

## **TERMS OF REFERENCE FOR THE R&D PROJECT**

Food and Agriculture Department  
Stimulant Foods Sectional Committee, FAD 6

### **1 Title of the Project**

Development of test method for determination of chicory content in coffee-chicory powder

### **2 Background**

- 2.1 Coffee powder is the material made from freshly roasted and ground pure coffee beans while chicory powder is the material prepared by roasting and grinding of cleaned and dried chips of chicory roots. The addition of chicory to the coffee is not allowed unless the product is labelled as coffee-chicory mixture. Chicory tastes similar to coffee, featuring a flavor that is often described as slightly earthy and nutty. Chicory is a cheaper substitute for coffee and used for adulteration of coffee.
- 2.2 In the Indian Standards on coffee-chicory powder [IS 3309 : 2022 ‘Soluble coffee-chicory powder Specification (*third revision*)’ and IS 3802 : 2019 ‘Roasted coffee-Chicory powder – Specification (*second revision*)’], maximum limit of chicory in coffee-chicory powder has been specified, however, due to unavailability of test methods for this purpose, no test method has been prescribed in the Indian Standards. Manufacturers are required to declare the chicory content on the product label, however, there are no test methods to check conformance to this requirement/label claim regarding chicory content.
- 2.3 Stimulant Foods Sectional Committee, FAD 6 of BIS has, therefore, identified the subject of “Development of test method for determination of chicory content in coffee-chicory powder”. The developed test method would be used to formulate a separate Indian Standard on this subject and subsequently be referred in the relevant Indian Standards on product specifications.

### **3 Objective**

To develop test method for determination of chicory content in coffee-chicory powder including its validation study.

### **4 Scope**

- 4.1 Detailed review of existing literature and national, regional and International Standards, research publications for the relevant methods for determination of chicory content in coffee-chicory powder.
- 4.2 If method(s) is available, detailed laboratory experiments to validate the method for determination of chicory content in different blends of coffee-chicory powder.
- 4.3 If methods are not available, detailed laboratory analysis to develop/standardize and validate the method(s) for determination of chicory content in coffee-chicory powder.

**4.4** Verification of the applicability of the developed method to minimum 10 different coffee-chicory powder samples (both roasted as well as soluble) of different brands procured from market.

## **5 Research Methodology**

**5.1** Undertake thorough literature review of relevant test methods as per **4.1** and prepare summary report including comparative analysis.

**5.2** Development and validation of method(s) for determination of chicory content in different blends of coffee-chicory powders. The samples taken for testing should include both roasted coffee-chicory blends and soluble coffee-chicory blends. Validation of test method shall be done as per relevant parts of ISO 5725 'Accuracy (trueness and precision) of measurement methods and results'.

**5.3** Procurement of coffee-chicory powder samples of different brands from the market and their analysis to check applicability of the developed test method(s).

**Note:** The proposer shall share the detailed methodology for research including the sample plan on the above subject while submitting the proposal to BIS.

## **6 Deliverables**

Detailed project report of the work done, in hard copy and digital formats, as per the scope specified under **4**, with the following as appendices:

- a) Detailed test method for determination of chicory content in coffee-chicory powder covering the scope of method, reagents and apparatus/equipment, procedure, calculation and expression of results;
- b) Validation report of method including repeatability, its limit of detection and quantification;
- c) The report of review of existing methods available in literature and national, regional and international Standards on this subject; and
- d) Report of the market sample analysis.

## **7 Timeline and Method of Progress Review**

**7.1** Timeline for the project is 6 months from the date of award of the project.

### **7.2 Stages for Progress Review**

<b>Stage</b>	<b>Timeline</b>
<b>Stage I :</b> Review of the literatures and existing stipulations, sampling plan and validation plan	First month
<b>Stage II :</b> Optimization/development and validation of test method(s) and testing of validated method(s) on the market samples. Submission of interim report to Sectional Committee at the end of third month for review.	Second to Fifth month
<b>Stage III :</b>	End of Fifth month

Draft report submission – Sectional Committee will evaluate the draft report and provide feedback/recommend changes, if required.	
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At the end of 6<sup>th</sup> month, project allottee to submit final project report incorporating recommendations/feedback of Committee.

**Note:** The timelines given above are indicative and calculation of time will start from the date of award of sanction letter for the project to the Project leader.

## **8 Support from BIS**

**8.1** Access to Indian and International Standards

**8.2** Letters from BIS to concerned stakeholders, wherever required for support in research project.

## **9 Nodal Officer**

Dr. Bhawana, Sc. D/Joint Director, FAD, BIS, may be contacted at [fad6@bis.gov.in](mailto:fad6@bis.gov.in) for any queries on the research project.