

Evidence-Based Culinary Judging: Maadarani's Framework for the Evidence Chain and Decision Review

From sensory observation to a justified score: calibration, fairness and documentation

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Abstract

This article proposes an evidence-based culinary judging framework that makes decisions explainable and reviewable while preserving expert sensory judgment. Its core is a “judging evidence chain”: a specific observation, connected to a declared criterion and translated into a justified score under documented assessment conditions. The framework addresses calibration, independent scoring, disagreement, cultural fairness, decision records and review. A scoring example and a hypothetical case support practical use. This is the author’s conceptual proposal; the article reports no experimental data establishing its superiority and sets out a programme for testing it.

Keywords: culinary judging; sensory assessment; judge calibration; competition fairness;

evidence chain; decision review.

1. From expertise to a defensible decision

A culinary judge brings technical knowledge, sensory memory and expectations to the table. These resources become difficult to scrutinise when the connection between an observation and its scoring consequence remains unexplained. “The dish did not convince me” identifies neither the defect nor its significance. The proposed framework treats a reasoned explanation, proportionate to the decision’s consequences, as a foundation of professional authority.

The aim is to place expertise within a clear procedure: criteria disclosed before assessment, independent observations and explicit limits on what a score represents. A number should summarise a documented professional judgment rather than stand apart from its context.

2. Scope and reference basis

The proposal concerns dishes assessed in culinary competitions and professional training. Competition categories differ in their objectives and participation requirements. This framework does not replace an event’s adopted rules. It proposes a way to document their application, and provides neither legal arbitration nor judge accreditation or food safety certification.

ISO 6658:2017 addresses general sensory methodology [1]; ISO 8586:2023 addresses selection and training of sensory assessors [2]. ISO 11132:2021 concerns quantitative descriptive panel performance, including discrimination, agreement and repeatability; between-panel and changed-condition reproducibility are outside its scope [3]. These fields inform the proposal without equating culinary competition with sensory laboratory testing. Only public official abstracts were consulted, not the full standards; no clause-level compliance is claimed.

3. Separate four operations

- **Description:** what is observed, smelled or tasted—for example, pronounced acidity and a fragile crust.
- **Evaluation:** whether that characteristic satisfies a declared criterion appropriate to

the category.

- **Personal preference:** whether the judge likes it; this becomes a scoring criterion only when the rules explicitly assess liking or acceptance.
- **Award decision:** applying aggregation, eligibility and tie rules to scores.

A deliberately acidic dish may be well executed even when a judge prefers more sweetness. An innovative dish may still lack balance under the declared criteria. Distinguishing these operations exposes the basis of judgment and prevents private habits from becoming undisclosed requirements.

4. The proposed judging evidence chain

The author uses “judging evidence chain” as an organisational term for this proposal, without claiming historical priority over all previous methods:

Assessment conditions → observation → criterion → consequence → score → decision → review record.

For each link, the judge asks when and how the sample was assessed, what was observed, which criterion applies, how its fulfilment was affected, which descriptive anchor supports the score, how scores were aggregated and whether changes can be traced. Evidence can include sensory observations and documented technical observations; not every relevant quality is assumed to have an instrumental measurement.

A useful note states: “At the recorded tasting time, the top was crisp but the base was soft. This reduced the consistency required under execution. I assigned 7/10 using the anchor for good performance with a noticeable defect.” “Weak technique” alone does not show that reasoning.

5. Define criteria before seeing the dishes

Each criterion needs a definition, boundaries, acceptable evidence, weight and scoring anchors. The rules should identify who handles procedural violations. Timing penalties, mandatory ingredients, ties, conflicts of interest and appeals must be addressed in advance. New criteria should not be introduced after dishes are seen.

Initial training anchors on a 0–10 scale might be: 9–10 strong fulfilment with minor or no defects; 7–8 good fulfilment with a noticeable defect; 5–6 partial fulfilment with a clear

adverse effect; 3–4 major failure; 0–2 severe failure as defined for the category. These proposed ranges require criterion-specific examples and are not automatically equivalent to another body's medal thresholds. A demonstrated failure scored zero must be distinguished from an assessment made impossible by a procedural incident.

6. Illustrative scoring model

This training example is not an internationally approved weighting system. An actual competition uses its adopted rules and keeps procedural penalties distinct from dish-quality assessment.

Criterion	Weight /100	Evidence to record
Sensory quality and balance	45	Interaction of flavour, aroma, texture and appropriate serving temperature
Technical execution	25	Evidence of cooking control and consistency appropriate to the intended technique
Coherence and category requirements	15	Roles of components, clarity of intent and compliance with the brief
Functional and visual presentation	15	Ease of eating, arrangement and contribution to the experience

Total = sum of (criterion score /10 × criterion weight). Scores of 8, 7, 8 and 9 give $36 + 17.5 + 12 + 13.5 = \mathbf{79/100}$. Judge aggregation, rounding, penalties and ties must be specified before assessment. Aggregation must not change once a likely winner becomes apparent.

7. Safety as a separate eligibility gate

Presentation quality should not compensate for a documented safety violation. Rules must define who may stop tasting or exclude a sample, the evidence required and the procedure. A suspected hazard is referred to the responsible specialist under the event protocol. Tasting cannot establish food safety; judges should not be asked to taste a sample suspected to be hazardous. Records separate observation, inference and the authorised decision while protecting sensitive health information.

8. Document assessment conditions

The protocol records sample order, arrival and tasting times, temperature when measured, and the portion provided. Training studies can balance presentation order and conceal producer identity where the objective allows. When visual presentation is a competition criterion, removing it prevents its assessment. A controlled descriptive sensory exercise and a complete competition evaluation serve different purposes.

Breaks and palate-cleansing procedures should suit the product and be documented. If comparable dishes arrive under unequal conditions, an advance rule should address the incident rather than automatically charging competitors for service failures outside their control.

9. Calibration before deliberation

Judges discuss criterion definitions and apply them to training examples. Each records observations and scores independently before discussing differences. The goal is a shared understanding of criteria and the sources of disagreement, not compelled unanimity. Any acceptable variation is chosen for the panel's purpose and informed by training data, rather than presented as an arbitrary global threshold.

Repeated coded samples in suitable training studies can examine repeatability, agreement and product discrimination. These procedures do not transfer automatically to a live contest: re-serving a dish can change its temperature and texture. Analytical tools must fit the study design, with statistical models and interpretive limits stated explicitly.

10. Disagreement and repeated penalties

Independent scores are retained before panel discussion. When they differ substantially, the chair examines evidence, definitions and arithmetic without imposing personal taste. Changes require recorded reasons and retention of the original score. Different justified scores may remain; the announced aggregation rule determines the outcome.

A single defect can affect several criteria only when each consequence is explained separately. A soft base may indicate poor execution and also weaken sensory texture contrast. It should not trigger duplicated fixed deductions under several headings without criterion-specific evidence. Procedural penalties must likewise be distinguished from

graded quality assessment.

11. Fairness across culinary traditions

A traditional dish should not be judged against an undisclosed definition drawn from another cuisine. Panels need category knowledge or documented specialist input. Competitors may explain intent through information of equal length and timing. Declared intent does not itself prove successful execution: calling bitterness intentional does not establish that its role satisfies the agreed criteria.

Expensive ingredients and modern techniques do not earn automatic points, and simplicity is not a defect by itself. Assess the result within its category. If originality is scored, define it operationally rather than equating it with a judge's unfamiliarity.

12. Hypothetical case: an acidic dessert

A dessert combines a crisp base and smooth cream. Its category permits prominent acidity when it supports balance. A judge records that it is less sweet than personally preferred but that the acidity works with the cream, so preference alone prompts no deduction. The judge also observes a soft centre in the base and an arrangement that makes a complete mouthful difficult.

The record connects softness to execution and eating difficulty to functional presentation, specifying any separate sensory effect. Scores then follow the published anchors. If another judge finds the entire base crisp, compare portions and tasting times: the disagreement may reflect sample variation. No result changes until the difference is understood and the rules permit action. This is a fictional training case, not a reported competition result.

13. Close scores and uncertainty

A small difference does not establish stable superiority in every setting. Check arithmetic, missing information and unexplained variation, then apply the announced tie rule. Do not invent a tie zone after results or present many decimal places as guaranteed sensory precision. Statistical uncertainty intervals require a stated design, data and method; dispersion among a few judges is not automatically a valid confidence interval.

14. Decision records and review

Record sample identity, category, rule version, judge, timing, observations per criterion, original scores, separate penalties, calculation and all amendments with their author and reason. Attach photographs or measurements when lawful and useful. A QR code can provide access to records; it does not itself establish the decision's correctness.

Competitors receive actionable explanations subject to event confidentiality and privacy policies. Appeals examine procedure, calculation, criterion application and conflicts of interest. The authority and limits of reassessment must be declared; the framework does not promise a changed outcome for every appeal.

15. Compact evidence card

Field	Required question
Sample and conditions	Which code, portion, time and service conditions?
Observation	What specific quality, and with what certainty?
Criterion and consequence	Which criterion applies, and how is fulfilment affected?
Score and anchor	Why this score under this criterion's definition?
Review	Was it changed, by whom and for what reason?

16. Testing the proposal

A pilot study could compare usual practice with the evidence-chain protocol using identical criteria, appropriate training and balanced case order. Prespecified outcomes could include traceability, assessment time, competitor understanding of feedback, and agreement and repeatability where the tasks support them. Dishes from multiple culinary traditions and reviewed translations would test applicability beyond one setting.

Documentation may increase workload, and narrowly taught anchors may suppress meaningful distinctions. Improved agreement alone therefore cannot establish fairness: reasoning quality, criterion coverage and diversity also require review. Publish methods, positive and negative findings and sample limitations, with conflict management. Independent testing across settings should precede broad superiority claims.

17. Conclusion

Ahmad Issam Maadarani proposes that strong culinary judging rests on a coherent chain from observation to decision, protecting independent judgment and a competitor's access to fair explanations. The proposal's value lies in its applicability, openness to criticism and testability. Its influence as an international reference depends on professional use, independent review, published evidence and continued development.

Authorship and transparency

Author: Ahmad Issam Maadarani. Type: conceptual and methodological article, not an experimental report. The author is responsible for editorial review and references. The author discloses organisational affiliations with IUOAMC and ICGA. This version contains no participant data or experimental results.

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