

APPENDIX 9

**NOTIFIABLE AVIAN INFLUENZA (NAI) SURVEILLANCE
PROTOCOL FOR COMPULSORY SURVEILLANCE IN SOUTH AFRICA TO PROVE
CONTINUED NAI FREEDOM
Edition 3 - June 2009**



agriculture, forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

Directorate: Animal Health

APPENDIX 9

NOTIFIABLE AVIAN INFLUENZA (NAI) SURVEILLANCE PROTOCOL FOR COMPULSORY SURVEILLANCE IN SOUTH AFRICA TO PROVE CONTINUED NAI FREEDOM Edition 3 - June 2009

South Africa could, after the successful country-wide survey, declare itself free from NAI in September 2005. South Africa has to remain vigilant however and all measures have to be taken to reduce the risk of the re-introduction of the infection. Surveillance testing also has to be carried out to confirm the country's disease-free trading status for NAI.

The following protocol is being followed:

GENERAL

1. Official control:
All testing to be carried out under official control i.e. done by State Veterinarian (SV) or Animal Health Technician (AHT) or designated person as arranged with SV. The SV remains responsible and should at least audit the testing if not done by his/her own staff. Designated persons can be authorized by the National Director Animal Health (DAH) to collect official samples under control of the SV.
2. Ongoing testing:
Testing is to be carried out on an ongoing basis with each property tested twice a year (at least). The results, however, are supplied to the DAH on 1 January and 1 July every year. (State Veterinary officials are advised to not start each cycle of testing a mere 2 weeks before the results are due to be submitted!)
3. Targeted surveillance:
 - (a) Statistically significant numbers of non-commercial chicken operations because of the risk of exposure to wild birds.
 - (b) As many large commercial chicken operations as possible because of the large concentration of chickens with a high epidemiological risk profile

- (c) All commercial ostrich operations because of their historic risk profile and the 2004 and 2006 outbreaks. Although testing of ostriches has been limited to slaughter birds, as a result of the outcome of the 2005 survey, it remains important to test ostriches from as many farms as possible (i.e. all farms supplying ostriches for slaughter) in order to detect and deal with any possible future outbreak as soon as possible. Additional tests on ostrich breeding and chick raising establishments may be conducted at the discretion of the Provincial Director Veterinary Services (PDVS) according to the perceived possible risk (for example increased surveillance in coastal areas of Southern Cape province).
- (d) Emu birds are also included in the compulsory surveillance programme, as emus are members of the ratite family and have previously been involved in influenza outbreaks in a few countries.

(4) Reporting

Six-monthly summary reports are to be supplied by the PDVS to the DAH of the summary of results in the prescribed format (electronic copies for each Province available from Dr Grietjie de Klerk, Sub-Directorate Epidemiology, Directorate Animal Health (DAFF)). In addition to this, there must be immediate notification of any suspicious results to the PDVS and DAH.

(5) Testing procedure:

The sampling strategy is laid out under 'D' with serological testing to be done by one of the three official laboratories or a DAFF approved laboratory. The industries and producers are responsible for the costs of testing all commercial chicken and ostrich operations, while DoA will pay for the testing of samples from non-commercial chicken operations as well as emu farms if submitted in the prescribed manner by the State Veterinarian.

For the purpose of determining NAI freedom, South Africa has decided to use serological testing for antibodies to H5 and H7 AI subtypes (NAI). Should there be suspicious results, they are to be followed up by additional tests (including PCR) as discussed with the DAH.

(6) Biosecurity:

Surveillance is not a preventative measure on its own and biosecurity is crucial in the risk management of NAI. All surveillance activities at commercial chicken, ostrich and emu operations with large concentrations of animals at risk should thus be used to create awareness and compliance with the relevant biosecurity measures (See Appendix A, B and C)

A. CHICKENS1. Non-commercial chickens

Evidence to be provided by the PDVS about a six-monthly random survey in chickens in his/her Province, conducted in the following manner:

- 1.1 As many randomly selected epidemiological units as possible should be tested bi-annually (6 monthly) with a minimum of 50 flocks/units per Province. (The number of properties to be sampled may be increased as determined by the DAH according to epidemiological requirements)
- 1.2 Method of determining properties to be sampled:

Properties to be selected on a *random geographical* basis. This includes the identification of a site (point) in random fashion, with sampling carried out on the property with chickens that is closest to the identified site (be it a rural site or a commercial poultry farm).
- 1.3 Samples to be submitted for H5 and H7 testing to one of the official laboratories or DAFF approved laboratories as detailed below (point D).
- 1.4 Costs to be covered by the DoA if samples are received correctly labelled, with full information at the laboratory.
- 1.5 Full records of sampling dates, sites, laboratory result sheets etc to be kept in the Province for auditing purposes.
- 1.6 A report to be submitted by PDVS to DAH at 6 monthly intervals (1 January and 1 July of each year) that should include the following in table format:
 - Name of farm
 - Owner of farm (name and initials)
 - Magisterial district
 - GIS reference points (South and East)
 - Date of sampling
 - Results
 - Laboratory where tested

Note: The Excel report format that was used in the 2005 survey should be used. Electronic copies of the reporting format is available from Dr Grietjie de Klerk at (012) 319 7412, email: Grietjiedk@daff.gov.za

2. Commercial chicken farms

Traceability and bio-security measures have to be of high standard on all large scale commercial chicken farms even if not directly involved in export (Appendix A). A bi-annual (6-monthly) NAI survey also has to be carried out on these farms.

2.1 Bi-annual (6 monthly) survey:

- (i) A bi-annual survey has to be carried out on commercial chicken farms as detailed below (point D). This has to be included in routine serological monitoring programmes
- (ii) Prior notification of the Provincial State Veterinary authorities of the intended sampling
- (iii) Sampling by the designated person as agreed by the Provincial Veterinary Authority. It is suggested that an arrangement be made by the PDVS with the private consultant veterinarian or in-house veterinarian of commercial chicken farms in order to alleviate pressure on provincial staff and safeguard biosecurity. Such persons can be authorized by the DAH to collect official samples under control of the SV.
- (iv) Sent to official state or DAFF approved laboratory with results to be copied to the Provincial State Veterinary Authority
- (v) All testing to be carried out at the cost of the owner.
- (vi) Full records of sampling dates, sites, laboratory result sheets etc to be kept in the Province for auditing purposes.

2.2 Records to be submitted by PDVS to DAH:

Bi-annual summaries of NAI testing to be submitted by the PDVS to the DAH at six-monthly intervals (1 January and 1 July of each year) that should include the following in table format:

- Name of farm
- Owner of farm (name and initials)
- Local Municipality
- Type of farm (broiler, breeder, layer)

- GIS reference points (South and East)
- Sample size
- Date of sampling
- Laboratory where tested
- Results
- Dates of last two bi-annual tests

Note: The Excel report format that was used in the 2005 survey should be used. Electronic copies of the reporting format is available from Dr Grietjie de Klerk at (012) 319 7412, email: Grietjiedk@daff.gov.za

2.3 Sampling strategy:

(See 'D')

B. OSTRICHES

Traceability and bio-security measures have to be upgraded on all domestic ostrich farms that either supply ostriches for slaughter to export abattoirs or that supply hatching eggs or chicks for this purpose (Appendix B). A bi-annual (6-monthly) NAI survey also has to be carried out on these farms. Evidence has to be provided by the PDVS in the following manner that all such domestic ostrich facilities in the Province are registered for export purposes, practice adequate bio-security and conduct at bi-annual intervals, testing for NAI at one of the official or DAFF approved laboratories.

As a result of the 2005 survey, routine testing of ostriches has been limited to slaughter birds that may be tested on the farm or at the abattoir. However, it remains important to test ostriches from as many farms as possible (i.e. all farms supplying ostriches for slaughter) in order to detect and deal with any possible future outbreak as soon as possible. Additional tests on ostrich breeding and chick raising establishments may be conducted at the discretion of the PDVS according to the perceived possible risk. Increased surveillance in the coastal areas of the Southern Cape is recommended.

1. Bi-annual (6 monthly) survey:

- (a) A bi-annual (6 monthly) survey has to be carried out for all ostrich facilities, as detailed below (point D). The survey should be continuous, with emphasis placed on testing after winter and again in autumn. The report has to be submitted on 1 January and 1 July each year.
- (b) Prior notification of the Provincial State Veterinary authorities of the intended sampling
- (c) Sampling by the designated person as agreed by the Provincial Veterinary Authority. The SAOBC has agreed/offered to assist with identifying designated persons as required/requested by the PDVS. Such persons can be authorized by the DAH to collect official samples under control of the SV.
- (d) Sent to official state laboratory with results to be copied to the Provincial State Veterinary Authority
- (e) Payment for testing to be carried out by the South African Ostrich Business Chamber.
- (f) The survey is to be ongoing, with the submission of the report on a 6-monthly basis (1 January and 1 July each year). Emphasis must be placed on testing after winter and again in autumn.

- (g) Full records of sampling dates, sites, laboratory result sheets etc to be kept in the Province for auditing purposes.

2. Records to be submitted by PDVS to National DAH:

2.1 Bi-annual summaries of NAI testing at all ostrich facilities to be submitted by the PDVS to the DAH at six-monthly intervals (1 January and 1 July of each year) that should include the following in table format:

- Name of farm
- Owner of farm (name and initials)
- Type of farm (chicks, slaughter birds, breeders)
- GIS reference points (South and East)
- Sample size
- Date of sampling
- Results
- Laboratory where tested
- Dates of last two bi-annual tests

Note: The Excel report format that was used in the 2005 survey should be used. Electronic copies of the reporting format is available from Dr Grietjie de Klerk at (012) 319 7412, email: grietjiedk@daff.gov.za

3. Sampling strategy: See point D

C. EMU BIRDS

It is proposed that the following actions are taken by each Province in the country:

(1) Number and location of emu farms in each Province

This should also include the name and address of the owner.

(2) Avian influenza status of these farms.

This could be determined by bleeding and testing of each epidemiological unit on each emu farm every 6 months, as per 'Appendix 9' of the 'Contingency Plan in case of an outbreak of Notifiable Avian Influenza (NAI) in Poultry in South Africa' Edition 3, Revised June 2009.

The haemagglutination inhibition (HI) test has to be used for testing of blood samples.

Surveillance results must be sent with the notifiable avian influenza results of each province to:

Email: Epidemiology@daff.gov.za

Fax: (012) 319 7470

The template for submission of results is available for this purpose from Dr G de Klerk at the above contact numbers, address.

It is essential to build up a data bank on emus in this country, as they are also susceptible to avian influenza and emu farming is becoming increasingly popular!

D. SAMPLING STRATEGY:

1. The sampling strategy for chickens, ostriches and emus is as follows:

All **serological testing** has to be designed to detect the presence or absence of the exposure of ostriches/chickens/emus to H5 and H7 avian influenza subtypes (NAI) at >10% prevalence with 95% confidence in every epidemiological unit on each farm or site or multi-age unit (age group or management unit); i.e. the number of birds to be tested depends on the size of each group on every farm as follows:

Size of the epidemiological group	No. of ostriches*/ chickens/emus to be sampled
≤ 10	10
≤ 20	16
≤ 50	22
≤ 100	25
≤ 200	27
≤ 900	28
> 900	29

- As a result of the 2005 survey, routine testing of ostriches has been limited to slaughter birds that may be tested on the farm or at the abattoir. However, it remains important to test ostriches from as many farms as possible (i.e. all farms supplying ostriches for slaughter) in order to detect and deal with any possible future outbreak as soon as possible. Additional tests on ostrich breeding and chick raising establishments may be conducted at the discretion of the PDVS according to the perceived possible risk.
 - Blood samples to be taken in red-topped tubes (tubes without any anti-coagulant).
 - If possible, draw serum off after blood has clotted.
 - Submit serum samples only to one of the following official laboratories:
 - Allerton Veterinary Laboratory, 458 Townbush Rd, Montrose, Pietermaritzburg, 3201 (Tel: 033 – 347 6204)
 - Stellenbosch Veterinary Laboratory, Helshoogte Road, Stellenbosch, 7600 (Tel: 021 – 887 0324)
 - Onderstepoort Veterinary Institute, Virology Section, Onderstepoort, 0110 (Tel: 012 – 529 9111)
 - One of the DAFF approved private laboratories

For submission forms, please contact the respective laboratory. Please, identify the species, e.g. Ostrich, Chicken, Duck, emu etc. (NOT just 'avian'), and supply full information on all submission forms.

NOTE: OSTRICH SAMPLES FROM FARMS IN THE WESTERN CAPE PROVINCE ARE TO BE SUBMITTED TO THE PVL STELLENBOSCH, WHILE SAMPLES FROM OSTRICH FARMS IN THE REST OF THE COUNTRY ARE TO BE SUBMITTED TO THE ONDERSTEPSPOORT VETERINARY INSTITUTE OR A DAFF APPROVED LABORATORY.

2. Serology tests to be done:

Serology tests have to be carried out for H5 as well as H7 subtypes

Chickens: Haemagglutination Inhibition or commercial ELISA tests (only if chickens not vaccinated with inactivated H6 vaccine).

Ostriches: Haemagglutination Inhibition test

Emus: Haemagglutination inhibition test

3. In the case of suspicious/positive serological test results, the following procedure applies:

- (a) Immediate notification of PDVS and DAH by the responsible SV and laboratory.
- (b) Immediate resampling of the property for serological testing and submission of the samples to at least two of the laboratories (either official or DAFF approved) as arranged with the National Department of Agriculture, Forestry & Fisheries (Dr Grietjie de Klerk), combined with a full epidemiological investigation on the property by the SV.
- (c) Any additional sampling, testing and quarantine as decided by the PDVS in conjunction with the DAH.