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2021 Animal Disease Occurrence and Surveillance in Gauteng Province

Gauteng Veterinary Services (GVS) uses active and passive surveillance to detect and respond to controlled and notifiable animal diseases. As well as the active surveillance activities described here, GVS officials monitor for disease outbreaks during their normal duties such as inspections, herd health visits, abattoir inspections, brucellosis or tuberculosis scheme actions, disease investigations, farmer mentoring, farm call outs and mobile campaigns (for clinical cases, vaccinations, & sterilisations). In 2021, GVS officials visited ± 7230 properties to carry out these tasks. Here we describe the animal diseases (Fig 1) reported and certain surveillance activities done by GVS (Fig 2) in the province during 2021.

Active surveillance for the exotic diseases **contagious bovine pleuro-pneumonia (CBPP)**, **peste des petits ruminants (PPR)** and **foot and mouth disease (FMD)** did not detect any outbreaks or suspicious results this year. This work involves random selection and sampling of animals at risk each month or quarter depending on the survey. In addition, inspections for any clinical signs of FMD in cloven-hoofed animals were done weekly

within 3km of ARC-OVR Transboundary Animal Disease laboratory and quarterly within 3-5km.

Commercial poultry farmers are required to test their flocks serologically for **avian influenza (AI)** at least twice per year. GVS perform serological surveillance in backyard poultry flocks. The annual target for surveillance in the backyard sector is 100 properties. GVS sampled 152 sites (± 630 chickens) this year. Although 14.5% (91/627) of these specimens were seropositive on the AI screening test, no H5/H7 outbreaks were detected by further tests or follow-up investigations. This could indicate previous exposure to wild-type non-pathogenic strains, or false positive results of the screening test. GVS performs additional environmental surveillance of wild bird populations. High-risk sites are identified, and environmental faecal swabs are routinely collected to be tested by polymerase chain reaction (PCR) test. Any sick/dead birds present are also collected. This year, 22 sites were sampled 47 times and the **highly pathogenic avian influenza (HPAI) H5** virus was detected at eight sites. It is interesting to note that during this outbreak, it seems that the wild

bird reservoirs in this area seem less susceptible to clinical disease in contrast to the 2017 outbreak when Egyptian geese and ibises experienced massive die-off of their populations. Overall, 32 HPAI H5 outbreaks were reported in 2021. All sectors such as commercial poultry, backyard poultry, live poultry traders, hobbyists, zoo birds, and wild birds were affected. Outbreaks were found in all the municipalities except for Lesedi, and the distribution appeared almost random. The most outbreaks were recorded in May and October-November. Among commercial operators, layer farms (n=9) experienced more losses than broiler breeder farms (n=2) due to mortality and culling so far. This outbreak event is ongoing.

GVS conducts an **African swine fever (ASF)** survey every 6 months where warthog burrows identified on the northern border of Gauteng Province are sampled for tampan. Any tampan thus collected are sent for PCR testing for ASF virus. This is to monitor for any incursions of the virus from the ASF control zone into tampan in this area. All tampan collected during the July survey tested negative. There were 31 ASF outbreaks this year.

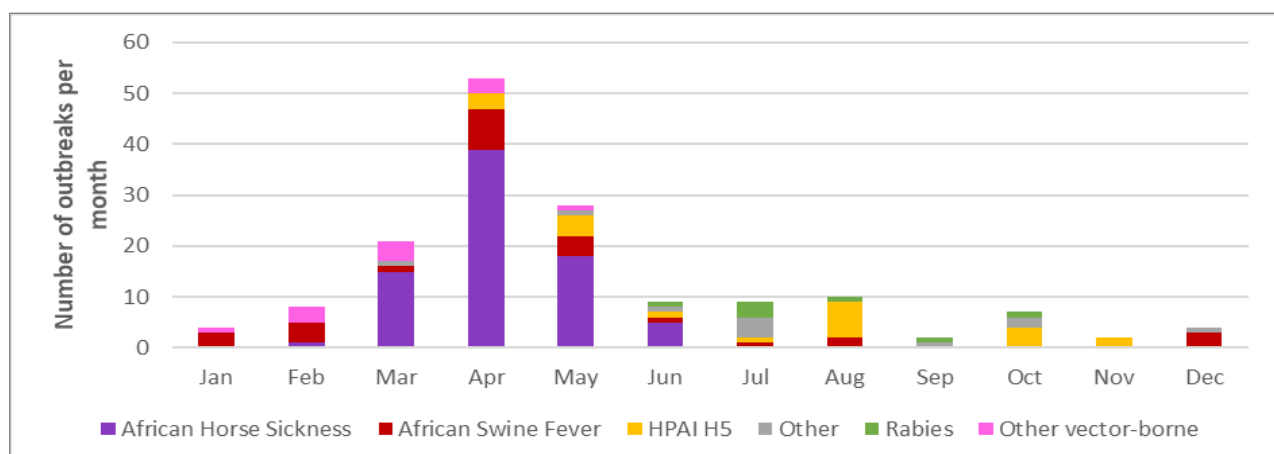


Fig 1. Monthly occurrence of reported animal disease outbreaks in 2021, Gauteng Province.

Most of these were in the bottom half of the province such as Randfontein, Ekurhuleni, Emfuleni and Midvaal municipalities. With an average of three outbreaks per month, the most outbreaks were reported in April (n=6). Nine outbreaks were caused by genotype II, five by genotype I, and genotyping is pending for the remainder. About 58% (n=18) of the outbreaks affected informal pig keepers while the remainder affected farmers on private land or small holdings. Although there was a 3-month pause between outbreaks (September–November), they resumed in December, so

this outbreak event is also ongoing. Most outbreaks of vector-borne diseases in Gauteng Province occurred in the first half of the year, with a peak between March and May. The total number of **African horse sickness (AHS)** outbreaks reported was 78, which was less than the preceding years (2019=136, 2020=111). These outbreaks occurred mainly in the Pretoria and Germiston state veterinarian areas, and appeared to cluster north and east of Pretoria, around Centurion and Bapsfontein. AHS outbreaks are under-reported and

horse owners might treat ill horses without consulting a veterinarian. Other vector-borne diseases were also reported such as **bluetongue** (n=9), **lumpy skin disease** (n=2), and **West Nile virus** (n=1). Heavy rainfall received this summer has sparked concerns about possible high insect numbers later this summer and subsequent increases in these vector-borne diseases. GVS urges owners to vaccinate susceptible animals. Visit the [OBP website](#) and consult your private veterinarian for information on vaccinations.

Seven outbreaks of **rabies** in animals were identified between June and October. Most involved wild animals, namely six black-backed jackals and two honey badgers. These were found in the Cradle of Humankind area. There was one domestic dog case confirmed in neighbouring Tarlton area. GVS conducted awareness and vaccinated about 1 700 pets in the local area in response to these cases during August. In September, rabies awareness month, 11 000 pets were vaccinated across the province.

Other isolated controlled animal disease (*Salmonella* Enteritidis, *Salmonella* Gallinarum, *Brucella canis*, Koi herpes virus, and SARS-CoV-2) and notifiable animal disease (bovine malignant catarrhal fever) outbreaks were also reported.

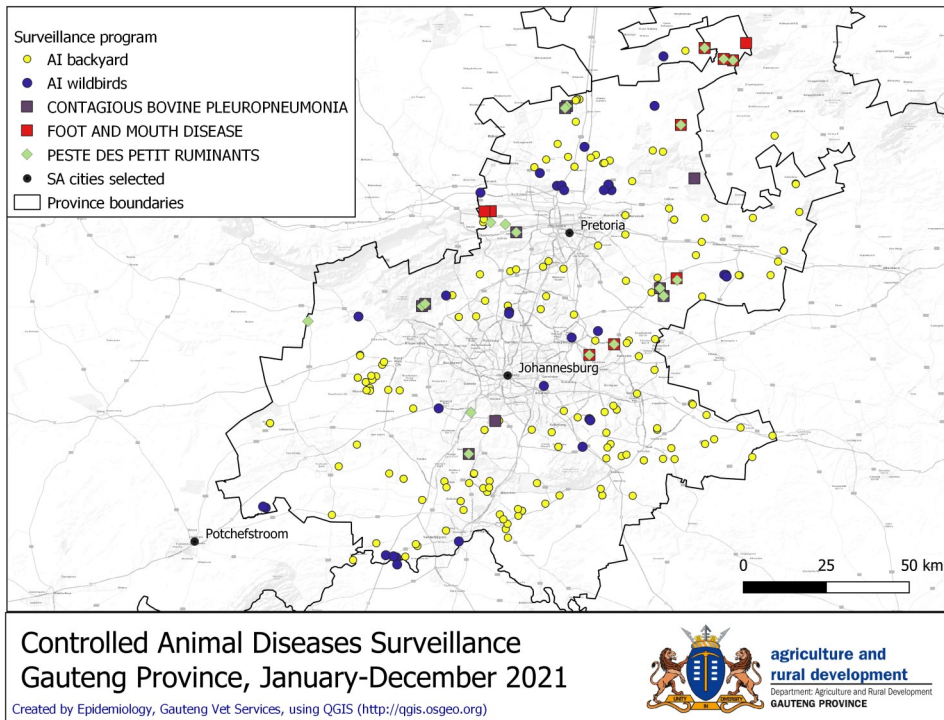


Fig 2. Distribution of GVS active disease surveillance in 2021, Gauteng Province.

Updates on Animal Disease Outbreaks during December

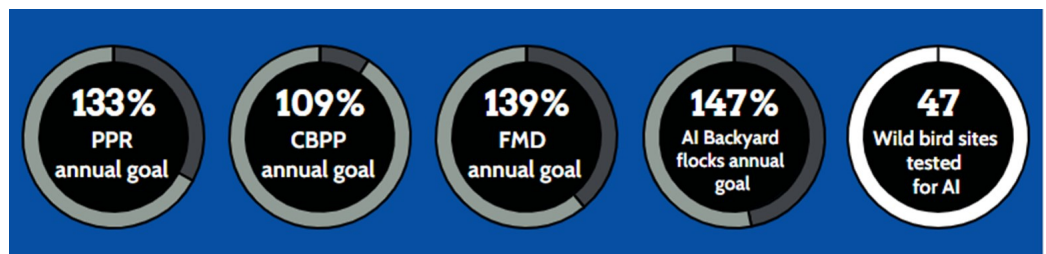
African swine fever (ASF). After having no new outbreaks in September–November, **four** new outbreaks were detected in December. An outbreak occurred among a group of informal pig keepers in the **Natalspruit** area. There were another three outbreaks at smallholder farms in the Hillside area of **Randfontein**. The methods of virus introduction were unknown but risky practices and poor biosecurity measures were identified.

Highly pathogenic avian influenza (HPAI). An outbreak occurred at **one** backyard poultry farmer in the **Germiston** state vet area, who had lost about 80 chickens due to HPAI (H5).

A commercial layer farm in the **City of Tshwane** reported **Salmonella Enteritidis** which was detected at by routine laboratory surveillance. Although the source of infection is unclear and no increased mortalities or even morbidity has been noted, treatment was started and the flock will be retested once it is completed.

The primary animal health officials have noted an increase in livestock lameness call-outs as well as eye infections secondary to fly infestations. This is thought to be a consequence of the heavy rainfall and humid conditions recently experienced.

Fig 3. Cumulative Surveillance Summary 2021. Active surveillance for contagious bovine pleuro-pneumonia (CBPP), peste des petits ruminants (PPR), foot and mouth disease (FMD), and avian influenza (AI) is done monthly or quarterly (FMD) in Gauteng. All suspected cases are investigated.



Animal disease vaccination activities

GVS primary animal health and regulatory officials administer vaccinations to pets and livestock on a daily basis. The total number vaccines administered for December was **12 787**.

Dr Peter Geertsma retires

We bid farewell to our Deputy Director for Epidemiology, Biosecurity and Laboratory services as he embarks on his well-deserved retirement.

Peter Geertsma came to GVS, from Limpopo Veterinary Services, in 2007. He worked as the Chief State Veterinarian for Epidemiology & Laboratory services before his promotion to DD. During his time, he oversaw countless disease surveys, animal censuses and disease outbreak investigations. He contributed a great deal towards improving and modernising systems in the directorate, and helped many officials with their personal development.

Working with Peter has been a pleasure and a privilege, and we will miss him. We wish him and Juliette the very best in this next adventure. May it be as peaceful and rewarding as you hoped it would be.



Enquiries:

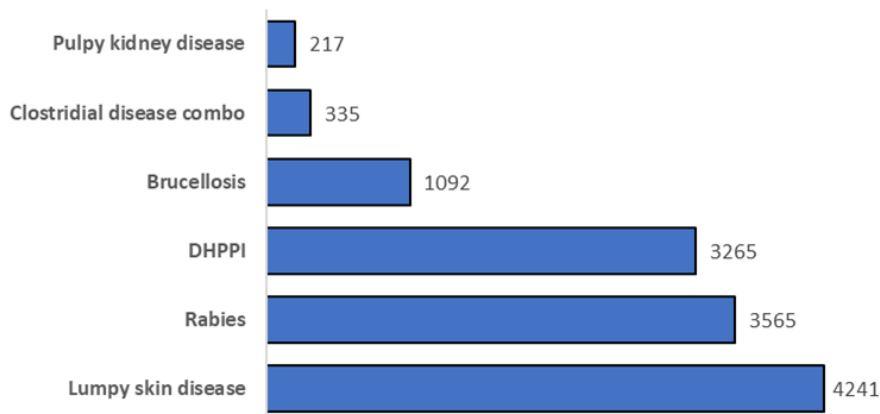
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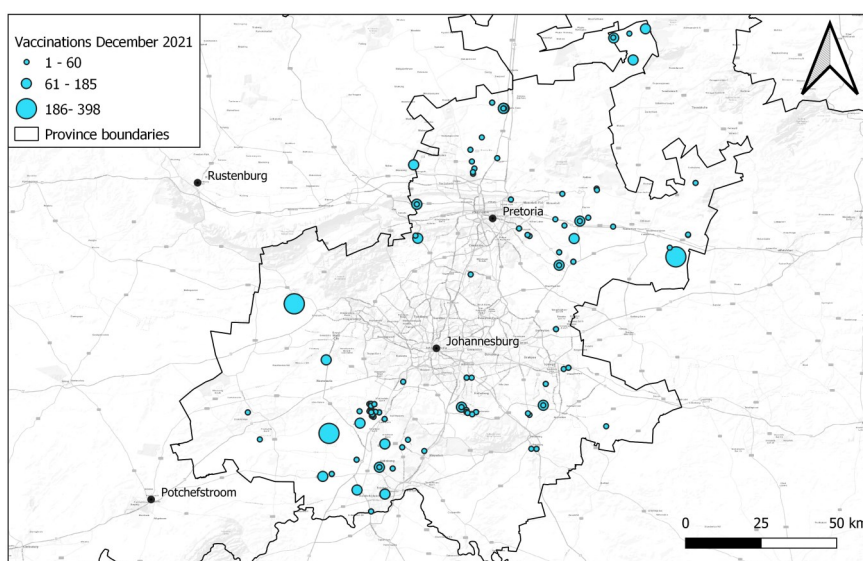
Vaccinations by GVS, December 2021



DHPPI: Canine distemper, infectious hepatitis, parvo & parainfluenza virus.

Clostridial disease combo: Anthrax, botulism & black quarter.

(Data may change)



Vaccination Reports by GVS, December 2021

Created by Epidemiology, Gauteng Vet Services Using QGIS (<http://qgis.osgeo.org>)

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