring period.	Treat as a valid result; continue soil track; avoid model-to-proof conversion.
Communication overreach	Research result becomes a product, health or token claim.	Evidence labels; publication review; explicit prohibited-claim list.

What success means after the first full research cycle

A verified site file, baseline dataset and feedstock specification exist and can be independently reviewed.

The field contains documented control and treatment areas with traceable management and application records.

Soil-function changes - positive, neutral or adverse - are quantified with uncertainty rather than described impressionistically.

Any crop response is reported with context and not generalised beyond the site.

The ERW workstream either detects a defensible weathering signal or clearly documents why it has not yet been resolved.

The methodology, cost and operational lessons are sufficient to decide whether a second site or farmer-network replication is justified.

Scaling pathway

Cassacco should be treated as a learning asset, not a miniature commercial ERW project. The preferred path is: prove the measurement system on one intensively monitored field -> replicate selected protocols with nearby farmers -> standardise the data package -> then evaluate larger deployments. This keeps scaling conditional on evidence rather than narrative.

13 Indicative Work Programme

Gate-based sequence; calendar dates are planning references, not evidentiary promises.

Phase	Indicative timing	Primary output	Gate
Phase 0 - Closing & setup	Q4 2026 indicative	Complete site acquisition / long-term use structure; field mapping; historical management file; identify research lead and laboratories.	Gate 1
Phase 1 - Baseline & protocol	Late 2026 / early 2027 indicative	Scientific baseline; feedstock campaign; University / laboratory protocol; power and plot design.	Gates 2-4
Phase 2 - First deployment	2027 growing cycle indicative	Apply qualified feedstock to defined treatment plots; preserve controls; record full operations.	Gate 5
Phase 3 - Soil MRV	2027 onward	Repeat soil-function and crop measurements; publish first comparative dataset.	Gate 6
Phase 4 - ERW MRV	Runs alongside monitoring	Conduct selected solid/aqueous measurements and LCA only where methodologically justified.	Gate 7
Phase 5 - Review & publication	After sufficient data	Independent analysis; public field report; decision on replication and any registry dialogue.	Gate 8

IMMEDIATE NEXT ACTIONS

1) prepare the verified site file; 2) approach the University of Udine with a compact scientific cooperation brief; 3) define the baseline sampling campaign; 4) launch the Balkan Basalt field-feedstock characterisation; 5) do not apply basalt to research plots before the protocol is frozen.

Decision point after Year 1

The key decision is not "Did we generate a carbon credit?" It is: "Did the field produce a dataset strong enough to justify a larger, replicated European programme?" A positive answer may come from soil-function evidence, ERW evidence, or both.

14 Public Communication Rules

Credibility is built by saying less than the data permit, not more.

Permitted positioning at project launch

"A European temperate-climate pilot for soil-function MRV and basalt-based enhanced weathering research."

"A small-scale living field laboratory focused on soil resilience, measurement and open evidence."

"University collaboration is proposed and under discussion" - until a formal agreement exists.

"Balkan Basalt is the intended research feedstock" - until the field batch is qualified.

"ERW and carbon removal are research pathways" - until measurement supports stronger wording.

Statements that are not permitted without new evidence

Area	Do not say	Evidence required
Agronomy	"Balkan Basalt improves Cassacco soil"	Requires controlled field evidence from Cassacco.
Yield / inputs	"Basalt increases yield" or "reduces fertiliser/pesticide need"	Requires crop-specific field data and controls.
Carbon	"1 tonne of Balkan Basalt removes X tonnes of CO2"	Requires project-specific quantification and system-boundary accounting.
Credits	"Cassacco generates carbon credits"	Requires registry validation, verification and issuance.
Health / longevity	"Basalt-grown food improves human longevity"	Not supported by the proposed field study.
Token / asset	"FYT is backed by Cassacco, basalt or future carbon credits"	Contradicts FYT's current utility-token structure.

> **PUBLIC PHILOSOPHY**
>
> MEASURE FIRST. LABEL THE EVIDENCE. PUBLISH THE LIMITS. SCALE ONLY WHAT REPLICATES.

15 References and Next-Stage Outputs

This dossier is intentionally compact and relies on the broader Flour Yield research dossier for the full ERW literature base.

1 FAO, "How healthy soils combat climate change and boost food security," 17 June 2025. https://www.fao.org/gcf/news/news-detail/how-healthy-soils-combat-climate-change-and-boost-food-security/en

2 European Commission, Soil Monitoring Law. Law entered into force 16 December 2025; Commission overview accessed 26 September 2026. https://environment.ec.europa.eu/topics/soil-health/soil-monitoring-law_en

3 InPlanet, corporate website: soil-restoration and ERW positioning; accessed 26 September 2026. https://www.inplanet.earth/

4 University of Udine, Environmental Soil Functionality / Soil Chemistry Group. https://soil.uniud.it/en/

5 University of Udine, Soil Chemistry Group - Laboratories and Soil Fertility Laboratory. https://soil.uniud.it/en/laboratories

6 Flour Yield, "Basalt, Soil Resilience and Enhanced Rock Weathering - An Evidence-Led Research Dossier for the Flour Yield Ecosystem," Public Edition, 26 September 2026. https://www.flour-yield.com/

7 Isometric, Enhanced Weathering in Agriculture Protocol v1.2 and associated feedstock / monitoring requirements; accessed 26 September 2026. https://registry.isometric.com/protocol/enhanced-weathering-agriculture/1.2/1.2.1

8 University of Udine, Department of Agricultural, Food, Environmental and Animal Sciences (DI4A), Department profile. https://di4a.uniud.it/en/department/di4a-department

Recommended next-stage documents

Ref.	Document	Format	Purpose
A	Cassacco University Cooperation Brief	3-5 pages	Scope, research questions, proposed work packages, independence, data/publication principles.
B	Cassacco Verified Site File	Technical annex	Parcel map, field history, baseline metadata, hydrology, access, management and legal-use documentation.
C	Balkan Basalt Field Feedstock Specification	Laboratory dossier	Batch-specific chemistry, mineralogy, PSD, safety and chain of custody.
D	Cassacco Field Trial Protocol	Scientific protocol	Plot design, controls, dose logic, sampling plan, endpoints, statistics and QA/QC.
E	Cassacco Field Report - Reporting Period 1	Public evidence report	First comparative soil/crop dataset; ERW evidence status; limitations and next decision.

END STATE

The objective of Version 1 is not to pre-write the result. It is to create the governance and measurement architecture that will make the result - whatever it is - credible.