

# CODEX ALIMENTARIUS COMMISSION



Food and Agriculture  
Organization of the  
United Nations



World Health  
Organization

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Agenda item 6.1

CX/MAS 25/44/8-Add.1

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ORIGINAL LANGUAGE ONLY

## JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON METHODS OF ANALYSIS AND SAMPLING

Forty-fourth Session

Virtual

5 – 8 May and 14 May 2025

INFORMATION DOCUMENT: *GENERAL GUIDELINES ON SAMPLING* (CXG 50-2004)  
E-BOOK WITH SAMPLING PLANS APPLICATIONS  
(Comments in reply to CL 2025/18–MAS)

*submitted by*

*Colombia, Egypt, Indonesia, Japan, Kenya, Norway, Philippines and Thailand*

### Background

1. This document compiles comments received through the Codex Online Commenting System (OCS) in response to CL 2025/18-MAS issued in April 2025. Under the OCS, comments are compiled in the following order: general comments are listed first, followed by comments on specific sections.

### Explanatory notes on the appendix

2. The comments submitted through the OCS are hereby annexed and presented in a tabulated format.

## ANNEX

GENERAL COMMENTS	MEMBER / OBSERVER
Colombia está de acuerdo con la publicación del documento en la página web del CCMAS	Colombia
Egypt agrees with the content of the document and considers it a valuable resource for professionals working in this field. The guidelines provide important and practical information that will contribute to improving sampling practices and promoting consistency in application. In this regard, Egypt supports the publication of the document on the CCMAS webpage.	Egypt
Indonesia support the information document is ready for publication on the CCMAS webpage	Indonesia
<p>We do not agree to introduce a new concept of Bayesian plans into this information document.</p> <p>CAC37 in 2014 endorsed that information documents should be by products of ongoing work of the Committee, which is the review of CXG50 in this case. The scope of CXG50 specifically indicated that the focus is on acceptance sampling plans for the inspection of isolated homogeneous lots. It is noted that Bayesian sampling plan is applicable to continuous lots but not suitable for isolated lots. In this situation, if CCMAS wants to introduce Bayesian sampling plans, it should be done through elaboration of a Codex standard or text rather than an information document.</p> <p>Thus, we propose to delete Section 5.5 and all references to Bayesian plans throughout the document.</p>	Japan
<p>Kenya appreciates the continued efforts by CCMAS to develop and publish an information document on the general guidelines on sampling and in form of an E-BOOK with sampling plans and applications. Further, Kenya appreciates the work done by the EWG chaired by New Zealand and co-chaired by Germany.</p> <p>Rationale:</p> <p>The development of an information document on general guidelines on sampling will provide practical examples of sampling plans and information to support the design of sampling plans for isolated lots and sampling plan apps for internal use by the Committee or for public consultation.</p> <p>Kenya agrees with the EWG's recommendations that CCMAS endorses the publication of the information document on the CCMAS webpage. Additionally, Kenya takes note that as other Apps are developed, they will be forwarded for CCMAS' consideration for inclusion to the list of Apps in the information document; and that other supporting resources e.g. webinars will be made available on the CCMAS webpage.</p> <p>Rationale:</p> <p>Information documents are published on the CCMAS webpage and can be considered as living documents subject to revisions when necessary, and therefore further updates to information documents, e.g. inclusion of other apps, could be made in future if required.</p>	Kenya
Norway would like to thank New Zealand and Germany for leading this important work. We support publication on the CCMAS webpage.	Norway

GENERAL COMMENTS	MEMBER / OBSERVER
<p>The Philippines supports the publication of the information document on the CCMAS webpage as it includes practical examples of sampling plans and information to support design of sampling plans for isolated lots and sampling plan apps. Also, it includes more detail on statistical information, measurement uncertainty and Bayesian approaches which is very helpful.</p>	<b>Philippines</b>
<p>1. In principle, we agree with Information Document for the General Guidelines on Sampling (CXG 50–2004) and its publication on the CCMAS webpage.</p> <p>2. We have no objection with the inclusion of Bayesian plans in the document. They address the need for sampling plans with low sample sizes, thus reducing the costs of inspecting product safety and quality.</p> <p>For clarity and to avoid confusion for users, the description and information of Bayesian plans should be clearly separated from classical sampling plans based on CXG 50, specifying producer's and consumer's risks. Therefore, a new appendix should be developed for Bayesian plans, alongside the text for the classical sampling plans.</p>	<b>Thailand</b>

SPECIFIC COMMENTS	MEMBER / OBSERVER
<b>1. INTRODUCTION</b>	
<ul style="list-style-type: none"> <li>To delete as indicated – See general comments.</li> </ul> <p>The purpose of this document is to provide further information on the sampling plans referred to in CXG 50, including background and examples for each of the main types of sampling plan, <del>as well as additional information on other sampling plans including Bayesian plans</del>. A link to the app1 for the design and evaluation of these sampling plans is included. Links for new apps will be included when they become available.</p> <p><del>Section 5.5.2 discusses Bayesian plans based on a risk-based approach. More specifically, the plans are based on the concepts of specific consumer risk and conformance probability from JCGM 106. An overview of Bayesian risks is also provided. This approach was developed in ISO TC 69 SC 5 WG 10 and is described in a technical report as well as in a separate publication.</del></p> <p><del>Section 5.5.3 discusses Bayesian plans based on a utility-based approach. Standard plans are provided for the practitioner. This approach was developed in ISO TC 69 SC 5 WG 10 and is described in a technical report as well as in a separate publication.</del></p>	Japan
<b>2.1.2 PRODUCER'S AND CONSUMER'S RISKS</b>	
<ul style="list-style-type: none"> <li>For readers to better understand the relationship between producer's and consumer's risks and the number of sampling, we propose to add the following text at the end of this section.</li> </ul> <p><u>The produce's risk and consumer's risk should be within an acceptable range. On the other hand, lowering risks require larger number of samples to be analyzed.</u></p> <p>Since analysis of too many samples costs a lot (remember samples analyzed cannot be distributed as food anymore), a balanced approach is necessary.</p> <ul style="list-style-type: none"> <li>To delete as indicated – See general comments.</li> </ul> <p><del>However, it is also possible to introduce a Bayesian framework which allows other definitions of risk, involving the use of a prior distribution based e.g. on past inspections of a characteristic in a product. Bayesian methods can potentially allow the user to achieve a considerable reduction in sample size.</del></p>	Japan
<b>2.2.2 PROCESS FOR THE DESIGN OF SAMPLING PLANS</b>	
<ul style="list-style-type: none"> <li>Figure 2</li> </ul> <p>In the diagram, if conditional branch is shown as rhomboid like the second bottom of the diagram, other conditional branches should be rhomboid as well for consistency.</p> <ul style="list-style-type: none"> <li>To delete as indicated – See general comments.</li> </ul> <p><del>Bayesian plans may be another way sample numbers might be reduced.</del></p>	Japan

SPECIFIC COMMENTS	MEMBER / OBSERVER
<b>2.2.4 CCMAS ENDORSEMENT OF SAMPLING PLANS</b>	
<p>We may need to consider “empirical” sampling plans, so we propose to include the following text as indicated:</p> <p>Consumer’s Risk</p> <p>The probability of accepting a lot whose true mean weight is less than the label quantity e.g. weight by more than a specified amount (not provided here) should be at most 10%.</p> <p>These risk specifications are used in two ways to design plans for the inspection of quantities by weights, in a variables-plan to check compliance of the average weight and in an attributes plan to check that there is not an excessive proportion of deficient packages, weighing less than the label weight by more than a certain amount, in the lot.</p> <p><b><u>Please note that the proposed sampling plan may reflect the current practice for the commodity in the international trade. In such cases, CCMAS may make scientific opinions on the sampling plan, but should not reject it from endorsement.</u></b></p>	Japan
<b>2.3.1 DESCRIPTION OF APPS</b>	
<p>- App3 relates to plans for the assessment of lots for compositional characteristics</p> <p>For further details of App3, this section refers to section 3.3.3, which, however, does not appear in the document.</p>	Thailand
<b>3.1.2 EXAMPLE: ATTRIBUTES PLAN WITH <math>c=0</math></b>	
<ul style="list-style-type: none"> <li>To delete as indicated – See general comments.</li> </ul> <p>Refer to the example in section 3.3.2.</p> <p><del>Section 5.5 discusses Bayesian sampling plans that allow plans controlling producer’s and consumer’s risks to be designed while requiring only small sample sizes.</del></p>	Japan
<b>3.4.2.2 ATTRIBUTES PLANS</b>	
<p><b>Figure 30 OC curves - ad hoc attributes plans</b></p> <p>There are two or more lines in the chart. In the original document, they seem to be drawn in different color, but once printed in black-and-white, these lines are hardly distinguishable. We propose that they should be easily distinguishable, e.g. using dashed line or dotted line. This should apply to other graphs in this document.</p>	Japan
<b>4.6.5 AFLATOXIN SAMPLING PLANS</b>	
<ul style="list-style-type: none"> <li>To delete as indicated – See general comments.</li> </ul> <p>Introduction</p> <p>The sampling plans for mycotoxins derived by Whitaker et al. are special cases of plans for bulk materials. Whitaker used 46 years of laboratory data, including some from contaminated lots, to derive Horwitz-type equations for the sampling, subsampling and analytical components of the total variation.</p>	Japan

SPECIFIC COMMENTS	MEMBER / OBSERVER
<p>This method cannot be applied for the design of plans for new matrices or for new contaminants for which limited, or possibly unsuitable, historical data is available. In this case the classical approach described in Schilling, that underpins the ISO10725 standard, would be applied. A first step is to quantify the components of variation relevant to the intended sampling procedure using a suitable experimental design.</p> <p>However, there are potential problems in that not every lot will be contaminated, and contamination might not be found in those lots that are actually contaminated, so that a considerable number of lots might be required for this exercise. <del>Bayesian approaches might provide a way forward.</del></p>	
<b>5.4.1.2 REINTERPRETATION OF THE CONCEPT OF MEASURAND FOR ACCEPTANCE SAMPLING</b>	
<ul style="list-style-type: none"> <li>To delete as indicated – See general comments.</li> </ul> <p>Insofar as acceptance is based on a criterion expressed in terms of the statistical parameters of the lot under inspection, it is useful to take a step back and to generalize the concept of measurand as follows:</p> <ul style="list-style-type: none"> <li>In acceptance sampling, the statistical parameters of the lot (e.g. lot mean, lot standard deviation) play the role of the measurand.</li> <li>The measurement uncertainty can then be considered to be reflected in the producer's and consumer's risks.</li> <li><del>This reinterpretation is particularly relevant in connection with Bayesian approaches to acceptance sampling.</del></li> </ul>	Japan
<b>5.5 BAYESIAN PLANS</b>	
<p><del>5.5 Bayesian plans</del></p> <p>To delete the section. See general comments.</p>	Japan