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# Residues in Meat Safety



## Background to pilot project by industry to supplement the National Residue Monitoring program.(draft)

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Red Meat Abattoir Association – Updated July 2017

*(In consultation with the South African Feedlot Industry)*

### Introduction

The Meat Safety Act provides for the owner of abattoir to detect and monitor the use, application and presence of specified substances and residues in meat and animal products in accordance with prescribed methods (*MSA no 40 of 2000 - 11q*)

Safe red meat can only be produced if healthy, clean, residue- and stress free animals are delivered to the *abattoir* where a dedicated inspectorate, under supervision of a veterinarian, can ensure that high standards of animal welfare and food safety are maintained.



### The farm to fork concept



As part of this monitoring a declaration of health and origin must be provided for all animals by the owner of the slaughter stock and recorded by the abattoir owner and such health declaration must contain the following information -

- (a) date of delivery;
- (b) name and address of owner or farm;
- (c) number of animals and specie(s);

- (d) health status of the herd(s) including mortality rate; and
- (e) medication, if given as well as withdrawal periods and dates.



*(Red Meat Regulations-Part VI section 79 (2))*



The control of residue with the subsequent assurances to our red meat consumer will not be possible without an integrated approach of efficient management systems , risk assessment and surveillance systems at all levels of production. More over constructive dialogue between the producers, meat inspection team, veterinarians and officials is needed to develop effective prevention and control strategies .

## Current situation

The department have programs to provide for residue monitoring for the export and national market. Further testing is also provided for or done by retailers as part of the quality assurance specifications.

## Background and proposal for discussion

1. During the meeting with industry in 2016 you provided feedback on the status of the National residue monitoring programs with an indication of a shortage of funds , long turnaround times and the importance of the info as part questionnaires received for possible trade with meat products.
2. The industry indicate a willingness to assist with the residue monitoring program provided that ;
  - a) residue tests must be available to the participant
  - b) summarized information are available to the industry funding or partially funding such tests and
  - c) some consideration be given to the approval of accredited laboratories or tests, in addition to ARC- OVI, as part of the initial screening process.
3. We have requested quotes, methods , sampling requirement. and turnaround time from various laboratories including ARC - OVI and are awaiting response from some laboratories.

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4. We wish to roll out a pilot project with selected abattoirs on the basis that;
- a) The sampling method and accreditation of the test is approved by the NEO.
  - b) The individual results of the respective tests are available to the NEO on the basis of confidentiality.
  - c) The results will still be available to the industry on the basis of summarized results. Individual results may be provided with the approval of the respective abattoirs.
  - d) this information will be available as part of the national reporting on residues.

Following the rollout of such a pilot project , as funded by industry and the reporting of the info , **we wish to consider further application for additional funding with the approval of respective role players.**

The purpose of this proposal is to extent on the residue program in a public /private partnership .

## **Confirmation by DAFF**

DAFF and Provincial Veterinary Authorities discussed the matter and agreed to work with the Industry ( 15 March 2017) with further consultation recommended on the roll out of the project including an agreement on the assistance with sampling.

The initial sampling will commence on 30 March 2017 with the first results to be available on the 15th April.

The sampling of 8 x 60 g ( liver) from two different batches/ owners ( 4 from each) will be tested for the selected residues in the following groups:

- a) Antibiotics ( 15 groups)
- b) Anti inflammatories ( 2 groups)
- c) Antihelmintics ( 1 group)
- d) Growth stimulants ( 3 groups)

The samples will be clearly identified in terms of the batch and carcass number with corresponding information



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related to the ownership of the batch by way of the ante mortem record and declaration of health. The groups of antibiotic residues will remain confidential during the collection process but will be available as part of the results.



The sampling forms have been finalised and handling methods including security of samples prescribed.

Invitations were sent to the first 10 abattoirs (currently 20 % of funding will be towards transformation) with ZA approved abattoirs receiving preference. The program will be extended to sheep abattoirs and also smaller

facilities should further funding become available.

The further testing and profiles will be determined following consultation with industry role player and the department to ensure applicable testing on the basis of risk and usage.

## Envisaged Outcomes

- 1) Expansion of the current national database on residues as required by importing countries
- 2) Additional consumer assurances in our product
- 3) Nationally approved data available to individual clients (abattoir/feedlot/producer within two weeks from sampling
- 4) An awareness on the responsibilities and risk with residues in the industry
- 5) An opportunity for pro active action in the case of non conformances
- 6) Recognition of additional laboratories and /or tests as part of the residue testing programs of the Department.
- 7) A public partnership to the benefit of the department , industry and consumer
- 8) A template for the possible continuation of this project.

## Feedback

The sampling and testing was concluded in June 2017 and results submitted to respective abattoirs.

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## The following products were tested for:

GROUP		ANALYTES
Growth Stimulants	B-agonists	Zilpaterol, Salbutamol, Clenbuterol
Antibacterial substances	Tetra group	Doxycycline, Oxytetra, Chlortetra, Tetracycline
Antibacterial substances	Sulfa group	Sulfadiazine, Sulfadimidine, Sulfamethoxazole
Antibacterial substances	Quinolones	Enrofloxacin, Ciprofloxacin, Norfloxacin
Antibacterial substances	Macrolides	Tylosin, Tiamulin
Antibacterial substances		Florphenicol
Antibacterial substances	Olaquidox	MQCA metabolite
Non Steroidal anti-inflammatory		Phenylbutazone
		Flunixin
Anthelmintics	Ivermectin group	Ivermectin, Moxidectin, Doramectin, Abamectin, Emamectin

## Communication to abattoirs

We requested abattoirs to communicate any results that exceeds the minimum residue levels, to the supplier with written amounts of deviations relating to corrective actions when taken (Meat Safety Act; Regulation No 8056 - Section 49d). Such results will also necessitate a review of the potential hazards/prevention of hazards (Section 53 and 54).

## Summary of results

**10 Abattoirs** participated in the pilot residue monitoring project.

**480 Samples** results returned from the laboratories with the following results:

- 4 positive for **Zilpaterol (µg/kg)**
- 2 positive for **Salbutamol\* (µg/kg)**
- 1 positive for **Oxy (µg/kg)**
- 1 positive for **Aba\* (µg/kg)"**

Feedback on the outcome of the project was also presented during the Red Meat Abattoir Association Conference and Congress.

## DAFF Communication

We received feedback from the Department on 27<sup>th</sup> June 2017, confirming the success of the Residue Monitoring Pilot Project and their evaluation of the laboratory reports submitted.

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## agriculture, forestry & fisheries

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TO: GENERAL MANAGER  
RED MEAT ABATTOIR ASSOCIATION (RMAA)

RE: RESIDUE MONITORING PILOT PROJECT PUBLIC-PRIVATE  
PARTNERSHIP BETWEEN DAFF AND THE RMAA

Dear Dr Neethling,

We commend the RMAA on the Residue Monitoring Pilot Project initiative and for highlighting industry's responsibility in the production of safe meat. The project has been successful in developing a partnership between DAFF and the RMAA on the monitoring of chemical residues in meat.

The laboratory reports for the project have been received and are under evaluation. A comprehensive report on the project will be made available to the RMAA once completed. In our efforts to expand and improve on our residue monitoring activities, we are reviewing the DAFF approval policy for residue testing laboratories. The evaluation of the results from the laboratories used in the pilot project is certainly useful in this regard. We expect to expand on the veterinary residue testing capacity in the country.

As you are aware, the safety of meat products, which includes the control of chemical contaminants, is regulated under the Meat Safety Act, 2000 (Act No. 40 of 2000). The Directorate: Veterinary Public Health co-ordinates the National Chemical Residue Control Programme and the National Chemical Residue Monitoring Programme for food products of animal origin, however the funding for these programmes has become a serious challenge for the Directorate.

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Given the success of the pilot project, we would like to propose that the project is extended into the National Chemical Residue Monitoring Programme for the Red Meat Industry such that the programme will be more representative of red meat production in the country. This will be of great benefit in export market access. A sampling plan is being developed for the industry and a cost estimate will be presented for the consideration of subsidization by the RMAA.

We look forward to the continued support of the RMAA and our collaboration on this key project.

Yours sincerely,



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**Dr Mphane Molefe**

Acting Director: Veterinary Public Health  
Department of Agriculture, Forestry and Fisheries

Date: 2017-06-20

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## **Future Funding for Residue Monitoring**

We are awaiting the comprehensive report which will include DAFF results, the Industry sampling plan, as well as a cost estimate of the Red Meat Industry Forum for consideration.