



Lionel's News

June 2016 22nd Edition

Dear Business Partner

Together with all those involved in animal production we look forward to making the most of 2016.

As always there will be many surprises and many new innovations to remain competitive in producing food for South Africa.

We strive to bring your business the service, technology and products you require to remain ahead in this competitive agricultural environment.

We thank you for your support

Regards

Duncan Stephenson

Visit our website: WWW.LIONELSVET.CO.ZA

Die belangrikheid van fosfaataanvullings op groenweidings

(Geskryf deur: Raché Stofberg, Dierevoedingskundige, Wesfed Voere)



Fosfaat is die mees beperkende nutriënt in Suid-Afrikaanse groenweidings. Fosfaattekorte kan beskou word as die mees wyd verspreide en ekonomies belangrikste mineraalgebrek wat weidende diere affekteer. Alhoewel spoormineraal- tekorte soos koper, selenium, sink en mangaan ook kan voorkom by weidendediere. Die aanvulling van fosfaat op groenweidings is 'n baie eenvoudige en goedkoop manier om opbrengste en wins-gewendheid te verbeter.

Funksie van fosfor in die dier se liggaam

Fosfor het baie essensiële funksies in 'n reeks intermediêre metaboliese prosesse in die dier se liggaam. Dit strek vanaf die absorpsie van koolhidrate in die gefosforileerde vorm, tot die binding van energie in die vorm van energierike fosfaatbande. Fosfor speel dus 'n rol in die omskakeling van energie vanaf weidings tot energie wat gebruik kan word deur die dier se liggaam. Fosfate vervul ook 'n belangrike funksie in die regulering van die pH van die liggaam en veral van die urine, deur middel van die buffersisteem waarin H_2PO_4 en KPO_4 optreë. Fosfaat speel 'n belangrike rol in die metaboliese en strukturele funksies van die dier se liggaam. Die belangrikste van hierdie funksies is as volg:

- Ontwikkeling en onderhoud van die skelet;
- Speel 'n rol in die energie metabolisme (d.i. omskakeling van ATP na die energierike ADP molekule;)
- Beheer vrywillige voeriname (energie balans;)
- Effektiwiteit van voer benutting (energie balans en proteïen sintese;)
- Vorm deel van die onderhoud van die osmotiese balans in die liggaam;
- Onderhou die pH balans van die spysverteringskanaal;
- Vorm deel van 'n integrale komponent in selwande;
- Sel groei en differensiasie;
- Eiersel ontwikkeling en funksionaliteit;
- Deel van aminosuur en proteïen sintese;
- Vervoer van vetsure oor die sel membraan.

Die rol van kalsium en Vitamien D in fosforbalans

Normale fosformetabolisme is afhanklik van voldoende voorraad kalsium, fosfor en Vitamien D, 'n geskikte verhouding tussen hulle en die aanwesigheid van Vitamien D. Die optimum kalsium:fosfor verhouding is 2:1, en 'n gebrekkige afwesigheid van Vitamien D maak die gevolge van 'n wanbalans nog ernstiger. Wanneer daar 'n gebrek aan Vitamien D voorkom, kan mineralisering van die skelet nie plaasvind nie, al is daar genoeg kalsium en fosfor aanwesig.

Simptome van fosfaat tekorte

Die simptome van 'n fosfaat tekort is uiteenlopend. Gedurende 'n kort termyn fosfaat tekort sal 'n dier se liggaam kompenseer vir hierdie tekort deur fosfaat uit die been te mobiliseer. Indien hierdie tekorte voortduur, sal die innames van die weiding laer wees en die voeromsetvermoë verswak, wat lei tot vertraagde groeitempo's, sowel as swak reproduktiwiteit en produksie by diere.

Wanneer fosfaat tekorte op 'n lang termyn voortduur, sal tand- en beenvorminggebroke voorkom, waarvan rachitis en osteomalasie kenmerkend is. Diere se hoewe groei ook dikwels baie lank uit en krul inwaarts. Ander simptome wat waargeneem kan word is styfheid, krom rûe, lamheid, gebuigde bene, verdikte knieë en kootgewrigte.

'n Simptoom wat gewoonlik voorkom maar wat nie hoofsaaklik as gevolg van 'n fosfor tekort is nie, is "pika" of afwykende aptyt. Hierdie diere (skape, beeste, bokke, wild) kou en lek aan bene, hout, lappe, metaal, klippe of heiningpale. Diere sal 'n lae immuniteit hê en hul hare het gewoonlik 'n growwe, dowwe voorkoms. Hierdie afwykende aptyt kan lei tot die besmetting met die gevaarlike Botulinus organisme (Lamsiekte).

Hoeveel fosfor moet per dag aangevul word?

Die fosfaat behoefte van 'n dier hang af van die produksiefase, ouderdom en liggaamsgrootte van die dier, asook die tipe en kwaliteit van die weiding wat beskikbaar is. Die grootste hoeveelheid fosfor moet gedurende die reën- seisoen aangevul word, wanneer die weidings aktief groei en diere se liggaamsmassas begin toeneem.

Die voorgeskrewe fosfor inname per dier per dag is as volg:

	Beeste	Skape
Droë diere	6 g/dag	2 g/dag
Laat dragtig	9 g/dag	3 g/dag
Lakterende diere	12 - 16 g/dag	4 g/dag

Wesfed fosfaatblok

Die **Wesfed fosfaatblok** (V22784) kan vir beide skape en beeste op groen weidings gebruik word, wat 'n tekort aan fosfaat en sekere spoor minerale het.

Hierdie fosfaatblok verhoog die innames en benutting van weidings, dus verbeter die diere se kondisie, vrugbaarheid, melkproduksie, groei- en speengewigte. Die blok bevat sout, dus word probleme wat verwant is aan sout honger, uitgeskakel.



Die voorskrewe innames is 70 - 130 g/bees/dag en tot 180 g/dag vir lakterende koeie, en vir skape is dit 15 – 35 g/skaap/dag en op tot 40 g/dag vir lakterende ooie.

Anders as 'n proteïenlek, is dit nie nodig vir die diere om die fosfaatlek daaglik in te neem nie, aangesien minerale in die dier se skelet gestoor word. Daarom kan daar bereken word hoeveel blokke 'n sekere dier gaan benodig (byvoorbeeld in 2 weke tydperk) en slegs daardie hoeveelheid hoef uitgesit te word.

Produkkode	Z02-300		
Reg. Nr RSA	V 22784		
SAMESTELLING VAN FOSFAATBLOK			
NUTRIENT	MAX/MIN	HOEEVEELHEID	EENHEID
Kalsium	MAX	180	g/kg
Fosfor	MIN	90	g/kg
Magnesium	MIN	10	g/kg
Swael	MIN	15	g/kg
Koper	MIN	360	mg/kg
Mangaan	MIN	1200	mg/kg
Kobalt	MIN	6	mg/kg
Sink	MIN	1200	mg/kg
Selenium	MIN	8	mg/kg

Samevatting

Om tot 'n slotsom te kom, kan daar gesê word dat fosfaat en spoorminerale die basiese aanvullings is wat diere sal benodig wat op groenweidings wei. Fosfaat speel 'n uiters belangrike rol in die metaboliese- en strukturele funksies van die dier se liggaam wat dit help om tot sy volle genetiese potensiaal te presteer. Hierdie aanvulling is 'n baie eenvoudige en goedkoop manier om 'n boerderyonderneming se opbrengste en winsgewendheid te verbeter.

Raché Stofberg

Dierevoedingskundige



Email: rache@wesfed.co.za

Website: <http://www.wesfed.co.za/>

Cell: +27 72 662 2829

Work: +27 22 - 433 4706. MOORREESBURG. 7310

Voorkoming is beter as genesing

Rooivleis Bulletin http://www.agtag.co.za/view_shared_post/11357

Die doel van die maandelikse dieresiekteverslae is dat boere in same-



werking met hul veeartse 'n dieresiekte-bestuursprogram sal uitwerk met inagneming van die siektes wat aangemeld is. Die program behoort gereeld opgedateer te word soos wat nuwe risiko's geïdentifiseer word.

Wat is 'n entstof?

'n Entstof is 'n produk wat 'n dooie of lewendige verswakte siekteveroor-sakende organisme of giftige middel (agent) bevat.

As die produk aan 'n dier toegedien word, bou die dier 'n weerstand of teenliggaampies teen die spesifieke organisme of gif op. Die geïmmuniseerde dier is dan beskerm teen die organisme (siekte) of giftige middel (gifstof) waaraan dit daaraan blootgestel word toegedien word. Dit moet ook nie in 'n yskas gebêre word nie en na 'n dag of twee weer gebruik word.

Wat is immunisering (inenting)?

Immunisering is die proses waar 'n entstof aan 'n dier toegedien word om hom/haar teen 'n spesifieke siekte te beskerm. As die dier teen die siekte beskerm word, is dit immuun teen daardie siekte.

Entstowwe

Die gebruik van entstowwe as voorkomende maatreëls is gebaseer op die beginsel dat die dier die vermoë het om beskermende teenliggame en sellulêre immuniteit teen siekte-veroorsakende organismes of hul produkte op te bou.

Die siekte-veroorsakende organisme of sy produk word op so 'n manier (kunsmatig, geneties of natuurlik) verander dat die dier nie meer die siekte kan opdoen nie, maar terselfdertyd oor die vermoë beskik om die dier se immuunstelsel so te stimuleer dat die dier daarteen beskerm word.

Dan word daar gesê dat die dier immuun is, wat daarop dui dat die dier nie die siekte sal kry waarteen hy immuun is nie.

Ontwikkeling van weerstand ná inenting

Nadat 'n spesifieke entstof vir die eerste keer aan 'n dier toegedien word, neem dit tussen 14 en 21 dae vir teenliggame om te ontwikkel. Ná 'n hupstoot-entstof toegedien is, of dit nou vier weke of een jaar ná die tyd is, neem dit oor die algemeen tussen 24 en 36 uur vir die teenliggame om dramaties te vermeerder weens die teenwoordigheid van selle in die bloedstroom wat vorige blootstelling aan die siekte kan 'onthou'.

Voorkomende maatreëls en die gebruik van entstowwe

Die gebruiksaanwysings op die voubiljet moet sorgvuldig gelees word en die entstof moet slegs gebruik word soos voorgeskryf. Waarskuwings oor die gebruik van die entstof moet tot op die letter gevolg word. As dragtige koeie of ooie byvoorbeeld teen brusselose (strain 19-entstof) of bloutong respektiwelik ingeënt word, mag koeie aborteer en ooie mag abnormale fetusse produseer.

Toerusting

Steriliseer inspuitings en naalde deur dit vir ten minste 15 minute te kook. Moenie ontsmettingsmiddels of spiritus gebruik om inspuitings en naalde te steriliseer nie. Gebruik sover as moontlik 'n aparte naald vir elke dier. As 'n klomp diere met een naald ingespuut word, kan siekte-veroorsakende virusse en bakterieë van siek diere na gesonde diere oorgedra word.

Entstowwe

Skud die bottel met entstof elke keer voor jy die spuit daarmee volmaak. Entstowwe (soos die een teen knopvelsiekte) wat voorberei word deur drooggeevriesde materiaal (pil) met water, moet onmiddellik ná voorbereiding.

Sonlig

Vermyn die blootstelling van entstowwe aan hoë temperature en direkte sonlig wanneer dit gestoor of gebruik word. Die son se ultra-violet strale kan die aktiewe bestanddeel in die entstof beskadig of vernietig. Alle entstowwe word deur hitte beskadig en dit moet gedurende vervoer en gebruik koel gehou word. 'n Koelhouer en yspakke moet vir dié doel gebruik word.

Vermenging van entstowwe

Verskillende entstowwe, soos dié wat vir knopvelsiekte en sponssiekte gebruik word, moenie in dieselfde inspuiting gemeng word met ander middels soos antibiotika, vitamienes of ontwormingsmiddels nie. As meer as een entstof terselfdertyd toegedien word, moet dit ook nie naby aan mekaar op die dier toegedien word nie, maar verkieslik aan beide kante van die nek.

Beskerming van persone wat die diere inent

Voorsorg moet getref deur die persoon wat die entstowwe toedien om te verseker dat hy homself nie seermaak, met die entstof inspuit of besmet raak by wyse van snye of krake in die vel nie. Die lewendige brusselose-inspuiting hou 'n gesondheidsrisiko vir mense in en dit moet met die grootste sorg hanteer word. Besmetting met die antraks-entstof kan tot hewige swelling en ongemak lei, terwyl besmetting met die brusselose-entstof tot Malta-koors kan lei. Raadpleeg onmiddellik 'n dokter indien jy jouself per ongeluk inspuit.

Inenting tydens uitbrekings van siektes

Inenting van diere gedurende 'n siekte-uitbreking sal die siekte nie dadelik hokslaan nie, aangesien dit tussen twee en drie weke neem om immuniteit te ontwikkel. Indien 'n dier tydens 'n siekte se inkubasie-periode geïmmuniseer word, sal die siekte steeds ontwikkel.

Oordrag van siektes tydens inenting

Indien moontlik, maak seker dat elke dier met 'n aparte, steriele naald ingeënt word. Siektes soos knopvelsiekte, Slenkdalkoors en anaplasmoose kan oorgedra word as diere tydens die siekte se inkubasie-periode ingeënt word. Tydens uitbrekings is dit veral belangrik om seker te maak dat elke dier met 'n aparte, steriele naald geïmmuniseer word.

Moenie die kalwers of lammers van geïmmuniseerde moederdiere voor die ouderdom van tien weke inent nie. Die kolostrum-verwerfde immuniteit sal die kalf of lam beskerm, tensy anders aangedui deur die inligting van 'n spesifieke produk. Diere wat vir die eerste keer ingeënt word met byvoorbeeld 'n onaktiewe entstof teen sponssiekte, lamsiekte en kwaadaardige edeem, moet drie weke later met dieselfde entstof ingeënt word om te verseker dat immuniteit ontwikkel. 'n Klein persentasie van diere in 'n kudde (ongeveer een persent) mag 'n swak immuniteit of geen immuniteit na inenting ontwikkel. Dié diere sal doodgaan as hulle met die betrokke siekte se veroorsakende organisme besmet raak.

NEW PRODUCT AVAILABLE FROM JULY 2016

Lionel's Bio Enzyme Digester:

In Nature all animal and vegetable matter, from insects to Giant Yellow wood trees, are broken down and recycled into plant food by enzymes and bacteria. **Lionel's Bio Enzyme Digester** uses this same principle to degrade Human, animal and vegetable waste. Our bacteria and enzymes are specifically targeted at breaking down food, sewage, grease, hair, soap film and all organic waste.

Lionel's Bio Enzyme Digester is a blend of potent bacteria and enzymes. The bacteria are natural, not genetically-engineered. Our enzyme concentration is the most powerful on the market. **Lionel's Bio Enzyme** is a proprietary blend of superior aerobic and anaerobic bacteria selected for their ability to degrade organic waste.

Lionel's Bio Enzymes Digester is non-toxic. It does not attack live tissue or inorganic matter. Only organics such as grease, hair, food particles, paper, cotton and sewage are devoured. Our product is therefore safe for people, the environment as well as plumbing and sewage systems. Lionel's Bio Enzyme Digester changes waste particles into water, carbon dioxide and mineral ash which run harmlessly out of our waste system. These elements are then available as a food source for plant life. Immediately after pouring bacteria into an effected area the bacteria is activated and begins eating away at the accumulated waste. This is their natural food. The waste is digested and the bacteria spread throughout your system cleaning it completely.

Multi-purpose application: Agricultural, commercial and residential applications:

- Pit Toilets (long drops)
- Kitchen sinks, drains and drain lines.
- Lavatories and ablutions
- Bath tubs, shower, floor drains and their drainage systems
- Laundry drainage systems
- Septic tanks and drain fields
- Garbage disposal equipment and surrounding areas
- Grease traps
- Sewage ejector sumps and pumping systems, lift stations
- Cesspools
- Campers, ships and all other holding tanks
- Animal sheds and sleeping areas
- Pet bedding and cat litter boxes
- Compost activator

Application of Lionel's Bio enzyme digester:

The powder can be sprinkled over sewage spills by hand or mixed with water and sprayed over the affected area.

In drains and sewage systems the powder is mixed with water (Cold, Or luke warm, not hot water). The solution can be poured into the nearest access point. Application should be done during quiet times, giving the solution maximum contact time.

For specific applications please contact our technical representative for dosage applications and suggestions.

For the best results use only natural cleaning products, not harsh chemicals.

Bio Enzyme
Digester

Keeping the Avian Influenza virus out

Oct 26, 2015 update: Mar 9, 2016 5049

<http://www.worldpoultry.net/Health/Articles/2015/10/Keeping-the-Avian-Influenza-virus-out-2695663W/>

During the most recent Avian Influenza summit, a part of the International Egg Commissions leadership conference in Berlin, the egg industry's



world leaders discussed all the ins and outs of the current Avian Influenza threat. Keeping the virus out, that should be at the forefront of every producer's mind.

A sign on the wall helps, but it is the actual biosecurity procedures that have to be strictly followed to keep viruses and bacteria out. [Photo: Henk Riswick]

Over the last year, the world had to deal with a serious [Avian Influenza](#) crisis. A mutated disease led to infections in many countries and it became a fact of life that the virus has settled in the wild bird population, thus posing a higher threat than before. Some were able to stamp out single incidences of the virus quickly and prevent further spread in the poultry population due to early detection from the farmer up, good organisation and experience. However, in the US the virus was able to get out of control. Chad Gregory of United Egg Producers: "We encountered the worst animal disease outbreak in US history, in which we lost the birds of 223 companies." Lack of experience and shortcomings in preparation to battle the outbreak exacerbated the problems. Gregory: "In hindsight, we learnt many lessons, ranging from measures to ensure faster depopulation and better organised disposal of dead birds to vaccination and, of course, improved biosecurity and the issue of sharing crews and equipment between farms."

Verify biosecurity measures

Chairman of United Egg, Jim Dean, lost 5.5 million birds at the farms he is connected to: "We weren't able to stay ahead of the virus, which meant the virus spread further since we couldn't cull birds fast enough. With the virus source not under control, we saw other farms become infected." Dean stated that even before infection of the first farm many biosecurity measures were in place. "That said, we learnt expensive lessons. The first and foremost is – and here I want to quote our past President, Ronald Reagan – 'Trust, but verify!' For example, for years we had the rule that our workers couldn't enter a facility within 72 hours after being in contact with other poultry. When we resigned the agreement, the crew company said they would have to charge us extra to comply with this rule, saying that they thought the rule wasn't mandatory before.

Disasters happen

"And that is exactly where disasters happen," added professor Rudi Preisinger of Lohmann Tierzucht. "Let's be honest with each other. Do you have a full shower-in, shower-out procedure in place, do you have colour-coded boots and clothes for every zone on your farm? We all know that is not the case in most operations. All producers within the IEC should lead by example. In my world, someone should change shoes from black to green when he steps from the outside the farm onto the farm grounds and change again from green to yellow when he steps inside the house. And when I see someone go outside for a quick cigarette

with his yellow boots on? Then simply changing shoes won't cut it, he'll have to change companies."

The ideal farm

Biosecurity is more than just a shower and shoe operation, it is all about protocols and being prepared for the worst. Andrew Joret of the British Egg Producing Council: "Biosecurity not only keeps out [Avian Influenza](#), all kinds of pathogens, viruses and bacteria can be kept at bay with strict hygiene." Unfortunately most farms have to deal with an existing situation. "That doesn't mean, however, that the existing protocols cannot be changed. As a thought exercise, I often challenge farmers to imagine the perfect model farm with perfect human and animal movements."

According to Joret, one can learn a lot this way, which can lead to changes in an existing situation. "A model farm wouldn't be built near open water or other poultry concentrations, it would have a perimeter fence with only one entry point with a barrier, parking outside and disinfecting facilities. The farm would have a single age system and the building would be tight and chickens would be indoors." In Joret's opinion, there is a lot to learn from this thought exercise that can be implemented on existing farms without enormous investments or big changes. "Restricting the number of visitors will cost you nothing and having your employees park outside the farm to prevent 'dirty' vehicles from entering the farm grounds will be cheap. Disinfecting the few vehicles that are allowed on farms will not be expensive. And why should you allow the feed truck to enter, supplying the house from outside the fence is a possibility too. And what about service personnel? Do you allow them to bring their own tools and toolbox, which could have been at another farm as well? Or do you invest in farm-owned tools?"

Flanking measures

Only when the farms' biosecurity is up to speed, backed up with rapid diagnosis to detect possible outbreaks and a well-organised culling and disposal system is there room for taking measures such as vaccination. Professor Hafez of the University of Berlin: "Vaccination can be used as a flanking measure in cases of extreme threat or an uncontrollable outbreak. But it is no substitute for preparation. When a vaccination strategy is in place, it can give producers a false sense of security, leading to less tight biosecurity protocols. That is deadly because no single vaccination will give 100% protection in field conditions or stop a virus spreading." With the virus present in the direct environment of the world's poultry population, preventing the virus from entering the house requires maximum attention, using trusted and verified best practices.

Fabian Brockotter

Editor of World Poultry

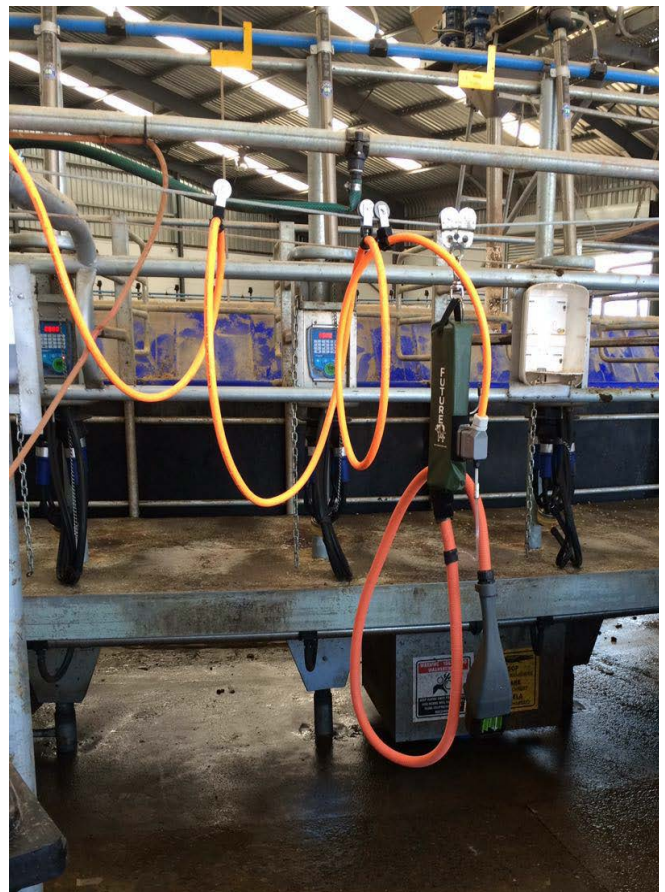




Alfalpa Dairy Worcester/Villiersdorp

Eienaar: Johan van der Merwe

Installeer FutureCow Elite sisteem





Simplicity and Reliability

Designed for professional farm and work
under tough conditions



Nation Wide
Carli Nel
072 415 9680

Eastern Cape
Jannic Zietsman
082 923 6382

Nation Wide
Duncan Stephenson
083 263 9722

Free State
Jacques Faure
082 896 1827

KwaZulu Natal
Steve Elliot
083 788 1219

Northern Cape
Jan Joubert
073 303 6786

Overberg
Derrick Coetzee
082 373 6068

Southern Cape
Johan Havenga
079 505 7340

Visit our website: www.lionelsvet.co.za

Classes of pork carcasses

Gillian Gamsy International Communications http://www.agtag.co.za/view_shared_post/11034

The meat industry centres upon providing a service that meets all the preferences and requirements of its consumers. As consumer preferences differ and the demand for low fat meat and meat products increases.

The pork carcass classification system - (S)EUROP - was introduced in countries of the European Union in 1984. Classification of carcasses is based, among other things, on modern computer technology, involving needle measurements of backfat thickness in certain parts of carcass and further calculations of lean meat content.

The percentage of meat in a carcass, also referred to as meat content is defined as percentage of overall striated muscle weight in relation to the total carcass weight. It is important to carry out these measurements no later than 45 minutes after slaughter and only authorised classifiers are allowed to carry out this evaluation of meat content.

Pork that is imported from Europe is marked with a letter which stands for the appropriate class or details of the percentage of lean meat content held within the cut. (for example 'E' or '57,2%'). Each letter will signify the quality of the cut and as a result, the best possible use for that particular purchase. This classification is mandatory in European slaughterhouses, which slaughter over 200 animals per week, and which slaughtered over 10 400 pigs during their last operational year.

The class letters and their commercial uses are as follows:

- **Class S:** High quality. This class of meat is not commonly available for sale. It is produced only on special requests and contains more than 60% of lean meat.
- **Class E:** Great culinary usability. Class E pork contains 55 to 60% of lean meat. The layer of backfat in a Class E pork carcass should not be thicker than 12 mm.
- **Class U:** Very good quality. This cut contains 55 to 50% of meat, and 13 to 17mm of backfat. Swine from this class are farmed according to the standard EU farming and feeding systems.
- **Class R:** Good quality. This cut contains 50 to 45% of meat and thickness of backfat ranges between 18 and 22mm.
- **Class O:** Cut for meat processing. Class O contains 45 to 40% of meat and the thickness of backfat ranges between 23 and 27mm.
- **Class P:** Cut for meat processing. Class P thickness of backfat goes above 27 mm. Pork from this class contains less than 40% of meat.

Introduction of a general, pork carcass classification system in the EU allows for clear classification of the commercial quality of produced meat. This unique food quality management system results in precise definition of the meat's intended use and insurance that customers can identify the best cut for their own individual needs.



PECTOSPEED

Stop Diarree!

Glentana Dairy Kookhuis - Oos-Kaap

Niel Wilke en Jakob Mavenpie van Glentana Dairy, Cookhouse, het Pectospeed gebruik in hul laaste kalfseisoen en sal nie weer sonder dit deur 'n kalfseisoen gaan nie. Dis hul voorste produk vir diarree.



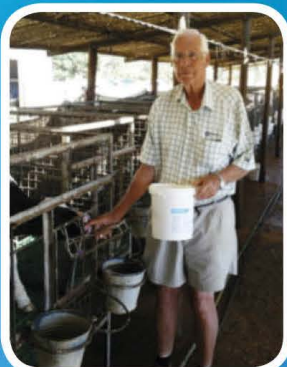
Watervlak Jerseys Vryburg - Noordwes

Volgens Oom Sas van der Merwe van Watervlak Jerseys naby Vryburg word Pectospeed met groot sukses gebruik. Hy is baie tevrede met die produk.



Die plaas Weltevreden Riebeeck-Wes in die Swartland

Nicol Serdyn maak 30 kalwers per maand groot en Pectospeed is een van die beste hulpmiddels tot dusver teen kalfdiarree.



Zaaiplaats Comondale

Johan van der Merwe, melkstalbestuurder op Zaaiplaats, Comondale naby Paulpietersburg sê: "Dit is die beste produk teen kalfdiarree wat ek nog gebruik het!"



Beskikbaar by koöperasies en veeartse
Besoek ons webtuiste www.lionelsvet.co.za

Vir meer inligting kontak:

Kaapstad: +27 21 932 2019 • Gauteng: +27 82 907 7486 • Johannesburg: +27 11 624 0223
Mpumalanga: +27 82 907 7486 • Oos-Kaap: +27 41 451 1900
Noordwes: Jan Joubert +27 73 303 6786 • Overberg: Derick Coetzee +27 82 373 6068
Suid-Kaap: Johan Havenga +27 79 505 7340 • KwaZulu Natal: DenVet 033 345 1093

Veegesondheid – slaggate in die winterseisoen

Spilpunt - Danie van Niekerk - http://www.agtag.co.za/view_shared_post/2646

Met die aanbreek van die winterseisoen gee boere gewoonlik 'n sug van verligting wanneer hulle aan veegesondheid dink. In die winter is die voorkoms van parasiete, inwendig en uitwendig, en



ander siektes gewoonlik baie laer en is dit nie meer 'n prioriteit waarop gefokus word nie. Hierdie verslapping in fokus kan veeboere egter duur te staan kom.

Bemarkingspersentasie is die belangrikste faktor wat die winsgewendheid van veeboerdery bepaal. Bemarkingspersentasie word bepaal deur die reproduksietempo (kalf- en lampersentasie), minus die vrektes. Ons moet dus alles in ons vermoë doen vir die grootste moontlike aanteling, terwyl vrektes tot die absolute minimum beperk moet word. Moet dus nie in die winter heeltemal van veegesondheid vergeet en net op voeding fokus nie. Alle siektetoestande lei nie noodwendig tot vrektes nie. Sommige het 'n negatiewe invloed op produksie (wol, vleis en melkproduksie) en repro-

duksie, wat dan weer tot indirekte verliese lei.

Waarvoor moet ons die winter op die uitkyk wees?

Uitwendige parasiete

Bosluisoorgedraagde siektes

Siektes soos rooiwater, galsiekte (anaplasmoses) en hartwater wat deur bosluise oorgedra word, bly verreweg die belangrikste oorsake van vrektes by beeste. Hartwater speel ook 'n rol by skape. Alhoewel bosluisgetalle en die aktiwiteit van bosluise afneem wanneer die winter nader kom en dit kouer word, beteken dit nie dat ons nie meer op die uitkyk moet wees vir bosluisoorgedraagde siektes nie. Die lang winterhare van beeste maak dit moeilik om bosluise op beeste waar te neem - veral die larwe- en nimfstadia wat baie klein kan wees. Asiatiese rooiwater word deur die larwe- en nimfstadia oorgedra, terwyl Afrika-rooiwater, galsiekte en hartwater deur die nimf en volwasse bosluise oorgedra word.

Met rooiwater duur dit tussen 7 en 14 dae vandat die bosluis die parasiet oordra tot siektetekens voorkom, 'n relatiewe kort inkubasieperiode. Hartwater se inkubasieperiode kan wissel van 9 - 29 dae by beeste en 7 - 35 dae by skape. Galsiekte se inkubasieperiode kan veel langer wees, van 3 tot 6 weke. Dit beteken dat, in die geval van Asiatiese rooiwater, vrektes kan voorkom voordat volwasse bosluise opgemerk word, veral indien die haarkleed van die beeste lank is. In die geval van galsiekte kan dit weer beteken dat beeste aan galsiekte kan vrek, tot 6 weke nadat die beeste oënskynlik skoongemaak is van bosluise.

Dit is dus van die uiterste belang dat die teenwoordigheid van bosluise gereeld gemonitor moet word en doeltreffende beheer moet plaasvind totdat die voorkoms van bosluise drasties afgeneem

het. Boere in die warmer dele van die land waar die winters nie so straf is nie of van korte duur is, weet dat bosluisbeheer selfs deur die winter nodig is. Dip (dompel, spuitgang, opgië) is die doeltreffendste manier om bosluise te beheer. Sistemiese inspuitable- en opgiëprodukte kan ook gebruik word, maar dit voorkom nie noodwendig die voorkoms van bosluisoorgedraagde siektes nie. Dis egter nuttig om dit saam met dompeldip te gebruik om die bosluisaanwas te verlaag en sodoende die kanse op bosluisoorgedraagde siektes te verminder.

Faktore soos die voorkoms van laat reën en die latere aanbreek van drastiese koue toestande, veral ryp, kan daartoe bydra dat die voorkoms van bosluisoorgedraagde siektes later as gewoonlik voorkom. Stresverwante faktore soos speenskok, die skuif, vervoer en herindeling van beeste kan daartoe lei dat diere, wat immuniteit teen bosluisoorgedraagde siektes het, se immuniteit onder druk kom en skielike vrektes kan voorkom. Sorg dus dat diere se spoormineraalstatus optimaal is voor die aanvang van stresverwante gebeurtenisse om sodoende hul immuniteit te ondersteun.

Waar moontlik moet beeste selfs in die wintermaande daaglik gemonitor word en siek diere moet dadelik met toepaslike middels behandel word om vrektes te voorkom. Rooiwater kan met diminaseen of imidokarb-bevattende produkte behandel word. Galsiekte en hartwater kan met oksitetrasiklien-bevattende produkte behandel word. Behandeling om die lewer te ondersteun en die rumenfunksie te herstel word ten sterkste aanbeveel. Dit sal help dat die diere vinniger herstel.

Luisse

Wintertyd is ook die tyd wanneer luisse en myte meer aktief is en diere se kondisie en immuniteit onder druk is. Luisse en myte is geweldig irriterend vir die diere en het 'n drastiese negatiewe in-



Ross Gordon-Henry/shutterstock.com

vloed op diere. Wanneer diere krap, skuur, wol uitpluis of skurwe kolle ontwikkel, is dit moontlik tekens van 'n luis of mytbesmetting en dan moet die diere met 'n doeltreffende middel behandel word. Heelwat dipmiddels en inspuitable produkte is doeltreffend. By skape is dit baie belangrik dat daar onderskei moet word tussen skaapbrandsiekte en rooi (bytende) luisse aangesien laasgenoemde nie doeltreffend deur middel van inspuitable middels (makrosikliese laktone) beheer word nie.

Inwendige parasiete

Inwendige parasiete kan by skape tot indirekte verliese (produksie/reproduksie) asook direkte verliese (vrektes) lei. By beeste lei dit meestal tot indirekte verliese wat nie altyd met die oog waarneem word voordat dit te laat is nie. Dink hier aan 'n afname in speenmassa en die reproduksietempo.

Skape behoort met die aanbreek van die herfs en winter met 'n doeltreffende breëspektrummiddel behandel te word. Middels met nawerking teen haarwurm word aanbeveel om skade weens bloedverlies te voorkom totdat die grootste gevaar verby is. Dis gewoonlik nadat strawwe ryp voorgekom het.

Gebruik 'n middel wat ook doeltreffend is teen neuswurm om oorwinterende larwes dood te maak. Indien skape tekens van haarwurmbesmetting toon en 'n kwakkeel (bottle jaw) reeds voorkom, moet die skape eers met 'n kontakdodende middel, soos Levamisool, behandel word. Nadat bloedvlakke herstel het (10 tot 14 dae), kan 'n sistemiese middel ingegee word. Dit word altyd aanbeveel om miseiertellings te doen op mismonsters geneem tydens dosering en van dieselfde skape 10 dae na dosering, om seker te maak dat die dosering doeltreffend was.

Beeste behoort ook aan die einde van die herfs ontworm te word om sonder 'n parasietlas die winter in te gaan en so ook die oorwinterende larfstadium van rondewurms dood te maak.

Alhoewel beeste meer weerstandig is teen inwendige parasiete is die weerstand nie volledig nie. Die beheer van inwendige parasiete het groot voordele vir melkproduksie, groei, reproduksie en immuniteit. Indien lewerslak voorkom, is dit baie belangrik dat beeste in die herfs met 'n middel behandel word wat lewerslak vanaf die vroeë onvolwasse stadium (2 weke) so doeltreffend as moontlik uitroei.

Die onvolwasse stadium van die lewerslak veroorsaak baie skade aan die lewer en moet dus so doeltreffend as moontlik behandel word. Onthou alle inspuibare middels maak die lewerslak slegs in die volwasse stadium dood. Die herfsbehandeling behoort na twee maande opgevolg te word om die slakke wat jonger as twee weke was met die eerste behandeling en nou volwasse is, te vernietig voordat hulle eiers lê en die weiding weer besmet.

Die lewer is so 'n belangrike orgaan dat dit ten alle koste beskerm moet word om maksimum produksie en reproduksie te verseker.

Virusverwante siektes

Virusverwante siektes soos bloutong, Slenkdalkoors en drie-dae-stywesiekte, kom nie normaalweg in die wintermaande voor nie. In gevalle waar dit laat reën of wanneer drastiese koue laat voorkom of selfs tydens matige winters, is muggies, muskiete en vlieë steeds 'n probleem en dan kan hierdie siektes later as verwag word voorkom. Virus-siektes moet deur middel van 'n doeltreffende inentingsprogram voorkom word voor die aanvang van die hoë-risiko periode (somermaande) om vrektes tot die minimum te beperk. Soos met griep, kan ons nie virusse met antibiotika doodmaak nie, maar net die sekondêre simptome voorkom of verlig. Hou diere so stil as moontlik onder skaduwee met skoon drinkwater en kos beskikbaar. Kontak u veearts vir toepaslike behandeling.

Vergiftiging

Plante

Die vreet van gifplante kom meestal voor in die laat winter of lente wanneer weiding skaars is en die gifplante begin uitloop. Beeste wat op 'n plaas gebore word waar gifplante groei, vreet normaalweg nie somer hierdie plante nie. Diere wat nuut op die plaas is of uit-gehongerde diere kan egter gifplante vreet. Gifplante tas gewoonlik die hart of die lewer aan en is normaalweg dodelik indien groot hoeveelhede ingeneem word. Span dus gifplante af en maak seker dat nuwe diere op die plaas nie daaraan blootgestel word nie. Voorkom ook dat diere lank op kraal staan sonder kos en dan honger is. Kontak u veearts vir die korrekte behandeling indien vergiftiging vermoed word.

Ureum

Winter is ook die tyd van die jaar wanneer die proteïen-waarde van die veld drasties afneem. Veeboere moet dan staatmaak op onderhoudlekkie met 'n ureum-basis om hul vee deur die winter te kry. Dis ook dan wanneer die gevaar van ureumvergiftiging toeneem.

Sorg moet geneem word by die selfmeng van lekkie sodat die ureum deeglik en teen die regte hoeveelhede in die lek ingemeng word. Diere moet nie 'n southonger hê wanneer lekkie met 'n ureumbasis uitgesit word nie. Die sterker diere kan dan te veel van die lek inneem wat tot vergiftiging kan lei.

Skielike winterreën kan ook tot vergiftiging lei indien die lekbakke nie kan dreineer nie en water in die bak versamel wat dan deur die diere gedrink word. Daar moet ook sorg gedra word dat die deure van store waar ureum geberg word behoorlik toegemaak word sodat diere nie per ongeluk daar kan inkom en van die skoon ureum vreet nie. Kontak u veearts vir die korrekte behandeling indien vergiftiging vermoed word

Ander

Daar is in sommige winters 'n groter risiko vir diplodiavergiftiging by diere wat op mieliereste wei as gevolg van baie aanhoudende reën wat in Februarie en Maart ondervind word. Diplodia is 'n fungus wat in mieliekoppe kan ontwikkel en skadelik kan wees indien dit in groot hoeveelhede ingeneem word. Maak dus seker dat mielies met strooptyd geïnspekteer word vir die voorkoms van diplodia en dat 'n kundige se raad ingewin word voordat diere op die reste wei of die afvalkoppe as dierevoer gebruik word.

Lugwegsiektes



Margo Harrison/shutterstock.com

Winter is ook 'n tyd waarin die voorkoms van lugwegsiektes verhoog. Drastiese verskille tussen dag- en nagtemperatuur, stowwerigheid (veral in voerkrale), swak voedingsomstandighede, verlaagde immuniteit asook lae vitamien A vlakke van die weiding, plaas druk op die slymvliese.

Die slymvliese is die liggaam se eerste linie van verdediging. Indien dit nie optimaal kan funksioneer nie dring bakterieë en virusse die liggaam makliker binne.

Sorg dat diere se spoormineraalstatus (immuniteit), vitamien A aanvulling (slymvliesintegriteit) en entstowwe teen lugwegsiektes op datum is om verliese tot die minimum te beperk. Hierdie entstowwe sluit BVD, IBR, PI3, BRSV en Pasteurella in. Kontak u veearts vir toepaslike behandeling.

Let dus daarop dat die gesondheid van u diere nie net in die somermaande 'n prioriteit moet wees nie, maar ook in die winter sekere uitdagings kan bied.

Voorkoming is baie goedkoper as om diere te verloor. Raak bewus van die gevare, maak seker dat u werkers hierin opgelei is en wees gereed vir die uitdagings wat die winterslaggate in terme van veegesondheid kan bied.

New nano sensor detects dairy cattle diseases quickly, easily

Device ready to move to commercialization *By Lilian Schaer for AgInnovation Ontario*



<http://www.aginnovationontario.ca/en/new-nano-sensor-detects-dairy-cattle-diseases-quickly-easily/#more-886>

A new handheld instrument can quickly and easily detect two significant diseases in dairy cattle before the animals become sick.

Invented at the University of Guelph by engineering professor Suresh Neethirajan and researchers in the BioNano Laboratory, the nano biosensor uses small test strips to indicate whether a cow has ketosis or metabolic disease by analyzing a small volume of blood or milk.

Nanosensing diagnostic platforms for biomarkers of ketosis and metabolic disease have been developed, which help to rapidly identify elevated levels that can indicate the presence of either of the diseases in animals that appear healthy.

Currently, blood samples must be taken and sent to a lab for analysis, a process that is costly and can take five to seven days to return a diagnosis.

“There is no on-farm test available that lets you test for both diseases at the same time,” says Neethirajan. “This device is like a diabetic test – with only one drop of blood you can get a precise measurement of whether a disease could be present or not.”

“This device will help us shift from diagnosing to predicting disease,” he adds. “For example, detecting these biomarkers during the subclinical stage can identify a cow with a 90 percent likelihood of developing a certain disease.”

The instrument will show a green check mark if an animal’s levels are normal and a red x means the presence of elevated levels – the result is given in about two minutes. Early detection allows farmers to change or supplement feed, for example, to avoid the ailments, side effects and costs of the full-blown diseases.

Neethirajan says devices to monitor novel infectious agents can also be developed for other dairy

cattle diseases, such as clinical mastitis and Johne's Disease, as well as immuno-deficiency in calves, and even Lyme Disease and Blue Tongue in beef cattle down the road.

The University is now seeking an industry partner to further product development and take the device to market.

"We've done the hard part in detecting the biomarker to give the information for decision-making, now the next step is taking it to the users," says Neethirajan.

Although the cost of the test at the farm level will be driven by the company leading the commercialization, the goal would be to keep it below \$2 per cow, per test, adds David Hobson of the University of Guelph's Catalyst Centre, whose mandate is to help take research to market.

"If you can monitor daily and monitor cheaply enough, you can nip problems in the bud. Cows are most vulnerable before and after calving so if we can collect good, clean data, we can act before there is a problem," he explains, adding the technology could become a regular screening tool in predictive disease management.

A future vision sees the handheld technology integrated into a robotic milking system, for example, which could automatically measure biomarkers in milk and trigger attention.

Hobson says a company already involved in collecting data on farm would be good fit as a commercialization partner, and although partnering with a Canadian group would be ideal, they're open to opportunities globally.

"The long term vision is a single platform with 'apps' as part of surveillance and early warning systems for disease prediction for dairy, beef, poultry, swine etc., to make smart decisions on-farm," Neethirajan says.

The development of the technology was supported by the Dairy Farmers of Ontario and the Natural Sciences and Engineering Research Council of Canada.



Six factors to consider to give heifers a good cost-effective start

By Rick Mooney April 18, 2016 | 3:20 pm EDT



http://www.dairyherd.com/magazine/six-factors-consider-give-heifers-good-cost-effective-start?mkt_tok=eyJpIjoiT1RsbVptUm1OV1kwWm1SaClInQiOiJ3VGdyaHIBNWY3WXNWK00zbWFPVXZ-zaVBzUWJudjJvbnAzS0l0Vm1RdzlWemFhK2VPaXBnMVZnZjd6cGJPTUpxUkpITnVkQTQ1emF-NOEZEcEprRm1cL1Y0eVkrRVwvaDIrUkJCS0ZPUDVjeUJzPSJ9

Heifers make up 20% of farm budgets, so any savings in feed costs can be significant.

Photo by Jim Dickrell

With milk prices slumping, making it a priority to trim feed costs in the heifer-rearing program will be a worthwhile undertaking for many dairy farmers, says Matt Akins, University of Wisconsin dairy specialist.

After all, heifers account for around 20% of the total cost on most dairies. What's more, feed costs typically make up about 50% of all heifer expenditures. Here's how to keep costs under control:

1. Determine the right number of heifers for your herd. “It’s a balancing act,” Akins says. “You want to have enough heifers to replace cull cows. But having too many will drive up feed costs unnecessarily.” Herd size, cow culling rates, first calving dates for heifers, heifer culling rates, facilities and plans for expansion will all be a part of your calculations. The online “Heifer Replacement Tool,” developed by University of Wisconsin dairy scientist Victor Cabrera, lets you plug in specific variables and gives ballpark numbers for working through the planning process. It’s available at www.dairymgt.info/tools/heifer_replacement/index.php.

2. Reduce days on feed. An average age at first calving greater than 22 to 24 months means feeding heifers longer than necessary, translating into higher feed costs. To avoid that, aim to start breeding heifers at 13 months and have them confirmed pregnant by 15 months. Work with your nutritionist to ensure an adequate pre-breeding growth rate of about 1.8 lb. per day, then target to breed when animals are at 55% of mature body weight (around 825 lb. to 900 lb. for Holsteins).

3. Step up feed bunk management. Spending just a few minutes a day to check for refusals in the feed bunk can lead to significant savings in feed usage over time. Akins suggests setting up a simple bunk scoring system that assigns a value of zero through three based on how much feed is left in the bunk from the previous day’s feeding. In this kind of system, a slick, cleaned out bunk would score a zero and indicate more feed should be included in the follow-up feeding. A bunk with just a few scattered refusals would earn a score of one, and no changes in daily feed deliveries would be necessary. Bunks with significant amounts of leftover material would score two or three making it necessary to back off on delivery amounts.

4. Feed higher-fiber forages. Keeping the rumen full by replacing corn silage/haylage in rations with higher fiber ingredients (warm season grasses, stover and straw) will lead to reduced intakes and lower costs. “A side benefit is that you won’t see as much overconditioning in pregnant heifers,” Akins says.

5. Consider limit-feeding. The basic idea with limit-feeding is to cut back on total feed intake (by 10% to 20%) while still delivering required energy and protein amounts. In most cases, that will mean scaling back on forages and bumping up amounts of low-cost concentrates (think byproducts such as distillers grain or corn gluten feed). “You’re still putting same amount of nutrients into the heifers, just in smaller packages,” Akins says. Making the strategy pay off will require formulating least-cost rations, having adequate bunk space available so less aggressive animals aren’t crowded out during feeding, pushing feed up more often (especially within the first hour or two of feeding) and weighing animals more often to stay on track with meeting performance goals.

6. Incorporate grazing into your feeding program. In most cases, you’ll need to do some supplemental feeding (1 lb. to 3 lb. per day depending on the pasture) in order to meet performance goals. But you’ll want to consider whether the time and money it takes to develop pastures is really worth your while, Akins says.



Brand new 24 Cubic
RMH feedmixer



Brand new 14 Cubic
RMH feedmixer



Second hand
Storti dunker T2 210
R350 000 + VAT



Carli Nel: 072 415 9680
carli@lionelsvet.co.za

Jannic Zietsman: 082 923 6382
jannic@vodamail.co.za

Martin Krogman: 082 338 2907
krogman.tag@gmail.com

Bruce Braithwaite: 078 169 1177
brucejames72@icloud.com

Duncan Stephenson: 083 263 9722
duncan@lionelsvet.co.za

We would like to welcome



Gavin Dargie to the LVS team as a sales consultant in the East London area.

Gavin we trust you will be very happy at LVS.

You can contact him on 072 246 7750 or gavdargie1@gmail.com



Baie welkom aan Johan Rossouw wat op 1 Mei by Goeiehoop Kaas begin het as Assistent Bestuurder.

Ons glo hy gaan baie gelukkig wees as deel van die Lionel's span.

Julle kan hom kontak op:

073 193 9381 of johan.rossouw@lionelsvet.co.za



Neil Van Tonder

10 hrs • 🌐

Lionel of Lionel's Choice Dog Food donating 10 large bags to Fisantekraal Animal Welfare !
Belinda Taljaard Van Tonder receiving the donation. Thank you Lionel !!!



LIONEL'S CHOICE
the Dog's Choice

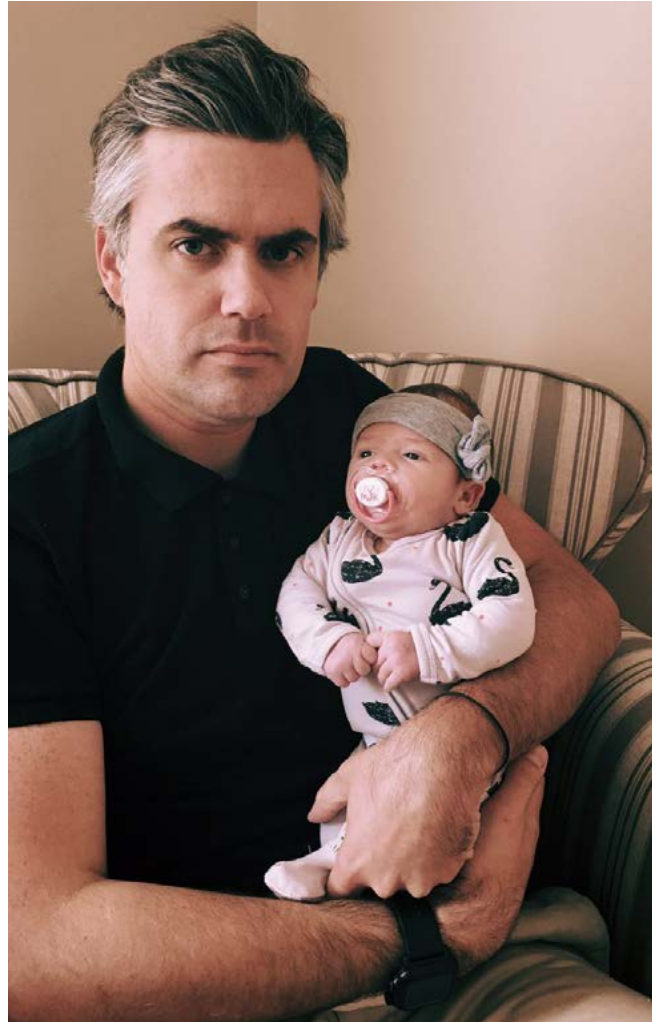


*Baie geluk aan Warnich en Taryn met die
geboorte van hul dogtertjie Willow!*

Willow Biersteker

6 Mei 2016

3,35kg



Port Elizabeth Branch has moved to new premises.

Address:

PLOT 19
SEAVIEW ROAD
GREENBUSHES

Contact: Tel: +27 41 451 1900

Fax: 086 758 8142

Email: pereception@lionelsvet.co.za.

GPS: Latitude: -33.941124

Longityde: 25.410734



Come visit us!

LVS Sales Team

Name	Contact Number	Email	Area/Province
Duncan Stephenson	083 263 9722	duncan@lionelsvet.co.za	Western Cape
Andreas du Toit	082 641 8944	andreasdtl@gmail.com	Karoo – Beaufort West
Anita Loxton	072 231 6454	anitaloxton@yahoo.com	North West - Hartswater
Brady Dabner	071 604 1839	vrymansfontein@gmail.com	Western Cape
Bruce Braithwaite	078 169 1177	brucejames72@icloud.com	KZN
Carli Nel	074 182 5103	carlinel@lantic.net	Western Cape
Charlie Wiehahn	084 206 8220	cwiehahn@hotmail.com	Eastern Cape – Port Elizabeth
Cherese van den Berg	082 377 1315	cduplessis87@yahoo.com	North West - Hartswater
Debbie Elliott	082 376 3702	dmelliott@netactive.co.za	KZN - Midlands
Derick Coetzee	082 373 6068	djcoetzee@telkomsa.net	Southern Cape - Caledon
Gavin Dargie	072 246 7750	gavdargie1@gmail.com	East Londen area
GJ du Preez	082 042 3303	dupreez.gj@gmail.com	Eastern Cape – Jeffrey's Bay
Jacques Faure	082 896 1827	jacquesfaure@mweb.co.za	Free State
Jaco Swanepoel	072 658 2960	jacoswanepoel@outlook.com	North West - Hartbeesfontein
Jan Joubert	073 303 6786	jan_saftp@yahoo.com	North West - Vryburg en Kuruman
Janique Ott	083 603 3323	janique@lionelsvet.co.za	Eastern Cape - Cradock
Jannic Zietsman	082 923 6382	jannic@vodamail.co.za	Eastern Cape – Port Elizabeth
Jenni Soutar	082 783 8513	jennisoutar@gmail.com	KZN - Northern Natal
Johan Botes	073 925 2382	johan@lionelsvet.co.za	Western Cape
Johan du Plessis	072 806 7266	johandup@lionelsvet.co.za	Nothorn Cape- Upington
Johan Havenga	079 505 7340	johanhavie1@gmail.com	Southern Cape - George
Juan Welman	082 907 7486	juan.welman@vodamail.co.za	Mpumalanga - Standerton
Jurie Nel	072 514 8218	jurie@lionelsvet.co.za	Gauteng
Karin van der Merwe	082 851 9474	karin.vdm@vodamail.co.za	KZN - East Griqualand
Matthew Elliott	078 5522 400	mpjelliott@hotmail.com	KZN - Durban, North & South Coast
Neville Brown	084 577 1721	nevilleb@denvet.co.za	KZN - East Griqualand
Petrie Goosen	082 534 8021	goosenp@mweb.co.za	Western Cape - Malmesbury
Riaan Momberg	00264 81 124 0288	riaanm@mweb.com.na	Namibia - Windhoek
Sarah March	082 7711 809	sarahmarch@vodamail.co.za	KZN - Midlands
Steve Elliot	083 788 1219	selliot@netactive.co.za	KZN - Pietermaritzburg
Warnich Biersteker	082 414 7293	warnich7@gmail.com	Western Cape, Botswana, Zambia , Zimbabwe, Malawi, Angola
Werner van Rooyen	083 462 0474	wvrvers@mweb.co.za	Klein Karoo – Oudtshoorn

Ontmoet die Lionels span



DenVet
*Solving your animal health
care problems*

**Address: 68 Industria Ring Road, Parow
Industrial, Parow, 7500
Telephone: +27 21 932 2019 Fax: +27 86 554 6303
E-mail: info@lionelsvet.co.za**

**Ph: 033 345 1093 Fax: 08654 3653
Email: sales@denvet.co.za**