

MSA: INVENTORY OF DAIRY R & D IN SA FOR THE PERIOD 2018 TO 2019

1. UP-ONDERSTEEPOORT:

Fosgate, Geoffrey:

Scientific articles:

- Mulder, R., Fosgate, G.T., Tshuma, T. & Lourens, D.C., 2018. The effect of cow-level factors on colostrum quality, passive immunity and health of neonatal calves in a pasture-based dairy operation. *Anim. Prod. Sci.* 58, 1225-1232.

Petzer, Inge-Marie:

- Karzis, J., Petzer, I-M., Donkin, E. F. & Naidoo, V., 2018. Proactive udder health management in South Africa and antimicrobial resistance monitoring of *Staphylococcus aureus* in dairy herds from 2001 to 2010. *Journal of South African Veterinary Ass.* 89(0) a1490, doi:10.4102/jsava.v89i0-1490.
- Monistero, V., Graber, H.U., Pollera, C., Cremonesi, P., Castiglioni, B., Bottini, E., Ceballos-Marquesz, A., Lasso-Rojas, L., Kroemker, V., Wentz, N., Petzer, I-M., Santisteban, C., Runyan, J., Santos, M.V., Alves, B.G., Piccinini, R., Bronzo, V., Abbassi, M.S., Said, M.B. & Moroni, P., 2018. *Staphylococcus aureus* isolates from bovine mastitis in eight different countries: genotypes, detection of genes encoding different toxin and other virulence genes. doi:10.20944/preprints.201804.9325.v1.
- Blignaut, D.J.C., Petzer, I-M. & Thompson, P., 2018. Prevalence of mastitis pathogens in South African pastures and total mixed ration based dairies during 2008 and 2013. *Onderstepoort J. Vet. Res.* 85, 1485a. <https://doi.org/10.4102/ojvr.v85i1.1482>.
- Karzis, J., Petzer, I-M., Donkin, E.F., Naidoo, V. & Etter, E.M.C., 2019. Climatic and regional antibiotic resistance patterns of *Staphylococcus aureus* isolated from milk samples of dairy herds in South Africa between 2000 and 2010. *Onderstepoort J. Vet. Res.* 86, a1674. <https://doi.org/10.4102/ojvr.v86i1.1674>
- Ferreira, G.M. & Petzer, I-M., 2019. Injectable organic and inorganic selenium in dairy cows – effects on milk, blood and SCC levels *Onderstepoort J. Vet. Res.* 86, a1146. <https://doi.org/10.4102/ojvr.v86i1.1146>.

Congress proceedings:

- Petzer, I.M. & Swan, A.C., 2018. The importance of teat liner in preserving teat integrity and udder health. RuVASA, Birchwood – Gauteng, 18-20 June 2018.
- Karzis, J. Petzer, I.M. Donkin, E.F., Naidoo, V. & Etter, E.C., 2018. Antimicrobial resistance of *Staphylococcus aureus* isolated from milk in South Africa differs between seasons and regions. RuVASA, Birchwood – Gauteng, 18-20 June 2018.
- Petzer, I.M. & Swan, A.C., 2019. The importance of teat liners in udder health. SAVA Southern Cape Congress, Hyatt Hotel, Heroldsbay. 12 April 2019.
- Petzer, I.M., 2019. High Somatic Cell Count - Now What? SAVA Southern Cape Congress, Hyatt Hotel, Heroldsbay. 12 April 2019.
- Petzer, I.M., 2019. Antibiotics – the Dutch experience. SAVA Southern Cape Congress, Hyatt Hotel, Heroldsbay. 12 April 2019.
- Mphahlele, M.P., Oguttu, J.W., Petzer, I-M. & DN Qekwana, D.N., 2018. Prevalence and antimicrobial susceptibility of coagulase positive *Staphylococcus* species from milk samples submitted to the Onderstepoort Faculty of Veterinary Science. Onderstepoort, Faculty day, 23 August, 2018
- Etter, E.M.C., Karzis, J., Petzer, I-M., Theobald, S., Donkin, E.F., Naidoo, V., Gerber, D. & Abolnik, C., 2018. Antimicrobial resistance in intensive poultry and milk production in South Africa: from historical data analysis to the monitoring of the use of antibiotics. 15th International Symposium of Veterinary Epidemiology and Economics ISVEE congress in Chiang Mai. 12 - 16 Nov 2018.
- Etter, E.M.C., Karzis, J., Petzer, I-M., Theobald, S., Donkin, E.F., Naidoo, V., Gerber, D. & Abolnik, C., 2018. Antimicrobial resistance in intensive poultry and milk reduction in South Africa: from historical data analysis to the monitoring of the use of antibiotics. One Health Symposium, Pretoria, 27 November, 2018.
- Karzis, J., Petzer, I-M., Donkin, E.F., Naidoo, V. & Etter. E.M.C., 2019. Antibiotic resistance and diagnosis of *Staphylococcus pseudintermedius* from milk of dairy cows. 7th IDF Mastitis Congress in Copenhagen, Denmark, 14-16 May 2019.
- Petzer, I-M., Labuschagne, C., Karzis, J. & Phopi, L., 2019. Diagnosis, SCC, biofilm and antibiotic resistance in Non-aureus staphylococcus species in SA. IDF Mastitis Congress in Copenhagen, Denmark, 14-16 May 2019.
- Ferreira, G.M. & Petzer, I-M., 2019. Injectable organic and inorganic selenium in dairy cows – effect on milk, blood and somatic cell count (SCC) levels. 11th South African Large Herds Conference, The Boardwalk, Port Elizabeth, 3-5 June 2019.

Semi scientific/popular articles:

- Petzer, I-M., 2018. Fifty years of *Staphylococcus aureus* research. 2018. The Dairy Mail, May, 25 (5), 96-99.
- Karzis, J & Petzer, I-M., 2018. The truth about AR in SA. The Dairy Mail, November 25(11) 79-83.
- Petzer, I-M., 2018. *Non aureus staphylococci* (NAS) and udder health. Dairy Mail, December 25(12) 2018, 84-87.
- Petzer, I-M. & Swan, A.C., 2019. The perfect fit. The Dairy Mail, January 26(1), 77-81.

Projects:

- Antimicrobial resistance on dairy farms - Screening mastitis causing coliforms for the production of extended spectrum Beta-lactamases and Colistin resistance.
- Non *Staphylococcus aureus* (coagulase negative staphylococci) (CNS) as a potential bacterial threat to udder health in South African dairy cows.
- Evaluation and standardisation of antibiotic susceptibility testing methods used in South African dairy herds for routine diagnostic and research purposes.
- Investigating of take-off time in milking machines in South Africa dairies.
- Challenging the conventional identification of coagulase positive staphylococci through the use of molecular techniques.
- Surveillance of antibiotic resistance of maltose negative *Staphylococcus aureus* in South African herds.

Van der Leek, Martin:

Projects:

- Bulk Tank Milk Testing

Van Wyk, Jan:

Scientific articles:

- Morgan, E.R., Aziz, N.A., Blanchard, A., Charlier, J., Charvet, C., Claerebout, E., Geldhof, P., Greer, A.W., Hertzberg, H., Hodgkinson, J., Höglund, J., Hoste, H., Kaplan, R.M., Martínez-Valladares, M., Mitchell, S., Ploeger, H.W., Rinaldi, L., Von Samson-Himmelstjerna, G., Sotiraki, S., Schnyder, M., Skuce, P., Bartley, D., Kenyon, F., Thamsborg, S.M., Vineer, H.R., De Waal, T., Williams, A.R., Van Wyk,

J.A. & Vercruysse, J., 2019. 100 Questions in Livestock Helminthology Research. Trends in Parasitology 35, 52-71.

Projects:

- *Fasciola hepatica*: Impact and Management.

2. UP-MAIN CAMPUS:

Van Marle-Köster, Este:

Scientific articles/theses:

- Mhlongo, N.L., 2019. Evaluation of claw health of dairy cattle housed in dirt lot vs free stall in TMR systems in the central region of South Africa. MSc Agric thesis, UP.
- Gresse, A.U., 2019. Alternative approaches for analyses of production performance from automatic milking systems in South Africa. MSc Agric thesis, UP.

Congress proceedings:

- Mhlongo, N. L., Tucker, J & van Marle-Koster, E., 2019. Evaluation of claw health of dairy cattle housed in dirt lot vs free stall under the TMR systems in the central regions of South Africa. 51st South African Society for Animal Science (SASAS) Congress 12 to 14 June 2019, Bloemfontein.
- Gresse, A.U., van Marle-Köster, E & Meissner, H. 2019. Production analyses from performance records from a TMR and pasture-based automated milking system in South Africa. 11th Large Herds Conference, 3-5 June 2019. Boardwalk, Port Elizabeth.
- Joubert, R & van Marle-Köster, E., 2019. Population structure of a South African Holstein herd based on somatic cell count as indicator trait for mastitis. 11th Large herds conference, 3-5 June 2019. Boardwalk, Port Elizabeth SA.

Projects:

- Alternative approaches for analysis of production performance from automatic milking systems in SA
- Performance measurements of automatic milking system (AMS) data in South Africa

Buys, Elna:

Projects:

- Development of probiotic yoghurt with potential anti-candidal and anti-bacterial activity.

STUDBOOK:

Congress proceedings:

- Van der Westhuizen, R.R., Mostert, B.E. & van der Westhuizen, J., 2019. Implementing genomic selection following a Single Step Approach for the South African Jersey breed. Large Herds Conference, 3-5 June 2019, Port Elizabeth. (Poster)
- Van der Westhuizen, J., Mostert, B.E., van der Westhuizen, R.R. & Francis, S., 2019. Tools for optimal mating using INTERBULL and local genetic merit predictions for dairy cattle. Large Herds Conference, 3-5 June 2019, Port Elizabeth. (Poster)
- Mostert, B.E., van der Westhuizen, R.R., van der Westhuizen, J. & Francis, S., 2019. Investigating the allele frequencies for A2-milk in the South African Jersey population. Large Herds Conference, 3-5 June 2019, Port Elizabeth. (Poster)
- Kruger, D.A., Victor, D. & van der Westhuizen, R.R., 2019. A newly developed system of obtaining Dairy Cattle farm-recorded data from automated systems to be used for biological and economic benchmarking as well as future genetic merit predictions. Large Herds Conference, 3-5 June 2019, Port Elizabeth. (Poster)

Technical outputs:

- Estimation of breeding values for production traits (milk, butterfat and protein yields, butterfat and protein percentages), somatic cell score, fertility, longevity and conformation traits for Holstein, Jersey and Ayrshire (not conformation) three times yearly.
- Participation in Interbull (International) Genetic Evaluations for the Holstein, Ayrshire and Jersey breeds to present industry with MACE (Multiple Across Country Evaluation) breeding values for young foreign sires, three times yearly.
- Maintenance and new developments on SDAIRYBULLS.COM, a platform where AI bulls all over the world can be evaluated on the SA genetic scale and optimal matings with minimum increase in inbreeding can be obtained according to the herd's specific breeding objective, taking all available generations' information into consideration.

- Participation in the Holstein Intergenomics Project of Interbull for the development of Genomically Enhanced EBVs for countries with small reference populations.

Projects and services:

- Development of a Single Step Genomic Evaluation for the Jersey breed.
- Development of reports for dissemination of information on single-gene traits for animals participating in SA Stud Book's Genomic Selection Service.
- Development of pipelines and procedures for the capturing of on-farm data from automated dairy systems for inclusion in the Logix Genetic Evaluations, management and benchmarking reports for participating breeders.
- SA Stud Book has a Registration Recording Service. As Registering Authority, SA Stud Book's core business is the recording of births, parentage and ownership.
- SA Stud Book's Animal Recording Service entails a collection of databases and programmes that address the needs for animal recording for a wide spectrum of stakeholders in the livestock industry. SA Stud Book has 8 technical advisors working all over the country to assist farmers with recording and interpretation of production measurements.
- SA Stud Book has an operational Database (Logix) designed specifically for capturing, storing and processing of dairy data, integrated with pedigree and genomic information. SA Stud Book also has the capacity for storage of pedigree and genomic (SNP) data for an unlimited number of animals.

1. Dairy Standards Agency:

Burger, Jompie:

Projects:

- A comparison of methods for determining of antibiotic and other residues in milk.

3. UFS:

Myburgh, Koos:

Congress proceedings:

- Bekker A. and Myburgh J. 5-6 June 2019. SALHC in Port Elizabeth. "Plasminogen activation by components within mastitis and colostrum milk".

Projects:

- The impact of plasmin during flocculation and age gelation
- The impact of protease produced by psychrotrophic bacteria on flocculation and age gelation.
- The impact of homogenization on proteolytic enzymes
- The impact of fat and free fatty acids content on proteolytic activity
- The impact of various components present in milk on the activation or inhibition of Plasminogen conversion to active plasmin
- Acceleration of yoghurt fermentation with the aid of commercial proteases
- Age gelation within UHT milk
- The washing out of plasminogen/plasmin from casein micelle using NaCl and HCl

Techniques developed:

- To monitor the activation of plasminogen
- Developed MILQC software to enable comparison between HPLC peptides to distinguish between plasmin and bacteria protease proteolytic activity.
- The production of bioactive components within milk using protease
- O₂ measurement in milk as a function of time
- Redox-potential measurement in milk as a function of time
- To study the impact of proteolytic enzymes on milk proteins (Casein)
- The development of a method to store proteolytic and other enzymes for extended periods of time
- Optimizing the RP-HPLC analytical technique for A1 and A2 variant β -Casein detection

Hugo, Arno and Celia:

Scientific articles/theses:

- Burger, C., 2019. The effect of sodium reduction on the chemical, microbial and sensory quality of cottage cheese. BSc Hon. Thesis, UFS.

- Loftus, A., 2019. The effect of KCl as a salt replacer on the chemical, microbial and sensory properties of feta cheese. BSc Hon. Thesis, UFS.

Projects:

- The effect of KCl as a salt replacer on the chemical, microbial and sensory properties of cottage cheese.
- The effect of KCl as a salt replacer on the chemical, microbial and sensory properties of feta cheese.

4. UKZN:

Laing, Mark:

Projects:

- Biological Control of Liver fluke in Cattle
- Mastitis: Bacteriophage and bacteriocin control

5. ECDA & RA:

Rust, Jean:

Projects:

- The development of a simplified once a day milking protocol for the Eastern Cape dairy industry.
- Determining the potential of the Dexter cow as subsistence milk producer in the developing agricultural sector.
- Fort Hare Dairy Trust; Middeldrift Dairy Production; Keiskammahoek Dairy Production; Ncora Dairy Production; Shiloh Dairy Production; Mantusini Dairy Production (all with Amadlelo as strategic partner).
- Wittekleibos Dairy Production (with Du Plessis brothers as strategic partners)

6. US/ WCDA:

Muller, Carel:

Scientific articles/ theses:

- Useni, B.A., Muller, C.J.C. & Cruywagen, C.W., 2018. Pre- and postpartum effects of starch and fat in dairy cows: A review. S. Afr. J. Anim. Sci. 48 (3), 413-426.

- Useni, B.A., Muller, C.J.C. & Cruywagen, C.W., 2018. Effect of energy sources on ovarian follicular dynamics and oestrus activity of Holstein cows. *S. Afr. J. Anim. Sci.* 48 (4), 643-650.
- Useni, B.A., Muller, C.J.C. & Cruywagen, C.W., 2018. Effect of energy levels and sources on plasma metabolites and live weight of Holstein cows. *S. Afr. J. Anim. Sci.* 48 (4), 651-664.
- Muller, C.J.C., Cloete, S.W.P. & Botha, J.A., 2018. Fertility in dairy cows and ways to improve it. (Invited paper 50th SASAS Congress 2017, Port Elizabeth). *S. Afr. J. Anim. Sci.* 48 (5), 858-868.
- Useni, B.A., Muller, C.J.C. & Cruywagen, C.W., 2019. Effect of late prepartum fibre-based diets on the live weight changes and reproduction of Holstein cows in the subsequent lactation period. *S. Afr. J. Anim. Sci.* 49 (1), 109-118.
- Abel, S., Muller, C.J.C. & Babalwa, S., 2019. Effect of alternating total mixed ration and pasture feeding on the fatty acid content and health indices of Jersey and Fleckvieh x Jersey cows. *S. Afr. J. Anim. Sci.* 49 (3), 432-440.
- Kgari, R.D., 2019. MSc Agric - Genetic analysis of heifer and cow fertility for South African Holsteins using artificial insemination records. Stellenbosch University.
- Bangani, N.M., 2019. PhD - Comparing feed use efficiency and enteric gas production of Holstein and Jersey cows in a kikuyu pasture-based system. Stellenbosch University.

Congress proceedings:

- Bangani, N.M., Dzama, K., Muller, C.J.C., Nherera-Chokuda, F.V. & Cruywagen, C.W., 2019. Comparing milk production efficiency of Holstein and Jersey cows in a kikuyu pasture-based system. 51st SASAS Congress, 10-13 June 2019. University of the Free State, Bloemfontein.
- Kgari, R.D., Dzama, K., Muller, C.J.C. & Makgahlela, M.L., 2019. Estimation of genetic parameters for female fertility traits derived from on-farm service records in South African Holstein cows. 51st SASAS Congress, 10-13 June 2019. University of the Free State, Bloemfontein.
- Muller, C.J.C., 2019. Key performance indicators for a dairy herd towards economic sustainability. 51st SASAS Congress, 10-13 June 2019. University of the Free State, Bloemfontein.
- Muller, C.J.C., Cloete, S.W.P. & Burger, M., 2019. The effect of including stature in sire selection on the live weight, milk yield, fertility and feed efficiency of Holstein

cows. 51st SASAS Congress, 10-13 June 2019. University of the Free State, Bloemfontein.

- Muller, C.J.C., Cloete, S.W.P. & Burger, M., 2019. The effect of including stature in sire selection on the live weight, milk yield, fertility and feed efficiency of Holstein cows. Proc. 23rd Conf. Assoc. Advmt. Anim. Breed. Genet. 27 October -1 November 2019. University of New England, Armidale, New South Wales, Australia. Abstract 106.
- Bangani, N.M., Dzama, K., Muller, C.J.C., Nherera-Chokuda, F.V. & Cruywagen, C.W., 2019. Estimating carbon dioxide and methane emissions of Holstein and Jersey cows in a kikuyu pasture-based system. Proc. 23rd Conf. Assoc. Advmt. Anim. Breed. Genet. 27 October -1 November 2019. University of New England, Armidale, New South Wales, Australia. Abstract 117.

Semi-scientific/popular articles:

- Muller, C.J.C. & Botha, J.A., 2018. Heat stress in dairy cows and the effect of a shade structure. Appl. Anim. Husb. Rural Develop. 11: 1-4: www.sasas.co.za/aahrd/.

Projects:

- Developing efficiency measures for production parameters in dairy herds using automatic milk recording system data (Milk SA Project).

Swanepoel, Pieter:

Scientific articles/ theses:

- Jordaan, B. 2018. Strategic nitrogen fertilisation of kikuyu-based pastures over-sown with legumes. MSc thesis, Stellenbosch University.
- Viljoen, C. 2019. Optimising nitrogen fertilisation of kikuyu and kikuyu-ryegrass pastures. MSc thesis, Stellenbosch University.

Congress proceedings:

- Viljoen, C., van der Colf, J. & Swanepoel, P.A., 2018. A new nitrogen fertilisation regime for minimum-tillage kikuyu-ryegrass pasture in the southern Cape. 53rd annual Grassland Society of Southern Africa congress, ARC Vegetable and Ornamental Plant Institute near Roodeplaat dam, Pretoria. 25 July 2018
- Viljoen, C., van der Colf, J., & Swanepoel, P.A., 2018. A new nitrogen fertilisation regime for minimum-tillage kikuyu-ryegrass pasture in the southern Cape. 53rd

annual Grassland Society of Southern Africa congress, ARC Vegetable and Ornamental Plant Institute near Roodeplaat dam, Pretoria. 25 July 2018.

Semi-scientific/popular articles:

- Viljoen C, van der Colf J, Swanepoel PA. 2019. Are planted pastures receiving too much nitrogen? Grassroots 19.2: 6-7
- Smit, HPJ. 2018. Research Seminar. The eco-efficiency of pasture-based dairy systems in South Africa. Christian Albrechts University, Kiel, Germany.
- Swanepoel, PA., Viljoen, C. Smit, HPJ. 2019. Strategic nitrogen fertilisation of kikuyu-based pastures and nitrogen losses as greenhouse gas emissions. SANSOR AGM, Cradock.

Projects:

- Strategic nitrogen fertilisation of kikuyu-ryegrass and kikuyu-grass-legume pastures in the southern Cape.
- Eco-efficiency of dairy pastures in South Africa, including greenhouse gas emissions from soil.
- The impact of fertiliser application rates on soil health and pasture yield in the Eastern Cape, South Africa
- A systems approach to improve nitrogen use efficiency for pasture-based dairy farming in the Tsitsikamma area
- Evaluation of N-enriched dairy slurry on crop production and soil quality

WCDA:

Scientific articles/theses:

- Van Wyngaard, J.D.V., Meeske, R. & Erasmus, L.J., 2018. Effect of concentrate feeding level on methane emissions, production performance and rumen fermentation of Jersey cows grazing ryegrass pasture during spring. Anim. Feed Sci. Technol., 241, 121-132.
- Steyn, L., Meeske, R. & Cruywagen, C.W., 2018. The effect of replacing maize with dried apple pomace in the concentrate on performance of Jersey cows grazing kikuyu pasture. Anim. Feed Sci. Technol., 239, 85-93.
- Van Wyngaard J.D.V, Meeske, R. & Erasmus, L.J., 2018. Effect of concentrate level on enteric methane emissions, production performance, and rumen fermentation of Jersey cows grazing kikuyu-dominant pasture during summer. J. Dairy Sci., 101:9954-9966.

- Van Wyngaard, J.D.V., Meeske, R. & Erasmus, L.J., 2019. Effect of dietary nitrate on enteric methane emissions, production performance and rumen fermentation of dairy cows grazing ryegrass pasture during spring. *Anim. Fd.Sci. Technol.*, 252, 64-73.
- Van der Vyver, A., 2019. Partial substitution of maize with soybean hulls in a concentrate for grazing dairy cows. MSc. Agric. Stellenbosch University. Supervisor: R. Meeske, Co-supervisor: C.W. Cruywagen.
- Van Wyngaard J.D.V, 2018. Quantification and mitigation of enteric methane emissions from grazing Jersey cows. PhD Agric. University of Pretoria. R. Meeske Co-supervisor.
- Van der Colf J, Ammann SB, Meeske R. 2019. Farm system study: Development of dairy systems based on forage herb pastures in the southern Cape. Information Day 2019: Milk from pastures. Directorates Plant and Animal Sciences, Research and Technology Development, Western Cape Department of Agriculture.
- Ammann SB, Lombard MM, Zulu LB. 2018. Elite cultivar evaluation: ryegrass and tall fescue. Outeniqua Research Farm Information Day held on 17 October 2018. Milk Production from Planted Pastures. Presented by Directorates Plant and Animal Sciences, Western Cape Department of Agriculture. Outeniqua Research Farm, George, South Africa
- Ammann SB, Lombard MM, Zulu LB. 2018. Chicory and plantain production results. Outeniqua Research Farm Information Day held on 17 October 2018. Milk Production from Planted Pastures. Presented by Directorates Plant and Animal Sciences, Western Cape Department of Agriculture. Outeniqua Research Farm, George, South Africa.
- Ammann SB, Lombard MM, Zulu LB. 2019. Elite cultivar evaluation: Lolium species (Italian and perennial ryegrass). Outeniqua Research Farm Information Day 2019: Milk production from planted pastures, 18 September 2019.
- Ammann SB, Lombard MM, Zulu LB. 2019. Elite cultivar evaluation: Tall fescue and Festulolium. Outeniqua Research Farm Information Day 2019: Milk production from planted pastures, 18 September 2019.
- Ammann SB, Lombard MM, Zulu LB. 2019. Chicory and plantain variety evaluation results. Outeniqua Research Farm Information Day 2019: Milk production from planted pastures, 18 September 2019.

Congress proceedings:

- Meeske, R. & Venter, R., 2018. Maize silage in South Africa: Compaction, top layer losses and aerobic stability. Poster presented at the 18th International Silage Conference, University of Bonn, Bonn, Germany from 24-26 July 2018, pp.524.
- Van Wyngaard, J.D.V., Meeske, R & Erasmus, L.J., 2018. High concentrate feeding level reduces enteric methane emissions of grazing dairy cows. Platform presentation at the 53rd GSSA Congress at ARC Training Centre, Pretoria from 22-27 July 2018.
- Van Wyngaard, J.D.V., Meeske, R & Erasmus, L.J., 2018. Effect of concentrate feeding level on methane emissions and performance of grazing Jersey cows. Poster at 69th annual EAAP meeting, Dubrovnik, Croatia, pp.641
- Meeske, R., 2018. High fibre energy supplementation for dairy cows on pasture. Presentation at AFMA symposium on 30 October 2018 at Diamond Auditorium, CSIR International Convention Centre, Pretoria, South Africa.
- Meeske, R., Venter, R. & Einkamerer, O.B., 2019. Silage in South Africa: What can improve? 51st SASAS CONGRESS EMS building, University of the Free State, Bloemfontein, 10-12 June 2019. 105.
- Myburgh, A.P. & Meeske, R., 2019. Effect of feeding milk once a day to Jersey calves on growth and rumen development. 51st SASAS CONGRESS EMS building, University of the Free State, Bloemfontein, 10-12 June 2019. 129.
- Van der Vyver, A., Meeske, R. & Cruywagen, C.W., 2019. Partial substitution of maize with soybean hulls in a concentrate supplement for grazing dairy cows. 51st SASAS CONGRESS EMS building, University of the Free State, Bloemfontein, 10-12 June 2019. 199.
- Venter, R. & Meeske, R., 2019. Challenges facing farmers during silage production while striving to produce Precision-Silage®. 51st SASAS CONGRESS EMS building, University of the Free State, Bloemfontein, 10-12 June 2019. 206.
- Muller, C.J.C., Cloete, S.W.P. & Burger, M., 2019. The effect of including stature in sire selection on the live weight, milk yield, fertility and feed efficiency of Holstein cows. 51st SASAS CONGRESS EMS building, University of the Free State, Bloemfontein, 10-12 June 2019, 124.
- Burger, M., Muller C.J.C & Botha, J.A., 2019. Monitoring the growth performance of replacement heifers using a simple method. 51st SASAS CONGRESS EMS building, University of the Free State, Bloemfontein, 10-12 June 2019, p 16.

- Ammann, S.B., 2018. The effect of planting date on yield and botanical composition of forage herb and grass mixtures. GSSA Congress 53, ARC Training Centre, Gauteng, 25 July 2018

Projects:

- Evaluation of intensive and extensive beef cross calf rearing systems using Jersey X Angus cows on pasture.
- The effect of sire selection for body size or milk yield on the live weight, stature, body size, milk yield performance, feed efficiency, reproduction performance and longevity in Holstein cows
- Partial substitution of maize with soybean hulls in the concentrate for grazing dairy cows
- Beef production potential, beef jersey crosses, intensive rearing system
- The effect of anion/cation difference and potassium content of the diet on heat stability of milk
- Comparison of calf rearing systems
- The effect of potassium content of pastures on heat stability of milk
- Effect of protein quality and amino acid supplementation on performance of high producing Jersey cows grazing ryegrass pasture
- Concentrate supplementation to Jersey cows grazing plantain and ryegrass pasture Effects of essential oil supplementation on milk production, milk composition and rumen parameters of Jersey cows grazing ryegrass pasture
- The evaluation of fodder crops for milk and beef production in the Southern Cape
- Monitoring fertilization and pasture production on Outeniqua Research Farm
- Elite pasture evaluation trails for Lolium and other temperate species based on agronomic and interaction traits
- Improving the summer production and forage quality of dairy pastures by using the forage herbs chicory and plantain
- Determining herbage quality for ryegrass and other cultivars of various genetic origins related to pasture management practices
- Development of dairy systems based on forage herb pastures in the southern Cape.