

Wool in Ferment / Lane in Fermento

Suint Fermentation Pilot Tour — Field Report

13–22 July 2025 | 5 Host Sites | Northern Italy

Funded by the European Union — Interreg Alpine Space

1. Introduction

What is suint fermentation?

Suint is the natural compound present in raw sheep fleece composed by a mixture of dried sweat, salts, and minerals secreted by the sheep's sudoriferous glands. Unlike lanolin (the greasy wax that coats the fibre), suint is water-soluble and, crucially, mildly alkaline. When raw fleece is submerged in rain water and kept in an anaerobic environment (a sealed container), the suint dissolves and creates conditions in which naturally occurring anaerobic bacteria present on the sheep and in the water, begin to break down the organic matter like dirt and dung embedded in the fleece.

The result, after a soaking period of typically one week or more at temperatures between 20-40 °C, is a fleece that can be rinsed clean with plain water. No detergents. No boiling. No chemical discharge. The liquid by-product which can be used to repeat the process in a shorter time, is also rich in nitrogen, potassium, and ammonia, and can be used as a soil fertilizer, completing a local circular loop.

The method is not new: it was common practice in pre-industrial wool preparation when supply chains were very local, and is still used in some traditional communities. What the Woolshed Project brings is a systematic approach: standardising containers, measuring variables, documenting outcomes, and critically embedding the practice in real farms and workshops to test whether it can work at a distributed scale in today's Alpine context.

The July 2026 tour

From 13 to 22 July 2026, the Woolshed team conducted a tour of five host sites across northern Italy, installing a small-scale suint fermentation set-up at each location and initiating the first fermentation cycle with locally sourced raw wool. The tour was designed as a technical pilot and as an act of community engagement: each stop was an open conversation, a knowledge-sharing moment, and an invitation to a wider network of farmers, weavers, artisans, students, and local experts to participate in and co-own the experiment.

This report documents the technical parameters recorded at each site, the community that gathered around the initiative, and the emerging observations that will inform the next phase of the project. In this interim field report, while the fermentation cycles are ongoing, results will be updated as the process completes at each site.

2. Technical Results

2.1 Overview of the five sites

The table below summarises the key parameters recorded at each site at the time of installation and at the first opening of the fermentation container.

Host / Location	Wool type	Planned (kg)	Washed (kg)	Water type	Water (L)	pH init.	Temp / pH open
Cristina Ferrarini	Broghna breed	10 kg	7.75	Rainwater	80	5	25.5°C / 9.5
Stefano Sartori	Foza breed	5 kg	5	Rainwater	50	7.6	23.5°C / 7.5
Milena Palla	Lamon breed	~5 kg	2	Rainwater	20	7	27.4°C / 9
Tessitura la Colombina	Transhumant Bergamasca breed	8–10 kg	7	Well water	70	8	26°C / 10
Caterina De Boni	Transhumant Biellese breed	5–8 kg	6	Rainwater	60	6	26°C / 8

2.2 Aggregated figures

- **Total wool processed:** 27.75 kg across five sites
- **Total water used:** 280 litres
- **Average water consumption:** 10.1 litres per kilogram of wool — consistent across all sites
- **Water sources:** 4 out of 5 sites used rainwater (soft water, recommended); 1 site (La Colombina) used well water
- **Temperature at opening:** All sites recorded temperatures between 23.5°C and 27.4°C — all above the 20°C threshold required for optimal bacterial activity

2.3 Fermentation indicators: pH analysis

The most reliable field indicator of active fermentation is a rise in pH. As anaerobic bacteria metabolise organic matter and suint releases its alkaline compounds, the liquid becomes progressively more basic. A meaningful pH increase between initial reading (at setup) and the first opening is a positive signal that the process is underway.

Results across the five sites:

- Cristina Ferrarini showed the strongest fermentation response: pH rose from 5.0 to 9.5 ($\Delta +4.5$), indicating very active bacterial activity. The low initial pH of her rainwater may have created favourable conditions for a more dramatic shift.
- Tessitura la Colombina, Caterina De Boni, and Milena Palla all recorded a consistent pH increase of +2 points, signalling healthy fermentation activity.

- Stefano Sartori recorded virtually no pH change (7.6 → 7.5). This is the most notable anomaly in the dataset but he was the only one using an electronic device to measure pH. The site also recorded the lowest opening temperature (23.5°C). A slight initial pH that was already relatively neutral (7.6) may also have masked the fermentation signal, or bacterial activity may have been slower to establish. This result warrants careful monitoring at the next reading.

It is worth noting that Stefano's site used rainwater like most others, so water hardness alone does not explain the atypical result. Further observations as the cycle progresses will be important.

2.4 Water efficiency - a preliminary comparison

The consistent figure of approximately 10 litres of water per kilogram of wool across all five sites is a meaningful early finding. Industrial cold-water pre-soaking typically uses 15–20 L/kg before the actual scouring stage even begins. Conventional scouring, which involves multiple hot baths with detergents, consumes considerably more. Suint fermentation, by contrast, achieves primary cleaning at roughly 10.1 L/kg with no heat energy and no chemicals, at ambient temperature, using containers that cost tens of euros rather than industrial infrastructure costing tens of thousands.

These figures will need to be validated through cleanliness assessments after rinsing, but they represent a promising baseline for the water-efficiency argument central to the Woolshed project's case.

3. Community Engagement and Knowledge Sharing

3.1 The tour as a social event

One of the most significant and least anticipated outcomes of the July tour was its social dimension. Several host sites extended open invitations to their local networks, and the installations became occasions for spontaneous gatherings of people who, in many cases, had never met before but shared a deep interest in wool, sustainable fibre, and local autonomy.

The tour attracted a remarkable cross-section of the regional fibre community: shepherds, hand-weavers, textile artists, agricultural technicians, university students, sheepdog trainers, biodiversity farmers, felt-makers, and physicists. The diversity of backgrounds reflected the genuine breadth of interest in finding better, more local ways of working with raw wool.

3.2 Guest participants by stop

The table below documents the guest participants who joined the tour at each stop, along with their background and relevant links.

Stop host	Guest name	Role / Background	Web / Social
Cristina Ferrarini	Benedetta	Milkmaid & shepherd, representing Barbara Crea owner of 15 Brogna sheep and founder of Quelle del Baito	quelledelbaito.it / @babydelbaito
	Lisbeth Wahl	Textile artist and weaver	tessereamano.it / @lisbeth.wahl.fiberart
	Elisa Decarli	Agricultural technician, Valpolicella, interested in fermentation	agricolturaorganica.org / @deafal_aor
	Riccardo, Giulia, Anna	Students and artists (IUAV), seeking to wash wool for felt tapestries	@giuliaparisatto

Stop host	Guest name	Role / Background	Web / Social
	Valeria Rugo	Sheepdog trainer; keeps sheep for training	italiansheepdogassociation.org / @vrugo
	Laura Tinazzi	Biodiversity farm manager; uses wool as crop mulch	fondoprognoi.it
	Annalisa De Luca	Fibre arts coordinator; recovers wool between Tuscany and Val Camonica, washes herself	tessereamano.it/annalisa-de-luca / @lacasadellestreghe
Stefano Sartori	Isabella Bortoli	Pecora brogna breeder, and member of brogna association	—
Milena Palla	Romolo Tollardo	Lamon shepherd, 10 sheep owner (his father had 860); Pecora Lamon Association member	—
	Paola Baldissera	Felt artisan, Alleghe	@paolinite
	Katia Signor	Novice weaver; relative keeps 300 sheep on Monte Grappa. Discovered the tour via social media and purchased 1 kg of Lamon wool from Milena during the visit.	@i.filati.di.katia
	Martina Scalet	Beelart Association member; raises 20 Vallese Naso Nero sheep. Colleague Caterina Gerardi is an expert in flax cultivation and spinning.	@associazione_beelart
Caterina De Boni	Ennia Visentin *	Ennia Visentin is an expert in the origins and applications of natural and mineral-based pigments. She's author of book: "Natura & Colore – Nuove prospettive dell'arte tintoria"	
	Ivan Cisilino	Physicist and hemp specialist; previous Interreg collaboration with Centro Consorzi	@ivan_cisilino

* Ennia Visentin's was an unofficial stop engaged by Caterina De Boni and asked if she could also start an experiment in her garden.

3.3 Highlights

Cristina Ferrarini's stop - a spontaneous fibre summit

The stop at Cristina Ferrarini's site drew seven guests representing an extraordinary range of perspectives. Benedetta, a milkmaid and shepherd, attended on behalf of Barbara, who keeps 15 Brogna sheep, a rare

native breed. Elisa Decarli, an agricultural technician active in the Valpolicella area, brought an institutional lens to the discussion, exploring how fermentation could be documented and validated in an agricultural extension context. Riccardo, Giulia, and Anna, students and artists from the IUAV architecture and design school in Venice, came with an interest in a local supply chain for washing wool for felt tapestries, representing the creative economy's stake in local raw materials and ecodesign. Annalisa De Luca, who coordinates fibre arts networks between Tuscany and Val Camonica and has already experimented with washing her own wool, contributed hands-on expertise that enriched the practical discussion considerably. The gathering represented, in miniature, the ecosystem that a functional local wool economy would need: producers, processors, technicians, designers, and artists.

Milena Palla's stop - the Lamon wool community

The stop at Milena Palla's site brought together voices from around the Lamon sheep tradition, a heritage breed long associated with the Feltre and Belluno area. Romolo Tollardo, a Lamon shepherd and member of the Pecora Lamon Association, offered the generational perspective: his family's flock once numbered 860 animals under his father's management; today he keeps 10 and believes the association should be revived. The arc of that story, from 860 to 10, captures in human terms the crisis that the Woolshed project is trying to address. Martina Scalet of the Beelart Association, who raises 20 Vallese Naso Nero sheep, added another native breed to the conversation and mentioned her colleague Caterina Gerardi's expertise in flax cultivation and spinning, a reminder that natural fibre recovery is rarely just about wool. The day after, we also met the mayor of Lamon, who was not able to join the event and we shared with him the process, woolshed vision and next steps.

Perhaps the most vivid moment of the tour occurred here: Katia Signor, a novice weaver who discovered the tour through social media, arrived at Milena's site and, during the visit itself, was happy to discover Milena's wool production and purchased one kilogram of Lamon wool directly from her. A small transaction, but a meaningful one: the tour generated not only technical data but a real, immediate economic connection between a producer and a new customer, grounded in shared interest in local fibre.

3.4 A growing network: the Wool in Ferment, community group

The connections formed during the tour did not end when the team moved on. By the close of the tour, a shared WhatsApp group had been established, now counting 26 members, participants, guests, hosts, and the Woolshed team. The group is already active, with members sharing updates on the progress of their fermentation vessels, photographs of the liquid changing colour, observations about smell and turbidity, and questions for each other.

The 26 members represent a distributed, self-motivated network of people watching a fermenting container in their barn, kitchen, or workshop and comparing notes with others doing the same. The knowledge being generated is collective, embodied, and vernacular in the best sense: it belongs to the people doing the work.

The Woolshed team will continue to facilitate and observe this community, documenting exchanges that may inform future iterations of the pilot and the project's broader dissemination strategy.

The social media posts on LinkedIn and Instagram also included a form to collect expressions of interest for a future online webinar, planned for autumn, where the results will be shared. So far, 25 people from different countries have registered.

4. Preliminary Observations and Open Questions

4.1 What is working

- The fermentation process activated successfully at four out of five sites within the first cycle, as evidenced by consistent pH increases.
- Water consumption figures are encouraging: approximately 10 L/kg, achieved without detergents, heat, or specialised equipment.
- Rainwater proved to be the predominant choice and appears to support fermentation well across different climatic microenvironments.
- The tour format, direct installation combined with open gatherings, proved highly effective at generating both technical data and community engagement simultaneously.

4.2 Open questions and next steps

- Stefano Sartori's site requires careful monitoring. The absence of a pH shift at the first opening is the main technical anomaly in the dataset and warrants investigation — further readings, and if necessary, a repeat cycle with adjusted parameters (longer soaking, warmer placement).
- Final cleanliness assessment: visual and tactile evaluation of the rinsed fleece at each site will be the next key milestone. pH alone confirms fermentation; only inspection of the washed fibre confirms whether the cleaning result meets the quality threshold needed for processing.
- Water type effect: the comparison between La Colombina's well water result and the rainwater results across other sites is currently inconclusive. A controlled follow-up with the same wool in both water types would help isolate the variable.
- Regulatory pathway: suint fermentation currently sits in a regulatory gap under EU Reg. 1069/2009 and its implementing Regulation 142/2011, it is neither explicitly approved nor prohibited as a scouring method. Engagement with national competent veterinary authorities about a formal derogation or pilot registration will be an important next step for the project's institutional dimension.
- Community documentation: the WhatsApp group represents a live, distributed dataset of parallel fermentation cycles. Systematic (and consensual) documentation of member observations could meaningfully enrich the pilot's evidence base.