

Establishing a laboratory for monitoring veterinary drug residues in food of animal origin in Botswana

The challenge...

Botswana's livestock sector is an important part of the national economy, in particular as regards the export of beef and beef products to international markets. International food standards require that such beef products are free from chemical contaminants and from veterinary drug residues.

An inspection conducted by trading partners identified deficiencies in the country's ability to conduct residue analysis, largely due to the lack of established capacities. Botswana attempted to sub-contract the food analysis work to a reference laboratory outside the country, but found the costs to be prohibitive.

To address the capacity gap, Botswana approached the IAEA for assistance in establishing a laboratory capable of undertaking veterinary drug residues analysis in-house, using nuclear and isotopic technologies.

The project...

From 2012–2013, with the cooperation and support of vital counterparts such as the Botswana National Veterinary Laboratory (BNVL), an IAEA technical cooperation project supported a knowledge-transfer programme. This consisted of six fellowships and two scientific visits, which were conducted in China, Turkey, UK and the United Republic of Tanzania, as well as in the IAEA's Food and Environmental Protection Laboratory (FEPL) of the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture in Seibersdorf, Austria. Eight local personnel received hands-on training in veterinary drug residue and contaminant analysis, laboratory quality management, and the application of radio-receptor assay techniques.



Analyst testing for chemical residues in foods.

Support was also delivered to the BNVL laboratory in the form of equipment and supplies, which enhanced the application of the knowledge acquired in prior training courses.

The impact...

Through this national project, Botswana has successfully developed the competencies needed to continue exporting beef product to international markets. A comprehensive veterinary laboratory capable of undertaking analysis of several drug residues and other chemical contaminants has also been established. The new lab will support the export of local livestock products, reducing Botswana's reliance on outsourced testing, and driving down costs and turnaround times.

Moreover, a pool of trained scientists, capable of establishing and validating analytical methods for residues and conducting routine testing, is now available in-house.

Technical cooperation project BOT/5/006: Establishing a Laboratory for Monitoring Residues of Veterinary Drugs in Food of Animal Origin to Protect Public Health and Enhance International Trade Through Utilization of Nuclear and Related Analytical Techniques