

THE FEED ANALYSIS LABORATORY: ESTABLISHMENT AND QUALITY CONTROL

Setting up a feed analysis laboratory, and
implementing a quality assurance system
compliant with ISO/IEC 17025:2005

Authors

L.H. de Jonge
Animal Nutrition Group
Wageningen University
The Netherlands

F.S. Jackson
Manager, Nutrition Laboratory
Massey University
New Zealand

Editor

Harinder P.S. Makkar

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Foreword

Feed has a fundamental influence on productivity, health and welfare of the animal. Feed quality influences animal product quality and safety, and the environment. To achieve balance among these parameters, the animal's nutritional requirements must be properly met.

Confidence in the nutritional information on any feed or feed ingredient provided by suppliers is critical for buyers because it provides a guarantee of feed quality. Current reports from many countries suggest that manufacturers and buyers do not always have confidence in the data provided from non-accredited laboratories, which can negatively affect market prices and international trade. It is therefore important that laboratories work towards adopting a Quality Assurance System for all of their routine feed analyses. This has been detailed in two FAO *Animal Production and Health Manuals*: No. 14, *Quality Assurance for Animal Feed Analysis Laboratories*, and No. 16, *Quality Assurance for Microbiology in Feed Analysis Laboratories*.

Not only must the methods used be of an internationally recognized standard, but all steps in the process, from the initial sample submission through to the final report preparation, must be traceable. An internationally accredited laboratory gives producers and buyers of feed a great deal of confidence in the data they receive. This provides wider market possibilities for feed manufacturers. Also, the right nutritional information about feed ingredients and feeds will enable preparation of balanced diets that meet the nutritional requirements to match the physiological stage of animals and to satisfy the farmer's husbandry objectives.

This document presents a step-by-step process to guide the laboratory management team through the various stages, from planning the feed analysis laboratory building and layout, to hiring suitable staff and choosing which methods to set up, with appropriate equipment requirements. A detailed guideline for initiating a Quality Management System starts with validation of methods, personnel and training; addresses systematic equipment maintenance, calibration, proficiency testing and quality control procedures; and final reporting and auditing, all culminating in a final accreditation inspection within an estimated four-year time frame.

The authors have extensive laboratory experience as well as personal experience with successfully bringing non-accredited laboratories up to an internationally recognized accreditation standard. The content of the document has been peer reviewed by a large number of experts and their suggestions incorporated. The guidelines presented will assist governments and feed manufacturers, as well as a range of institutions, including research and education, to work towards establishment of a feed analysis laboratory – whether as an integral unit or as an independent commercial laboratory – with internationally recognized accreditation.

Berhe G. Tekola

Director

Animal Production and Health Division