SCIENTIFIC PROTOCOL FOR VITICULTURAL ZONING, AGRONOMY & ESTATE ETHICS

Terroir 24 Assessment Methodology

An objective 100-point framework recognising sense of place and governing the award of Terroir Stars

1. Rationale and Vision of the Protocol

The viticultural heartland of the Mediterranean basin commands a pedological, mesoclimatic and ampelographic patrimony virtually unmatched anywhere in the wine world, yet this very wealth now calls for a decisive, verifiable step change in ambition. For decades, too large a swathe of production prioritised yield maximisation and volumetric consistency—gradually homogenising vineyard management and obscuring what makes a site singular: the considered dialogue between *Vitis vinifera*, its Mediterranean environment and daily husbandry in the vines.

Terroir 24 has been conceived to restore primacy to vineyard stewardship and to the geoclimatic and viticultural decisions that forge genuine oenological potential at source. Rather than assigning an arbitrary hierarchy to one lithology over another, the protocol examines with scientific rigour how site identity, soil-biome integrity, vine longevity, attentive hand-tending and supply-chain transparency cohere into an articulate whole.

> **A Diagnostic Compass, Not a League Table:** Terroir 24 does not exist to pass summary judgement on winemaking prowess in isolation. Instead, it offers winegrowers and estates an authoritative, transparent and academically grounded framework designed to guide continuous improvement and recognise those who invest in genuine territorial authenticity.

2. Scoring Architecture and Objective Scale (0–100)

Aligned with International Organisation of Vine and Wine (OIV) guidelines on viticultural zoning and sustainability, the protocol evaluates **24 objective criteria**, each carrying an **equal weight of 1**. Every indicator is scored strictly against documentary evidence, analytical records and direct field verification, eliminating subjective bias or discretionary adjustment.

Scoring Formula: [Sum of 24 Criteria (0–4 score × weight 1) = **max. 96 points**] + [Exceptional Site Distinction = **max. +4 points**] = **Final Score (0–100)**

	AWARDING CRITERION	ACADEMIC THRESHOLD & EMPIRICAL VERIFICATION REQUIRED
0 pts	**Absence or Severe Degradation**	Complete lack of supporting records or field evidence, or documented soil-degrading interventions (such as recent deep ripping/*scasso* resulting in topsoil and organic-matter loss).
1 pt	**Nascent / Fragmentary**	Incomplete baseline data or conventional management showing minimal site differentiation, heavy mechanisation or partial parcel traceability.
2 pts	**Baseline Compliance**	Technical parameters within regional norms, foundational records in order and sound, conventional viticultural and cellar execution.
3 pts	**Advanced Stewardship**	Robust, current analytical and documentary records, strong coherence between soil, vine and husbandry, rigorous traceability and active landscape care.
4 pts	**Verified Benchmark**	Exemplary scientific and empirical rigour: full soil profiles, active bio-indicators, certified vine longevity, predominantly manual husbandry, 100% estate fruit and full historical/ethical provenance.

Award for Singular & Exceptional Conditions (0 to +4 points): Upon completing the 24-criterion assessment, the auditor may allocate up to **4 discretionary points** solely where rare ecological, historical, ampelographic or viticultural attributes are verified during inspection, each substantiated in writing within the technical audit report.

3. The 24 Assessment Descriptors (Weight 1 Each)

	ASSESSMENT CRITERION	OBJECTIVE DESCRIPTOR & VERIFICATION SOURCES (OIV & ESTATE ETHICS)
SECTION I — GEOCLIMATIC PROFILE, ZONING & SOIL INTEGRITY (REF. OIV PHYSICAL ENVIRONMENT & ZONING)		
01	**Pedological characterisation & hydrological coherence**	Documented physico-chemical soil analyses (texture, coarse fraction, pH, active lime, CEC) demonstrating functional alignment between natural profile drainage, rootstock choice and floor management, without arbitrary preference among lithologies.
02	**Soil-biome stewardship & organic-matter balance**	Analytically verified soil organic matter, documented soil-health bio-indicators (e.g. QBS-ar arthropod index, edaphic fauna), cover-cropping and the absence of destructive tillage or *scasso* that depletes fertile topsoil.
03	**Viticultural zoning & mesoclimatic identity**	Objective delineation of the vineyard unit via elevation, gradient, aspect and multi-year agrometeorological records (thermal and rainfall regimes) specific to individual parcels.

	ASSESSMENT CRITERION	OBJECTIVE DESCRIPTOR & VERIFICATION SOURCES (OIV & ESTATE ETHICS)
04	**Anemological regime & natural phytoclimatic health**	Exposure to prevailing air currents and natural canopy ventilation, corroborated by historical fungal-disease pressure records and intrinsic fruit soundness at harvest.
05	**Ampelographic & rootstock suitability**	Documented adaptation of cultivars—with particular regard for indigenous and historical local biotypes—and rootstocks to the specific pedoclimatic conditions of each site.
06	**Water balance & hydrological governance**	Empirical monitoring of vine water status, predominantly dry-farmed viticulture or emergency irrigation strictly governed by physiological thresholds and metered application logs.
SECTION II — VINEYARD LONGEVITY & RESPECTFUL HUSBANDRY (REF. OIV PLANT MATERIAL & CULTIVATION)		
07	**Vineyard longevity & vine age**	Cadastral and planting records verifying vine age across producing blocks, awarding progressively higher marks to mature, old-vine parcels and historical plantings of proven longevity.
08	**Prevalence of manual vineyard operations**	Proportion of seasonal vineyard tasks—winter pruning, tying, canopy management and hand-harvesting—performed manually rather than mechanically, as substantiated by vineyard logs.
09	**Physiologically respectful vine husbandry**	Field-verified vine-training discipline: pruning calibrated to preserve uninterrupted sap flow, avoidance of large structural wounds on old wood and balanced canopy-to-crop equilibrium.
10	**Planting density, row orientation & training system**	Verifiable geometric parameters (vines per hectare, row azimuth, traditional or site-adapted training architectures) aligned with solar interception, airflow and balanced ripening.
11	**Crop-load regulation & yield per hectare**	Actual harvested yields verified through official harvest declarations and cellar intake records, calibrated to soil carrying capacity and phenolic and aromatic concentration.
12	**Plant-protection discipline & environmental certification**	Fully audited spray diaries, measurable reduction of synthetic chemical inputs and adherence to third-party certified frameworks (Organic, SQNPI or equivalent accredited schemes).
SECTION III — BIODIVERSITY, SINGLE-PARCEL TRACEABILITY & ORIGIN-LED WINEMAKING (REF. OIV SUSTAINABILITY & SUPPLY CHAIN)		
13	**Functional biodiversity & ecological infrastructure**	Mapped, verifiable presence of hedgerows, woodland margins, buffer strips, multispecies cover crops and ecological corridors sustaining beneficial arthropods and agroecosystem resilience.
14	**Energy efficiency & environmental footprint**	Auditable metrics covering energy consumption, renewable-energy share, winery wastewater treatment, by-product circularity and packaging weight and lifecycle impact.

	ASSESSMENT CRITERION	OBJECTIVE DESCRIPTOR & VERIFICATION SOURCES (OIV & ESTATE ETHICS)
15	**Grape provenance & single-parcel vinification**	End-to-end supply-chain integrity: top marks are reserved for estates vinifying exclusively estate-grown fruit (100%) while conducting separate vinifications for distinct vineyard parcels.
16	**Fermentation management & yeast ecology**	Cellar records documenting fermentation protocols, reliance on indigenous yeast populations or transparently declared starters, and thermal control respectful of varietal and site expression.
17	**Maceration, extraction & maturation**	Fully traced maceration durations, extraction regimens and vessel choices during elevage, calibrated to articulate vineyard origin without masking oak or cellar artefact.
18	**Analytical integrity & oenological purity**	Analytical and regulatory compliance of the finished wine, compositional authenticity and the absence of corrective interventions foreign to the vintage and site.
SECTION IV — HUMAN CAPITAL, DOCUMENTED HERITAGE, ETHICS & TERRITORY (REF. OIV HUMAN FACTORS & GOVERNANCE)		
19	**Estate heritage & generational continuity**	Years of viticultural activity and familial or institutional stewardship substantiated through historical registries, cadastral deeds, archival records or verifiable public documentation.
20	**Preservation of traditions & *Genius Loci***	Active, documented safeguarding of local viticultural lore, historic massal selections, traditional training forms (such as *alberello* or *pergola*) and regional winegrowing heritage.
21	**Landscape stewardship & hydrogeological upkeep**	Ongoing, verifiable maintenance of dry-stone walls (*muretti a secco*), grassed embankments (*ciglioni*), terraces, drainage channels and rural tracks safeguarding agrarian stability.
22	**Local workforce & technical skill retention**	Demonstrated community anchorage through stable employment of local vineyard and cellar staff, ongoing training and intergenerational transfer of specialist viticultural skills.
23	**Ethical governance & labour compliance**	Verifiable compliance with labour legislation, vineyard and winery health and safety standards, fair contractual terms and transparent commercial conduct across the supply chain.
24	**Civic engagement & territorial stewardship**	Concrete, documented and ongoing initiatives benefiting the local community, agronomic research, environmental conservation or cultural promotion of the winegrowing district.

4. Criteria for the Award of Terroir Stars

Terroir Stars are conferred exclusively upon achieving the cumulative score thresholds (out of 100 points) validated through an independent technical audit:

DISTINCTION	SCORE BAND	TECHNICAL SIGNIFICANCE & ESTATE PROFILE
★★★ Three Terroir Stars	97 – 100 pts	**Benchmark Territorial Archetype:** Fully documented excellence across all 24 criteria, exemplifying seamless synergy between living soils, old vines, single-parcel estate vinifications and ethical governance.
★★ Two Terroir Stars	92 – 96 pts	**Certified Sense of Place:** Exceptional viticultural and oenological rigour, articulate expression of *Genius Loci* and robust documentary provenance, with only minor scope for refinement.
★ One Terroir Star	87 – 91 pts	**Recognised Territorial Authenticity:** Principled estate aligned with OIV foundations, demonstrating sound pedoclimatic coherence, respectful husbandry and transparent management.
Diagnostic Audit	< 87 pts	**Developmental Pathway:** No star awarded. The estate receives a confidential technical report detailing all 24 indicators to guide future agronomic and qualitative investment.

Why Commission a Terroir 24 Audit: Submitting an estate to assessment means inviting an objective, rigorous and constructive technical review. Whether the outcome leads to the award of **Terroir Stars** or the delivery of a **Confidential Diagnostic Report**, the winery gains a scientific mapping of its agronomic and territorial capital—substantiating for sommeliers, collectors and discerning travellers the true calibre of its work in the vineyard.