Introduction

DAFF embarked on an FMD survey on a country-wide basis which was scheduled to begin early in July. This has been prompted as a result of FMD activity during 2011 in KZN. To regain FMD zonal freedom a country wide survey in the parts of RSA that are to be considered free of FMD is necessary. The sampling frame was based on underlying cattle population data obtained from the last country wide cattle census and risk based surveillance techniques were also applied where areas more likely to be infected having to undergo a higher sampling rate.

Western Cape

The Western Cape fortunately falls outside of these risk areas and a total number of 74 sampling points were required to be sampled by our officials. This accounted for 5.3% of the countries sampling points (n=1374) with the WCP had the second lowest number of sampling points required (compared to 78 in the Northern Cape and 73 in Gauteng). A total of 17 animals per property were clinically inspected for FMD and then sampled (serum). If a sampling point had less than 17 animals present then all animals were sampled. State vets were requested to choose their sampling points based on risk factors which are listed below:

- Farms with animals with known suspicious FMD clinical signs
- High frequency of movement onto/off the farm
- High risk properties such as feedlots or speculators
- Farms containing animals of unknown origin

DAFF provided a sampling kit per farm and courier services for sample submissions to OVI were organised by DAFF. A basic questionnaire was also filled in per sampling point to show whether any suspect clinical lesions were seen and to indicate if any risk factors associated with potential FMD infection were present on the property.

The time period given to complete the initial round of the survey was between the 2nd to the 27th July 2012. Western Cape officials completed all 74 sampling points between 27 June and the 11 July 2012. As can be seen in Fig 1 the Swellendam State vet area had the most sampling points to cover. State vets were requested to spread their sampling points through their areas as evenly as possible.

Follow-up procedures on laboratory reactors is part of the survey and is essential since this is a sero-survey. This is particularly true since this is a screening survey and the test used is highly sensitive for FMD antibodies. Western Cape Veterinary services have begun follow-ups on a number of farms where suspicious serology results were found in order to establish the actual status of those farms.

Fig 1: FMD survey - choice of farms within WCP
Pre-congress Workshop of Databases for Veterinarians

The annual congress of the Southern African Society of Veterinary Epidemiology and Preventive Medicine was held in Pretoria between the 1st and 3rd of August 2012. There was however a pre-congress workshop on the 29th and 30th of July which was organised by members of the Epidemiology section of Western Cape Veterinary Services on behalf of SASVEPM. Training was given to 11 attendees and the course was practically designed to teach database design with specific reference to veterinary officials. We made use of an actual outbreak dataset and evaluated the challenges and management of the data thereof. The delegates attending the workshop came predominately from the State and we had representation from DAFF, KZN, Free State, Eastern Cape, North West Province, and Gauteng.

Members of the Western Cape veterinary services also were authors and co-authors on a number of papers, and they are listed below:

AN OUTBREAK OF HIGHLY PATHOGENIC AVIAN INFLUENZA IN DOMESTIC OSTRICHES: THE CURRENT SITUATION IN SOUTH AFRICA - Van Helden, L.S., Grewar, J.D., Visser, D., Dyason E. and Koen, P.


DATA ANALYSIS OF ENQUIRIES TO A SOUTH AFRICAN RADIO PROGRAMME ON ANIMAL MATTERS - AS Cloete and JD Grewar

SASVEPM Congress

The SASVEPM congress was a 3-day affair and the turnout was excellent this year with approximately 130 delegates with Western Cape officials well represented. There were 3 continuing education presentations: the Peste des Petits Ruminants situation in Tanzania (unfortunately Dr Fred Kivaria from Tanzania was not available at the last minute to come and present his work so this was presented on his behalf by SASVEPM), the recent CEM outbreak in horses in RSA (Prof Alan Guthrie, Dr Martin Schulman, Dr Kate May and Dr Bronwyn Keys jointly presented this information) and then Prof Lucille Blumberg presented various zoonotic outbreak data from her work at the NICD.

The congress theme was “Outbreak Investigation: Science and Intuition” and the speakers this year really excelled and the data presented was very interesting. The editors wish to thank Western Cape Dept. of Agriculture for affording us the opportunity of attending this congress.
INTRODUCTION
On the 1st of June 2012 a farmer from the Swellendam district (see farm ID #1 on map and network on this page) made contact with his local AHT (Gerhard van Wyk) in order to have pruritic sheep investigated. The AHT visited the farm and subsequently diagnosed sheep scab as the cause of discomfort.

INVESTIGATIONS AND TREATMENT
Three other AHT's from Swellendam (Werner Gouws, Thuli Tsele and Wynand Fourie) were brought in to assist with the subsequent investigations on the surrounding farms which took place between the 4th and 21st June 2012. A total of 27 farms were visited (hence the ID's on the map and network ranging from #1 (initial farm) to #27). A further 5 farms were diagnosed with sheep scab which brought the total to 6. This therefore shows a between farm prevalence of 22%. All infected farms were quarantined and in total the population at risk on those farms totalled 5 968 animals with an average of 994 per infected farm. The total population at risk for the outbreak, taking into consideration all associated farm totalled 38 264 sheep at an average of + 1400 per farm. As can be seen on the map these farms are all in relatively close proximity with only farm #10 outside a radius of about 20 km. This farm was included as it was linked to farm #8 (infected farm) by a common farm owner.

Treatment (Dectomax) of infected flocks was performed under supervision of the AHT’s from Swellendam. This supervision included taking a thorough census of the sheep treated. Different colour spray-paint was used to mark sheep treated on the two occasions. Co-operation from the affected farmers was good and the total investigation, from initial detection to final treatment, took 3 weeks. Follow up investigations to ensure treatment worked is not included in this date range. The average number of days of quarantine to treatment number one was 6.7 days and on all 6 occasions treatment two took place 7 days after treatment 1.

NETWORK ANALYSIS
The network of farms is shown on the schematic on this page. Infected farms (ID’s #1, #8, #9, #15, #16 and #21) are shown as triangles while linked farms that were not infected are shown as circles. In this network we have symbolised the size of the representing symbol based on the number of links in the network that farm had. This means that farm #21 and farm #8 have the largest symbols (having 9 links in total) while farm #27 has the smallest symbol by not being linked to any farm in the network. The colour of the symbol is based on the strength of the Betweenness measure for that farm within the network. A reminder for the meaning of Betweenness: this measure essentially shows what impact this node (farm) has in linking other members (farms) within this network. It can be visually seen why farms #15 and then #8 have the highest betweenness measure, particularly since if farm 15 was removed from the network the left and right hand parts of this particular network would have no links between them.

Having a look at the network it is immediately evident that the highest risk of spread of sheep scab (as one would expect) is the movement of stock between infected farms. Of the 4 occasions this occurred all 4 times farms on either side of that movement became/were affected. Since movement between farms in this case is most often associated with the same owner this is true for between farm ownership but the one time an infected farm was linked to another only by ownership the infection did not spread (see Farm #8 <> #10). On occasions where contact (spatially) is the link between farms there were 3 occurrences of evidence of infection spread, although one of these farms (#9) also has an owner and movement link with another infected farm (#8).

DISCUSSION
It is evident from this investigation that movement between infected farms is a high risk activity for sheep scab spread while contact with an infected farm plays a lesser role it is still significant, particularly shown by the fact that if the link between #8 and # 15 did not exist the network would have been significantly disrupted.

The authors wish to thank the Swellendam office and in particular the AHT’s involved for their information and hard work.
Figure 3. Disease outbreaks in the Western Cape Province identified during July 2012. Included are all the routine vaccination events (disease not specified) performed by State officials that were logged during July.
Outbreak Events

- Several positive sheep scab farms were discovered in the Swellendam SV area. For more information on this outbreak, see the article on page 3 of this report.

- In addition, two farms positive for sheep scab were unearthed in the Malmesbury SV area. Interestingly, both farmers had recently bought sheep from a third farmer, whose stock, on investigation, were found negative for sheep scab. Further tracing to find other affected farms is underway.

- An apparently tame bat-eared fox approached a farm-house near Rietbron. It became aggressive when confronted by the farmer’s dog and was subsequently killed by the farmer. The fox tested positive for rabies. Both the farm dog and the dogs on neighbouring farms were vaccinated against rabies in response to the positive case.

- Three farms with positive serology for Brucella ovis were identified, one near Ladismith and two in the Beaufort West area. These farmers were advised to slaughter out their positive rams.

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**SV Area** | **User** | **Total Logs**
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Malmesbury | Hendrik Hagen | 74
Malmesbury | Michael Chapman | 45
Vredendal | Irmi Speelman | 41
Beaufort West | Anton Barnard | 34
Beaufort West | Cobus Ferreira | 19
Boland | Maresa Fourie | 16

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Disclaimer: This newsletter is published on a monthly basis for the purpose of providing up-to-date information regarding epidemiology of animal diseases in the Western Cape Province. Much of the information is therefore preliminary and should not be cited/utilised for publication.