Test Methods for the Evaluation of Composting and Compost

NEW METHOD OR PARAMETER PROPOSAL FORM

This form is intended for individuals or organizations who wish to propose the inclusion of a new method in the *Test Methods for the Examination of Composting and Compost* (TMECC). TMECC serves as a critical reference for laboratories, compost producers, regulators, and researchers.

The goal of the review process is to ensure that all methods included in TMECC meet high scientific standards and contribute to the broader understanding and advancement of compost characterization. Providing updated methods helps maintain TMECC's credibility and relevance to the industry, regulators, researchers, and other stakeholders.

The evaluation process is coordinated by the Compost Research and Education Foundation (CREF) and guided by a standardized framework designed to ensure the scientific integrity, technical suitability, and practical feasibility of all proposed methods. Proposals will be reviewed by a panel of technical experts with experience in compost science, analytical methods and technology, and laboratory practices. Each reviewer will evaluate the proposed method against a standardized set of criteria and provide a quantitative score and qualitative feedback.

What to Expect

- Evaluation Criteria: Proposed methods are evaluated across five categories that include clarity and justification (Pre-Evaluation), scientific validity (Technical Suitability), practical implementation (Risk & Feasibility), external validation (e.g., inter-lab studies or peer review), and overall readiness for inclusion. **See the evaluation rubric at the bottom of this form for specific criteria.**

- Supporting Documentation: Submitters must provide detailed descriptions of the method, validation data (e.g., precision, accuracy, sensitivity), references to peer-reviewed literature or standard protocols, and any field or lab results demonstrating its utility.

- Timeline for Review: The review process does not follow a fixed schedule. Timelines may vary depending on the availability of qualified reviewers and method complexity. CREF will communicate with the submitter regarding estimated timelines and any requests for additional information.

- Review Outcomes: Based on the reviewers' evaluation, methods may be accepted, deferred pending additional data, or rejected. Constructive feedback

will be provided in all cases.

If you have questions before submitting, please contact Shelby Hoglund (shelbyhoglund@compostfoundation.org) and Michele Francis (michelefrancis@compostfoundation.org) for guidance.

Please fill out the following information:

Method title and scope

Significance

Has this been peer-reviewed? Please describe and provide reference information:

Justification for adding to TMECC

Brief summary of method process or SOP

The following framework is proposed to be used to evaluate whether a new laboratory method should be accepted and added to TMECC:

1. **Pre-Evaluation** - screens new method proposals to ensure they are clearly defined, relevant, and sufficiently documented before entering technical review. It verifies the method's intended use, scope, and justification for inclusion in TMECC, ensuring only well-prepared submissions proceed.

Requirement	Purpose	Key Artifacts
Method Description & Scope	Clarify analyte, matrix, principle, and intended application	Method SOP, flowchart, overview
Justification for Inclusion	Demonstrate need or added value (e.g., improved sensitivity, cost, speed)	Comparative performance rationale.
Source & Development	Identify origin (e.g., in-house, published, modified) and responsible entity	Method development records, literature

2. **Technical Suitability** - This section assesses the scientific and analytical robustness of the method. It ensures the method has been appropriately validated for its intended use, delivers reliable performance metrics (e.g., accuracy, precision), and aligns with ISO/IEC 17025 requirements for technical competence.

Evaluation Area	Criteria	Evaluation Approach
Method Equivalence	Produces equivalent results to the accepted method(s) or if not rationale	Comparative performance rationale
Performance Metrics	Acceptable ranges for: accuracy, precision, linearity, LOD/LOQ, specificity, robustness	Quantitative benchmarks, side-by-side comparison
Measurement Uncertainty	Justified, documented, and reproducible	Uncertainty budget review
Applicability & Scope	Method must suit intended matrices and analytes	Scope definition audit

3. **Risk and Feasibility Assessment -** This step examines practical and operational considerations related to adopting the method. It evaluates potential risks, costs, resource needs, and scalability, helping determine whether the method is feasible to implement broadly and sustainably across the laboratory network.

Factor	Evaluation Question	Assessment Tool
Operational Risk	Does this method introduce process risks or require uncommon reagents/instruments?	Risk Register, Failure Modes and Effects Analysis (FMEA)
Scalability	Can the method be deployed across labs with consistent performance?	Pilot testing, inter-lab studies
Cost & Resource Needs	Is the method cost-effective and sustainable?	Cost-benefit analysis
Regulatory Alignment	Does it align with applicable regulations (e.g., EPA, FDA, EMA)?	Regulatory mapping

4. **External Validation or Benchmarking-** If applicable, this phase assesses whether the method has been externally validated or recognized through inter-laboratory studies, proficiency testing, or peer-reviewed publication. It strengthens confidence in the method's reliability and acceptance within the broader scientific or regulatory community.

Criteria	Purpose	Examples
Inter-laboratory comparison	Confirm reproducibility across sites	Round Robin/PT
Proficiency Testing	Demonstrate acceptable performance	PT participation with new method
Peer-reviewed publication or external recognition	Establish credibility	Published method, adopted standard

5. **Final Review & Recommendation -**The final stage consolidates all findings from prior evaluations and presents them for formal review and approval. A decision is made—based on technical merit, compliance, and operational readiness—on whether the method should be officially added.

New Method Evaluation Decision Matrix

Instructions:

- Rate each criterion based on evidence submitted and review findings:
  - 3 = Fully Meets Requirement
  - 2 = Partially Meets
  - 1 = Does Not Meet
  - N/A = Not Applicable
- Multiply by Weight to calculate Weighted Score
- All criteria must be rated 2 or higher for the method to pass.

Category	Criteria	Weight	Score (1–3)	Weighted Score	Comments
1. Pre-Evaluation	Clear method scope, rationale, and documentation	5			
2. Technical Suitability	Produces data equivalent to established methods, otherwise rationale given	10			
	Validation complete (accuracy, precision, LOD, MU)	10			
	Suitable for intended matrices/analytes	5			
3. Risk & Feasibility	Operationally feasible and scalable	5			
	Does not introduce particularly hazardous/dangerous processes/materials	5			
	No critical supply/instrumentation constraints	5			
	Cost details and implications	5			
4. External Support	Inter-lab study, PT, or peer-review demonstrates reproducibility across labs	10			
TOTAL				**/180**	