



Western Cape Surveillance Strategy

Chicken and Pig Surveillance (CAPS)

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ACRONYMS

AHT	Animal Health Technician
AI	Avian Influenza
CAPS	Chicken and Pig Surveillance
CS	Clinical Surveillance
DAFF NAI CP	DAFF notifiable avian influenza contingency plan
DAFF	Department of Agriculture Forestry and Fisheries
NCD	Newcastle Disease
NAI	Notifiable Avian Influenza
PCR	Polymerase Chain Reaction
SPVL	Stellenbosch Provincial Veterinary Laboratory
SV	State Veterinarian
TDS	Targeted Disease Surveillance

DESCRIPTION OF OBJECTIVES

This surveillance plan is proposed to establish the following objectives within the non-commercial chicken and pig (both commercial and non-commercial) farming systems in the Province:

1. To do structured clinical surveillance on all non-commercial chicken and all pig farming systems
2. To do specific disease surveillance on farms where clinical surveillance revealed recent past or present disease activity or where it is required by DAFF protocols.
All infectious diseases are applicable, but special emphasis will be placed on controlled and notifiable diseases, namely:
 - i. Chickens
 1. Avian influenza (AI)
 2. Newcastle Disease (NCD)
 3. Salmonella Enteritidis
 4. Salmonella Gallinarum
 5. Salmonella Pullorum
 - ii. Pigs
 1. Classical Swine Fever (CSF)
 2. Porcine reproductive and respiratory syndrome (PRRS)
 3. African Swine Fever (ASF)
 4. Foot-and-Mouth Disease
 5. Vesicular Stomatitis
 6. Swine vesicular disease
 7. Anthrax
 8. Aujeszky's disease
 9. Porcine brucellosis
 10. Porcine tuberculosis
 11. Swine erysipelas
3. To improve non-commercial chicken and pigs census data through UBALO
4. To encourage interaction with non-commercial farmers
5. To comply with the DAFF NAI Contingency Plan (Edition 3, Revised June 2009).
6. To provide information on NCD prevalence in non-commercial chickens

TYPE OF SURVEILLANCE

For ease of reading, the surveillance strategies are listed below and referred to by their acronyms throughout the rest of the document.

1. *Clinical Surveillance (CS)*

CS will comprise at least a farm visit by the AHT of the area every two years, who will then perform the following actions:

- i) Complete a CAPS questionnaire, which will include clinical inspection of the chickens and/or pigs
- ii) Decide whether sampling is required or not after consultation with the SV
- iii) Complete an UBALO census form and log the census data on the UBALO platform

2. *Targeted Disease Surveillance (TDS)*

TDS will be performed in the following two instances:

- i) To comply with the DAFF NAI contingency plan that specifies biannual sampling on randomly selected non-commercial chicken farms.
- ii) To provide information on NCD prevalence in non-commercial chickens
- iii) To follow up suspicious cases detected by CS on any non-commercial chicken or pig farms after consultation with the SV

SAMPLING CRITERIA

TARGETED SPECIES AND CATEGORIES

The following criteria were used to establish a sampling frame for chickens and pigs respectively:

i) Chickens

The sampling frame was estimated by reviewing all previously sampled farms in the Province (n=946 with available GPS).

- (a) The DAFF NAI contingency plan requires biannual sampling of 50 randomly selected sampling points (100 samples per province per year) and the collection of 30 samples per point (or all chickens sampled if there is less than 30 birds on the farm). The number of random points to sample per Magisterial District was allocated proportional to the number of non-commercial chicken farms per Magisterial District.
- (b) The Provincial CAPS require at least one visit per non-commercial chicken farm per year with weighted totals based on all non-commercial chicken farms within each Magisterial District.

ii) Pigs

The sampling frame was estimated based on all small and communal pig holdings prepared prior to the DAFF Pig survey in 2013 (n=778). It is assumed that commercial holdings (not included in this number) are too few to significantly influence the sampling frame and proportions per Magisterial district.

Table 1: Surveillance strategy - species associated

Surveillance Strategy	Species Associated
CS	All non-commercial chickens and all pigs visited on at least an annual basis
TDS	i. DAFF NAICP: 30 chickens per farm with a total of 50 sampling points biannually ii. CAPS requirement: 1) chickens and pigs based on clinical suspicion after CS 2) Test samples taken for NAI for NCD also

SAMPLING FRAME

Surveillance Strategy	Number of Establishments	Sampling Frames
CS	Chickens – all in Province with at least 946 per year Pigs– all in Province with at least 778 per year	N/A
TDS	DAFF NAI: Chickens – 50 farms biannually	Maximum 30 birds per farm
	NCD sampling: chickens- same as for DAFF NAI	Maximum 30 birds per farm
	CAPS: Chickens and Pigs – All suspect cases as identified by CS	30 pigs or chickens per farm or all if less available

The random selection of non-commercial chicken farm sampling points for the DAFF NAI surveillance is up to the AHT in the area, with the total number of sampling points required by Magisterial District prescribed to him/her.

FREQUENCY OF SAMPLING

Surveillance Strategy	Frequency of sampling	Type of sample to be taken
CS	Once annually	None – questionnaire taken and submitted
TDS	DAFF: Chickens – 50 farms bi-annually	Serum
	NCD: Chickens – same as for DAFF NAI	Serum (same samples as for AI)
	CAPS: Chickens and Pigs – as required by detection of suspect cases during CS	As determined by SV according to disease suspected, for instance serum, whole blood, organ samples, etc. Note: on suspicion of clinical AI/ NCD take oropharyngeal swabs or organ samples from sick birds (not serum)

LABORATORY TESTS USED

Surveillance Strategy	Species	Disease		Lab test to be used	Lab to test at
CS				N/A	N/A
TDS	Chickens	AI	DAFF	ELISA with HI Follow-up	SPVL
			Disease investigation	ELISA (HI) and PCR	SPVL
		NCD	Surveillance	HI*	SPVL
TDS	Chickens and Pigs	All suspect diseases	Historical or current	To be determined by SV	DAFF approved lab that can perform the required tests

* Please note that chickens previously vaccinated for NCD may test positive on HI tests, so it is important to note on the CAPS questionnaire if the chickens were vaccinated.

LABORATORY USED

All diagnostic testing for a controlled or notifiable animal disease in any animal species must be done by a DAFF approved laboratory as per Regulation 12B of the Animal Diseases Act (Act 35 of 1984).

REPORTING SYSTEM/PROTOCOL USED FOR SUSPECT AND/OR POSITIVE RESULTS

All **questionnaires** completed per AHT are to be forwarded by the **AHT** in PDF format to the Epi Section – currently lugeng@elsenburg.com. Lugen Govender will capture this data

All **sample submission** forms in PDF format generated through this surveillance are also to be forwarded by the **submitter** to the Epi Section – currently lugeng@elsenburg.com. Lugen Govender will capture this data

All **results data** (irrespective of lab) generated through this surveillance are also to be forwarded by the **State Vet** to the Epi Section– currently lugeng@elsenburg.com. Lugen Govender will capture this data

The reporting of positive surveillance results all fall into the basic reporting system for all exotic, controlled and notifiable diseases under Act 36 of 1984 within South Africa. Initial suspect or positive cases are reported to the regional State Veterinarian, then to the Western Cape Veterinary Services Epidemiology section who assist in creating a SR1 (National disease reporting standard) in collaboration with the regional State vet. This is confirmed through the Provincial Veterinary Services Director and reported to DAFF.

General (negative) surveillance results are maintained by the regional State vet with collation performed by the Provincial Epidemiology section when necessary.

FOLLOW-UP INVESTIGATIONS OF POSITIVE RESULTS

Any suspect case identified during CS must be reported by the AHT to SV, who will determine extent of the follow-up investigation needed. The SV must inform the Epidemiology section of the investigation and complete a SR1 where needed.

Any positive result obtained through TDS must be reported by the SV to the Epidemiology section and a SR1 must be completed where needed.

FUTURE OBJECTIVES AND CHANGES

Future consideration will be given to include other poultry species in the surveillance program in addition to non-commercial chickens.

TRAINING

CS and therefore all follow-up actions are largely dependent on the observations made by the AHTs according to their knowledge. To ensure the success of CAPS it would thus be beneficial to provide training to all AHTs. This will include a once off training session explaining CAPS and clinical signs of the important diseases as well as ad hoc training sessions during the year as required for new AHTs and to refresh certain aspects. Training will be the ongoing responsibility of the applicable SV and the Epidemiology section.

PAYMENTS

All investigations into controlled animal diseases are paid by the State.

DATA

All data generated by the surveillance program will be captured in the CAPS database. When a new farm is submitted to the Epidemiology section a report will be sent back to the AHT containing the farm information and newly generated reference number for their records.

GENERAL

All maps and sampling frames per magisterial district are provided on the following website under the CAPS tab: www.elsenburg.com/vetepi. Also on this website are the CAPS questionnaire forms.

Contingency plans for diseases are available from the Epidemiology Section