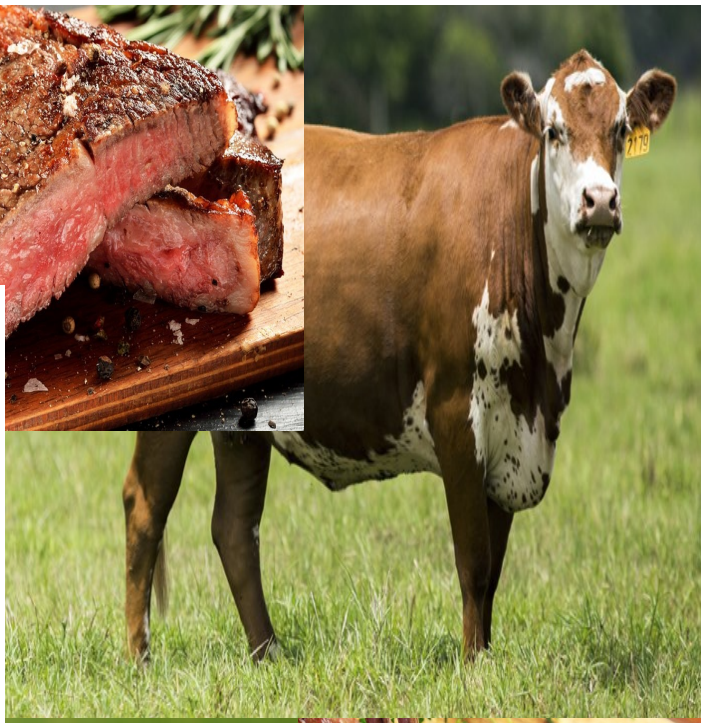
NEWS LETTER

Welcome to the
RED MEAT ABATTOIR Association
Tel: (012) 349-1237/8/9
Fax: (012) 349-1240

NOVEMBER 2018



INSIDE THIS ISSUE:





***Price Information System***

The first Price Information Data for the new year will be available on Wednesday, 9 January 2019.

We request that our participants in the Price Information System, continue to send the prices on a weekly bases. The information will be utilised and we will report accordingly.

# Abattoir Skills Training

# AGRISETA DISCRETIONARY GRANT APPLICATION PERIOD

## 01 November 2018 – 31 January 2019

T: (012) 349-1238/9 F: (012) 349-1240 www.rmaa.co.za

The AgriSETA Discretionary Grant 2nd application period is now open for your 2019/2020 academic year applications. The period for applications will be from ***1st November 2018 till 31 January 2019.***

AgriSETA invites all *AgriSETA levy paying employers, Commodity Organizations, NGO's, CBO's, Community Based Cooperatives and small BEE firms to forward applications for*

- ***Skills Programmes 18.1 & 18.2, (Emphasis shall be given to strictly S&CSs)***
- ***AET,***
- ***Graduate Placement,***
- ***Commodity Organizations and***
- ***Support to Rural Structures.***

**DUE TO THE HIGH VOLUME OF APPLICATIONS RECEIVED BY AgriSETA, STAKEHOLDERS ARE ADVISED TO LIMIT APPLICATIONS TO ABSOLUTE SCARCE AND CRITICAL SKILLS AS PER NSDS III**

**GUIDELINES TO APPLY FOR YOUR DISCRETIONARY GRANT**

The Red Meat Abattoir Association's Training Section, Abattoir Skills Training, assist RMAA members with their application process and members can forward their applications to ella@rmaa.co.za for verification & submission.

**A VALID SARS TAX CLEARANCE CERTIFICATE SHOULD ACCOMPANY CONTRACTS DURING SUBMMISSION OF DOCUMENTS. NO CONTRACT SHALL BE ACCEPTED/CAPTURED IN THE AgriSETA SYSTEM UNLESS A VALID TAX CLEARANCE CERTIFICATE IS PROVIDED. FAILURE TO SUBMIT A VALID TAX CLEARANCE CETIFICATE SHALL JEOPARDISE YOUR APPROVAL AND FUNDS SHALL BE REALLOCATED.**

**APPLICATION METHODS**

- Only attached application forms will be accepted by AST and by AgriSETA
- Applications are open from the **Friday 01 November 2018 to Thursday 31 January 2019**
- ***The due date to submit applications at AST is 14th January 2019***
- Applicants will be informed of the outcomes from **April 2019**; enquiries can only be made from 15 April 2019.
- Only properly completed and signed application forms shall be considered for evaluation
- Learners should be supported by Employers in the agricultural sector in completing the (Employer section) of the application form
- AgriSETA has introduced On-line application system, please visit AgriSETA website, Home Page, *INDICIUM (Red) – SDF/ USER LOGON, Online Discretionary Grant Application*. Stakeholders are encouraged to use an improved On-line application system as it encourage paperless environment.
- Upload all signed documents when using the Online application system
- ***IMPORTANT: No late applications will be considered by AgriSETA***

**Application forms are available at the following AST link:**

https://www.dropbox.com/sh/p2ysx2k6ubhn0g7/AAAtupv85a70dli8kAc55lFca?dl=0

**E-MAIL APPLICATIONS BY NO LATER THAN WEDNESDAY 31 JANUARY 2019, 16H30 TO:**

For further enquiries, please contact **Mr Gerard Mamabolo on 012- 301 5607**and all correctly/ properly completed forms should be sent to:

AgriSETA House
529 Belvedere Road
Arcadia
0083

**OR E-MAIL APPLICATIONS TO:**

**Skills Programme:** 2019-2020SPapplicati@agriseta.co.za
**AET:** 2019-2020AETapplicat@agriseta.co.za
**Graduate Placement:** 2019-2020GPapplicati@agriseta.co.za
**Support to Rural Structures:** 2019-2020SRSapplicat@agriseta.co.za

# LEARNERSHIPS: GENERAL ABATTOIR PROCESSES 2018 /2019

A number of qualifications were developed for the Red Meat Industry. Learnerships are the route to follow in order for a learner to achieve the qualification. A learnership takes one year to complete and combines theoretical and practical work experience. A person who successfully completes a learnership will have a qualification that signifies occupational competence and is nationally recognized.

In order to meet the industry's training needs, the Red Meat Abattoir Association decided to focus on the following learnerships:

- FETC Meat Examination – This qualification provides learners with the ability to perform meat examination according to legislation
- NC General Abattoir Processes - This qualification provides learners with the opportunity to obtain competence in broad abattoir processes and practices

**GAP Training at Ikangala (Tshwane)**

This Learnership is being facilitated by Monty Mmurwa. We have a total of 11 Learners at this venue.

The facilitator for Lynca and Macello is Mariana du Toit and there are seven active learners at both Lynca and Macello Meats.

GAP Training at Lynca Meats (Meyerton)

GAP training at Macello Meats (Benoni)

**GAP Training at Sparta (Welkom)**

The facilitators for this Learnership are Maxwell Tshuma and Laurane Moyo.

**GAP Training at Beefmaster (Kimberley)**

Dr Wally Derbyshire is our Facilitator for this Learnership.

**SKILLS PROGRAMMES**

Skills Training includes the following available courses by Abattoir Skills Training:

**Introductory Abattoir Hygiene**

The program is focused on all personnel employed at an abattoir in order to provide a basic overview of the industry and the importance of hygienic practices including the slaughter process in order to provide a safe product of high quality. The program contains Theoretical as well as Practical aspects and is based on 3 Unit Standards:

- US 114362 - Demonstrate an understanding of the abattoir industry at NQF Level 2 with 3 Credits
- US 116899 - Clean and Sanitize a Food Processing System at NQF Level 3 with 5 Credits
- US 123370 - Apply Hygiene Awareness in a Food Production Facility at NQF Level 2 with 4 Credits

**Hygiene Awareness**

This is a Skills Program based on Unit Standard 12337. It covers the following:

- Sources of Food Contamination
- Role of Micro-Organisms in Food Production
- Principles of Good Personal Hygiene
- Practices to Maintain Hygienic Conditions
- Cleaning Practices and Procedures
- Sanitize Equipment and Facilities
- Pest Control Practices

The course entails Theoretical as well as Practical aspects.

**Food Safety Management System Awareness (HACCP Awareness)**

All abattoir employees are required to follow the policies and procedures of the food safety and/or quality management systems of their abattoir. Employees are more likely to adhere to these requirements if they understand why they need to do so. This program aims to provide learners with the basic knowledge of why food safety management systems are important and why they should be maintained.

The program is based on Unit Standard 120239 - Monitor Critical Control Points (CCP'S) as an Integral Part of a Hazard Analysis Critical Control Point (HACCP) System with 6 Credits at NQF Level 3 and covers Theoretical as well as Practical aspects

**Hygiene Management Systems (HMS) & Hazard Analysis Critical Control Points (HACCP) HMS/HACCP**

- Unit Standards 256575 - Demonstrate knowledge of abattoir hygiene and meat safety standards with 12 Credits on NQF Level 4
- Unit Standard 123374 - Implement and Maintain a HACCP system in a food processing facility with 15 Credits on NQF Level 4

**Practical Animal Handling**

Regulations under the Meat Safety Act, 2000 (Act no 40 of 2000), require that animal handlers must be trained. The RMAA developed a very practical course where learners undergo a short theoretical session but spend most of the approximately four hours in the lairage at their abattoir.

The course covers the following aspects:

- Receiving practices and documentation
- Truck and lairage design
- Lairage practices
- Humane handling
- Ante Mortem procedures
- Cleaning & Sanitation
- Restraining, stunning, hoisting, bleeding

# TRAINING

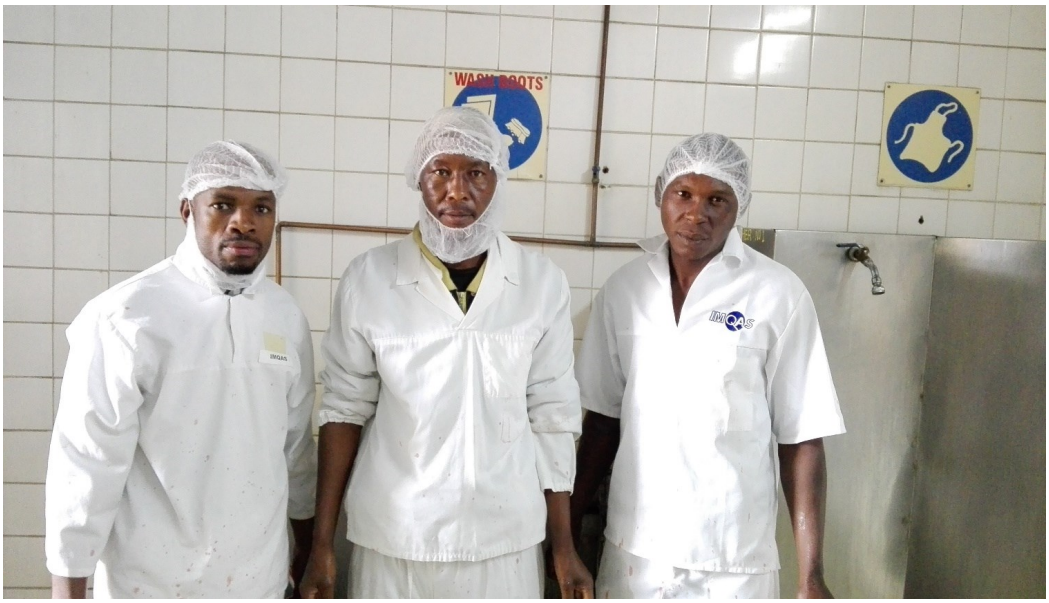
**1 RME 2018 01 Meat Examiner Course: 01.01.2018 - 30.06.2018** *(6 months, Non-Seta)*

Meat Examiner learners wrote their final theory and practical assessments during the last week of August 2018. The portfolios of evidence of the learners who were marked competent have been received and are in process to be verified for certification.

**2 RME 2018 02 Meat Examiner Course: 01.07.2018 - 31.12.2018** *(6 months, Non-Seta)*

The second course for 2018 commenced on 01st July 2018. 7 Learners registered for this course and the low numbers can be due to the high course fees and financial constraint of the learners.

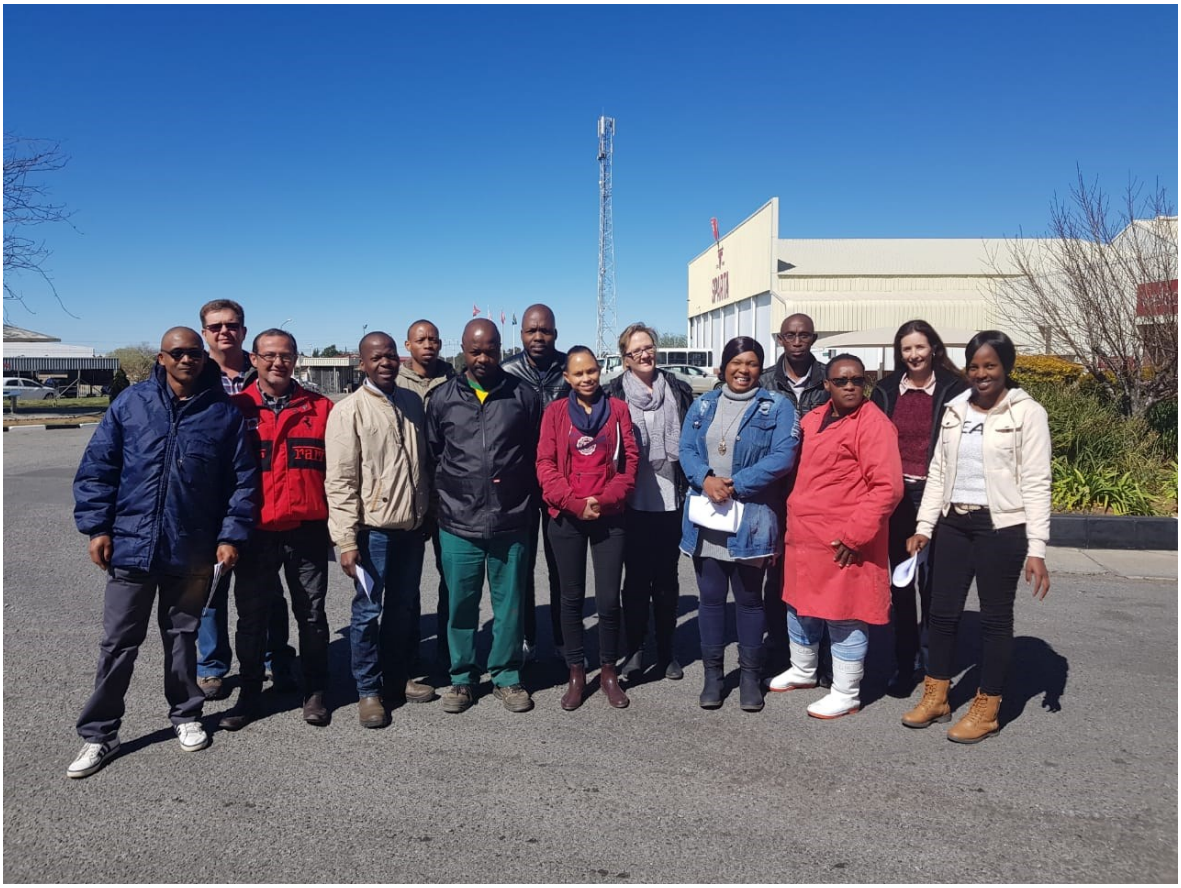
**ME 2018 02: GAUTENG GROUP**



**ME 2018 02: KROONSTAD GROUP**

**3 HMS & HACCP / ISO 22000: 28-31 August 2018** (Gauteng)

13 Learners attended the 4 day course under the watchful eye of Thea Lauffs as Assessor, at Sparta in Welkom.



Our next course was done on:

- 2018 10 30 - 2017 11 02 - HMS & HACCP / ISO 22000 - Gauteng (CSIR)

14 Learners registered for this course and we are looking forward to sharing knowledge with Correctional Services Officials from abattoirs within Correctional Services.

This course covers 2 very important modules that are pre-requisites to attend the Lead Auditor course: Introduction and Implementation of ISO 22000.

## 4 HMS & HACCP / ISO 22000 FOR FOOD PROCESSING

AST received great interest for a course on HMS & HACCP from the Food Processing Industry after the Listeriosis outbreak. The course has been developed for industry specific requirements and the first course will be conducted in November 2018.

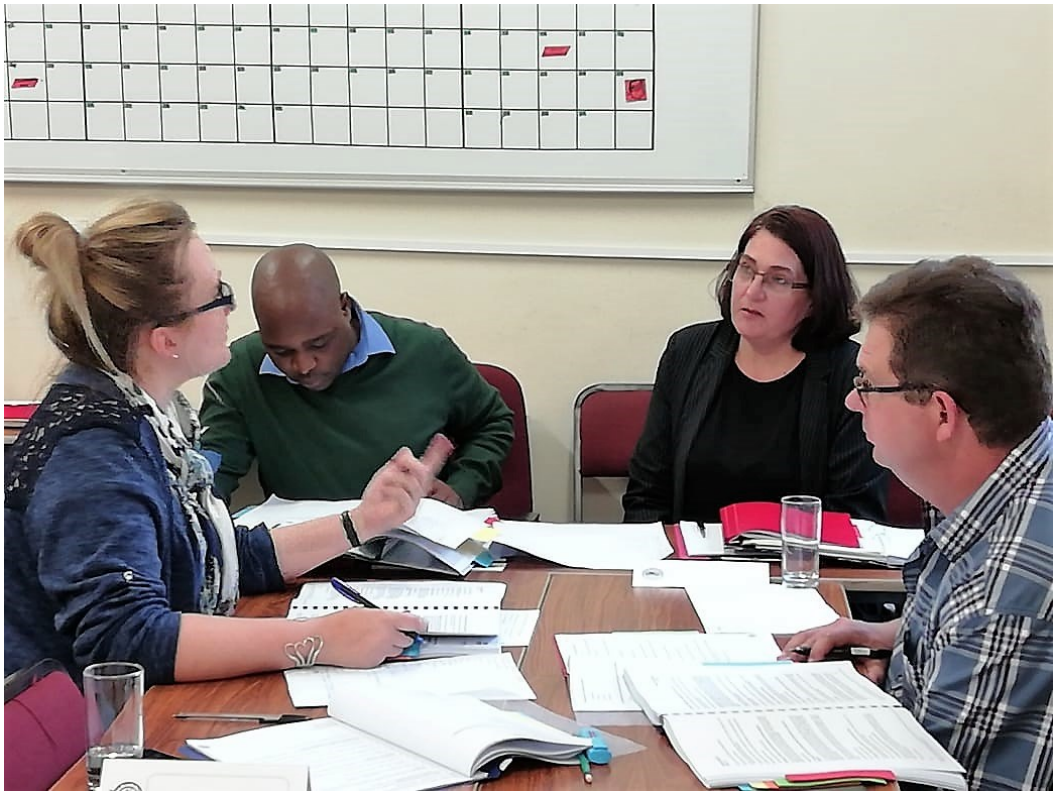
## 5 LEAD AUDITOR COURSE: 17 – 21 September 2018 - Gauteng (CSIR)

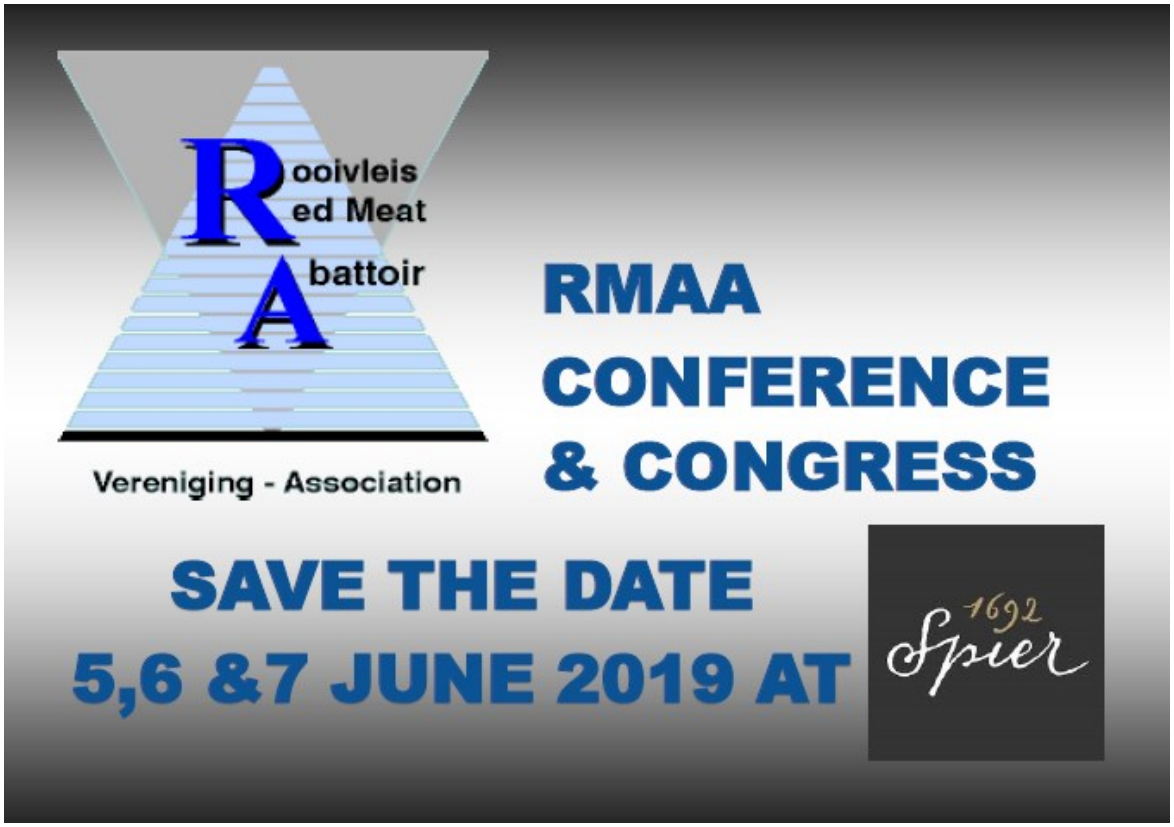
This course is intended for experienced food safety professionals i.e. the ideal candidate has worked in the food industry for at least 4 years and has been involved in food safety management systems as a core function. A SAATCA changed their requirement to register as Lead Auditor to a minimum of a 3-day course on ISO 22000 (including HACCP), PRP/HMS course of 4 days.

**SAATCA further require the following for food safety auditors:**

- A post matric food related qualification
- At least 4 years work experience in the food industry in food safety management systems
- Training in food related microbiology if not part of your qualification 1 Day
- Training in food related legislation/regulations
- Training in Pre-requisite programs or GMP’s
- ISO 22000 3-day course
- Training in HACCP in terms of SANS 10330
- Training in auditing techniques according to ISO 19011 which is where THIS course comes in.
- An audit log of at least 20 audits totalling 120 audit hours (for auditor level)

**LEARNERS ATTENDING TRAINING AT CSIR**






## An Article Received from SHALC

**David Peters Column: You can't handle the truth**

25 September 2018 | 0 comments | Print This Page

Protecting hide values is an exercise in futility as the majority of evidence clearly reflects a market burdened with a surplus amount of product and a diminishing demand. We don't have the luxury of an expanding customer base, a resilient shoe business or a slowdown in hide production. The suggestion that prices are about to rebound and so it is best to buy now when prices are cheap is just a misrepresentation of the facts. And, as we in America know well, facts matter.

On a positive note, we can state that the biggest declines are in the rear-view mirror and as we move forward we can expect a consolidation of prices for certain selections, namely cows. Steer hides should continue to make nominal adjustments and begin to form a new (lower) trading range. Pedigree origins and their corresponding selections will remain in vogue as demand for better quality leathers, requiring clean and tight grain characteristics, will defy downward pressure, at least for the next 90 days. However, once winter arrives, the typical trappings will weigh heavily on both the hide and price.

While not surprising to many, the age-old argument is that at a certain price leather becomes popular. Well, global citizens, this ship has sailed. The commodity end of the footwear and associated apparel segments is now fully occupied by our arch-nemesis, the polluting and environmentally destructive petrochemicals, aka synthetics. No amount of plastic water bottle recovery programs will avert this growing pathogen.

Sharing the stage

It's easy to get depressed and confused, especially when you visit a leather fair only to discover that the massive location, which covered 92,000 square meters and was housed in eight exhibition halls, was a classic 'bait-and-switch' operation. The All China Leather Exhibition (ACLE) did a better job at representing synthetics, cotton, denims, wool, and a multitude of fake, faux and forged leathers. Yes, there was a collection of hides, wet blues and crust purveyors from various origins, but this was more of a sideshow compared to the overwhelming presence of non-leather vendors. There were reported to be nearly 1,100 exhibitors, but realistically how many were grounded or focused solely on leather? My guess would be around 250 companies. Forgive me if these frank and

brutal comments are offensive, but let's not get caught up in the polite discourse of suggesting that the ALCE is a grand showcase for leather, because it isn't.

Car shows don't exhibit ships, footwear events don't feature furniture and food conventions don't display ballistic missiles.

We need a forum where leather and all its affiliated supply chain relatives are represented exclusively. We do not need to share the stage with competing products, especially segments that are environmentally wrong and lacking in ethical clarity. We need to focus on the reality that all plastic, vinyl and polypropylene based materials are the enemy of the people and are eroding leather's market share. Leather and its corresponding supply chain is a viable, healthy and proactive solution for all apparel and furniture segments. We need to promote the positive aspects of our carbon footprint and life cycle assessment, which is especially positive in comparison to petrochemical-based products. Using a by-product derived from fossil fuels that has carcinogenic implications instead of a natural raw material like leather is simply inappropriate. With the declining hide values, it is amazing to me that the beef industry has not inspired a strategy to promote the advantages of cattle by-product utilisation.

To state the obvious, the only reason we have leather is due to the human race's requirement for protein. Without leather the beef industry would have an unresolvable disposal issue, therefore the cattle industry, beef packers, food processors and restauranteurs need to join this fight. They have a clear and vested interest in not only supporting the leather industry but also in protecting the value created for this incredible and unique raw material.

For example, steak houses should discard their Frank Sinatra-inspired décor and replace with 100% leather seating and wall panels. All menus should be leather-bound and take-home goody bags should also be leather themed. With the US housing over 700,000 restaurants this should be an easy forum to promote beef and its wrapper. The same logic should apply to the numerous car showrooms, furniture stores and footwear outlets.

No rebound on the horizon

Our industry, for the sake of clarity, I am only describing the hide and leather business, is in a total recession. This started at least four years ago, but the collective "we" has been in denial for too long. This year will be remembered as the year that the leather shoe stepped out the building. This Elvis event, together with increases in hide supply, created the environment for prices to simply dissolve and with the collapse in values, numerous sales contracts disintegrated. There should have been no surprise when shippers were confronted with disgruntled buyers who whined about quality, delivery and, of course, price. The market differences when compared to the Hong Kong Leather Fair are 40% to 70% lower, depending on origin and selection. Therefore, the incentive to back out of contracts was obvious and without a unified industry policing apparatus, amnesia became an epidemic.

So, where are we today? For starters, continuing to operate along historic precepts is insanity. Expecting prices to rebound is wishful thinking. Casual, comfort, athletic and sneakers are styles of footwear that no longer use leather as a core material. We have lost this battle to synthetics. On the supply side we have seen an expansion in cattle inventories, which will provide sufficient availability to keep an ample supply of hides through all of 2019. With the popularity of beef on both the domestic and export market, packers will enjoy healthy balance sheets. These facts alone support the contention for continued low hide prices for at least the next 12 months.

If we are to change the existing paradigm and reposition leather as a market disrupter, we need to accomplish several things: Counter the argument for synthetics; promote the human connection with this luxury material; expand the value proposition; and endorse the various attributes of this recycled product.

It is essential that we rebuild the connection with the consumer as it appears that this relationship is fractured. Conference chatter amongst the alphabet soup of trade organisations heralds lofty proclamations and captivating initiatives, only to be drowned out by a diversity in opinions and a general lack of unification. Seemingly, the only consensus is to schedule the next meeting at an appropriate convention site at which time the same topics can be reviewed. There is a general hope or expectation that some group or organisation will seize the mantle and reverse our current direction; this is a dubious and imperfect strategy. Getting all sectors of the leather industry to form a cohesive strategy or opinion is more challenging than herding cats.

The reality of our predicament was recently stated by the secretary general of the China Leather Industry Association, Chen Zhanguang. "Finished leather production for the first six months of 2018 was down 11.4% compared to the previous year," he said. Extrapolating that number for the full year would reflect a reduction of 1.6 million hides for the US alone. With China representing nearly 60% of all US exports and a similar percentage from the other main producing regions, any slowdown in consumption will have a serious effect. Initiatives to diversify are obviously a high priority for all sellers, but how effective can this strategy be when leather manufacturing in other regions has succumbed to the China syndrome.

Yes, there are segments where good news abounds. The auto leather industry has enjoyed historic years with strong demand and both the bearish hide market and component suppliers reporting record results. In addition, the residential furniture and handbag sectors have also prospered on the back of a recovery in the housing market and continued demand for luxury leathergoods. However, these good news stories combined do not represent the volumes required to absorb hide production.

So, our problems are opportunities pending a solution. If we acknowledge that the lightweight footwear market has been surrendered to synthetics, then we should turn our focus to leathers that currently have little competition from manmade substitutes, such as heavy weights. Meanwhile, initiatives to regulate and control industry rules and compliance require commitment and recourse, otherwise transparency in hide supply will commence with contracts being written in invisible ink.

Sabbatical

After 45 continuous articles, spanning the last 3 ½ years, pontificating the good, bad and ugly of our industry I will be taking a sabbatical until early 2019. This hiatus will permit my environmentally-correct batteries to be recharged and allow for a reinvigorated approach to which characteristics of the leather industry require exposure. With the vast majority of holidays occurring in November and December, may I be the first to wish all a brilliant festive season and an illustrious new year.

(To those readers who enjoy the trivia, the title quote is from "A Few Good Men", but if you really want to play the game the leather industry should be adopting the DEFCON scale. See you all in January.)

David Peters

DLP Advisors

## STOP ABATTOIR PROFITS EVAPORATING – Article from Humid Air

Dave Marshall-George, UK Sales Manager at Condair plc, looks at how humidification during primary chilling can improve profitability for an abattoir.

When reducing the temperature of a carcass following slaughter, evaporative weight losses can account for a drop in yield of between 1.5 to 3% of total product weight. This direct and significant loss in profit is typically accepted by an abattoir as an inevitable part of the production process. However, it doesn't have to be this way. Recent developments in humidification strategies have improved cold store humidity control and enabled progressive abattoirs to reduce their primary chilling evaporative losses by around 1%.

By consistently maintaining a very high humidity level in the chill down area, moisture is prevented from leaving the carcass during cooling. The main challenge when managing the humidity level in a cold store is that cold air can physically hold very little water so humidifying a cold atmosphere without causing wetting in the room is complex.

To understand how to successfully humidify a chill down area, it is important to appreciate the physics behind relative humidity. Relative humidity (RH) is the amount of water air contains, expressed as a percentage of the amount it could contain at the same temperature. For example, air at 100%RH cannot contain any more moisture. It is saturated. Air at 50%RH can hold twice as much moisture than it current does. Heating air allows it to hold more moisture, which causes its relative humidity to drop. The heat doesn't remove moisture from the air but "dries" it by increasing the volume of water it could potentially hold.

When air is introduced to an abattoir's chill store, it is very cold and can hold very little moisture. Its relative humidity is close to 100% even though its moisture content, referred to as "absolute humidity", is very low. When this cold air is warmed by the thermal energy it absorbs from the carcass, its relative humidity drops allowing it to hold more moisture. As the air is capable of holding more moisture, in a sense it becomes "thirsty" and draws water from any surface wetter than itself, such as the meat's surface.

This is why the majority of primary chilling evaporative losses occur in the early stages, when the carcasses are at their hottest and wettest. The air flowing through the chill store is warmed by the carcasses to its highest temperature and lowest relative humidity.

By employing humidifiers in a chill down area, the "thirsty" air that is warmed by the carcasses, absorbs moisture provided by the humidification system rather than from the meat. However, given the needs of an abattoir to maintain ultra-hygienic conditions inside the chill store, condensation and wetting are undesirable. EU regulations also prevent "spray chilling", whereby water is directly sprayed onto carcasses to reduce their temperature. Therefore, primary chilling humidification systems must successfully maintain an air humidity level without wetting onto the room's surfaces or sprays coming into contact with the meat itself.

To achieve this, specialist cold store humidifiers, such as the JetSpray from Condair, produce very fine aerosols with a droplet size of between 5-7 microns. The humidifier combines water with compressed air in precision engineered nozzles. This ultra-fine mist is released into a cold store's atmosphere through strategically locating these spray nozzles around the room. The aerosols are typically introduced to the air coming off the chillers.

However, as the cold air from the chillers is saturated at around 100%RH, it cannot absorb any more moisture at this temperature. The humidification system therefore uses the airstream as a transport mechanism to carry the aerosol into the room. When the airstream is warmed by the carcasses, the mist is fully absorbed by the atmosphere, preventing any significant drop in humidity and inhibiting evaporation from the meat.

Advanced control sensors are strategically positioned to constantly feedback information on the room's air condition to the humidification system. This tightly controls the humidifier's output to ensure full absorption of the aerosols without under or over-humidification.

To maintain hygienic conditions within the room, the water introduced by the humidifier must be treated with a reverse osmosis water filter to remove particulate matter and bacteria. As a secondary measure, it should also be subjected to ultraviolet sterilisation to deactivate any remaining micro-organisms. Pipework design must not leave water to gather in dead legs and the humidifier should also combine flush and drain cycles with a compressed air blow-through to remove the possibility of any moisture remaining in the system during periods of non-operation.

If the humidification system is correctly designed and set-up for the chill store in question, then the air humidity around the carcasses can be precisely maintained at the optimum level throughout the chill cycle, without any wetting in the room or on the meat.

An additional benefit of maintaining a high humidity during primary chilling is that the specific heat capacity of humid air is greater than dry air, so it can therefore absorb more thermal energy. This means that air with a greater moisture content is more effective at removing heat from carcasses, which reduces the time it takes for them to reach their target temperature. A quicker chill cycle lowers the energy consumption of the refrigeration system and as the surface of the carcasses cool more rapidly, microbial growth is also inhibited.

Using this strategy Condair has been able to successfully lower evaporative losses at abattoir operations in the UK, Ireland, South Africa, India and South America. Potential improvements depend on the type of meat and the cooling process being employed but return on investment is rapid for any abattoir processing more than around 40 beef carcasses per week or equivalent pork or lamb.

The UK currently produces over 3.5 million tonnes of meat per year. If primary chilling humidification systems were consistently employed, even reducing weight losses by just 0.5% would prevent 17.5 million kilos of product simply evaporating into thin air annually. This would represent a very welcome boost to profits for the industry.

- ENDS -

## WORLD ANTIBIOTIC AWARENESS WEEK

*12-18 November 2018*


## WE NEED YOU TO HANDLE ANTIMICROBIALS WITH CARE

The World Organisation for Animal Health kicks off World Antibiotics Awareness Week 2018 with a call to action for all animal health stakeholders: "We all have a role to play to protect these invaluable medicines". To support these efforts, the OIE has developed the WE NEED YOU communication campaign to help stakeholders protect the efficacy and availability of antimicrobials by promoting the actions to be implemented by each player. The complete toolkit, built on the basis of the OIE international Standards, is now available on the WE NEED YOU campaign website at www.oie-antimicrobial.com.

## RMAA OFFICE

We will be closed for the Festive Season from the 24 December 2018 till 2 January 2019.

For any Urgent matters you are more than welcome to contact Dr Gerhard Neethling.

We wish you a wonderful festive season and a blessed new Year

Season Greetings RMAA

## RMRDSA

Please see the list of projects for the last few years. Any information you require with regards to research done or research you would like to suggest can be sent to info@rmaa.co.za we will assist in this matter. The projects will be available on our website www.rmaa.co.za the articles that are not there you are more than welcome to request and we will get back to you in that regard.

| **Project Title** | **Researcher** |
|---|---|
| Beef tenderness model | Dr L Frylink |
| Arthrosis with lameness in cattle | Prof L Prozesky |
| Genetics of meat characteristics in beef cattle | Dr A Maiwashe |
| Nutrients in sheep offal | Dr L Hoffman |
| Nutrients in cattle offal | Dr L Hoffman |
| Supplementation to improve beta-agonist beef quality | Dr P Strydom / Dr L Frylinck |
| South African Retail Beef Quality Audit | Dr P Strydom |
| Innovative management to increase beef productivity in South Africa | Ms SM Grobler |
| Traceability systems for the governance of alternative sheep meat quality attributes in fresh sheep meat supply chains in South Africa | Dr JF Kirsten / Ms M vd Merwe |
| Beef cattle management and systems development for optimal production | Prof MM Schotlz |

| | |
|---|---|
| The effect of beta agonists and animal age on beef quality | Dr P Strydom |
| The effect of genotype on beef colour, surface morphology (texture), pathology, shelf life, tender- | Dr L Frylink |
| Investigating the low income consumer's perception towards beef and sheep meat | Prof HC Schönfeldt |
| Price transmission in the red meat value chain - The case of Bloemfontein, South Africa | F Mare |
| Prevalence and risk factors of Shiga toxin-producing Escherichia coli serotypes in beef at abattoirs | Prof Peter Thompson |
| Effects of chilling and electrical stimulation on carcass and meat quality attributes of selected breeds of cattle with different carcass weights | Prof EC Webb |
| Pre-slaughter stress, animal-related factors, stress biomarkers, nanostructure and technological | Prof V Muchenje |
| The effects of steroidal growth implants and β- adrenergic agonist, alone, or in combination on feedlot performance and residues in lamb | Prof EC Webb |
| South African retail lamb and mutton quality audit | Dr M Hope-Jones |
| Determination of slaughter conditions to optimise chevon visual and eating quality | Dr L Frylinck |
| Detection of quantitative trait loci affecting wet carcass syndrome in sheep | Dr L van der Westhuizen |
| The nutritional composition of South African lamb and mutton offal | Dr B Pretorius |

# RMRD SA Completed Projects: 2010 - 2018

Database: Include final reports, comprehensive reports, scientific and popular articles, and photo's

| Year Completed | Focus Area | Project Title | Researcher |
|---|---|---|---|
| 2010 (16 projects) | 3 | African Swine Fever virus in soft tampans | Dr L Heath |
| | 2 | Genetic predictions for beef cattle | Dr A Maiwashe |
| | 3 | Recombinant heartwater vaccine for cattle, sheep and goats | Zwegart / Dr D du Plessis |
| | 2 | Response to balanced protein by pigs | Prof R Gous |
| | 4 | Beef tenderness model | Dr L Frylink |
| | 3 | Recombinant live heartwater vaccine for cattle and smallstock | Dr M van Kleef / Dr D du Plessis |
| | 6 | Access to seedstock industry by communal farmers | Mr J Clayton / Dr MM Scholtz |
| | 6 | Analysis and quantification of value chains | Dr P Taljaardt |
| | 3 | Arthrosis with lameness in cattle | Prof L Prozesky |
| | 3 | RT-PCR for blue tongue virus in sheep | Dr JJO Koekemoer |
| | 3 | Genetic characterisation of FMD and ASF viruses Improving detection and characterisation methods for FMDV and ASFV for cattle and pigs in the SADC region | Dr J v Heerden / Ms B Blignaut |
| | 2 | Genetics of meat characteristics in beef cattle | Dr A Maiwashe |
| | 3 | Laboratory tick challenge for heartwater vaccine development Species: cattle, sheep & goats | Dr HC Steyn |
| | 4 | Nutrients in sheep offal | Dr L Hoffman |
| | 4 | Nutrients in cattle offal | Dr L Hoffman |
| | 1 | Stocking rate model development for cattle | Dr B Westfall |
| | | | |
| 2011 (9 projects) | 4 | Supplementation to improve beta-agonist beef quality | Dr P Strydom / Dr L Frylinck |
| | 2 | Assessing ramifications of genetic changes in beef | Dr A Maiwashe |
| | 1 | Development of sustainable legume pastures for mutton production in the Western Cape | Dr Johann v Heerden |
| | 5 | Influence of conventional and Kosher slaughter techniques in cattle on carcass and meat quality | Prof EC Webb |
| | 2 | Economic selection indices in beef cattle | Dr RR vd Westhuizen |
| | 2 | Evaluation of beef cattle genetic predictions | Dr H Theron |
| | 3 | Attentuated live heartwater vaccine: testing a subcutaneousformulation for sheep and goats | Dr H Steyn |
| | 5 | Effect of various packaging techniques on the growth or survival and toxin production of selected pathogens on fresh beef | Prof E Buys |
| | 6 | Comparative advantage of SA primary beef markets | Dr P Taljaardt |
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| 2012 (3 projects) | 1 | Modeling the net primary production of arid and semi-arid rangelands in southern Africa using MODIS LAI and pFAR products | Dr T Palmer |
| | 2 | Specialized Creep feeding and subsequent feedlot-finishing of lambs for optimized performance | Dr WFJ vd Vyver |
| | 3 | Fluorescence polarisation test for early-stage bovine tuberculosis | Dr J Fehrsen |
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| 2013 (11 projects) | 4 | South African Retail Beef Quality Audit | Dr P Strydom |
| | 6 | Economic study groups – Sheep, Goats, Cattle | Dr A Geyer |
| | 4 | Validation of standard quality control methods, the newly developed bacterial PCR method and vaccine safety tests. | Mr N I Cassim |
| | 2 | Marker detection in beef cattle | Dr A Maiwashe |
| | 2 | Evaluation of genetic relationship between milk yield and weaning weight in beef cattle in the subtropics | Dr A Maiwashe |
| | 2 | Innovative management to increase beef productivity in South Africa | Ms SM Grobler |
| | 7 | Traceability systems for the governance of alternative sheep meat quality attributes in fresh sheep meat supply chains in South Africa | Dr JF Kirsten / Ms M vd Merwe |
| | 3 | Anti-Boophilus microplus vaccine identification via DNA microarays | Dr C Maritz-Olivier |
| | Pork 6 | The effect of dietary conjugated linoleic acid supplementation on pig production efficiency and meat quality | Prof A Hugo |
| | 3 | Pilot study on investigating the current status and changes in the pest blackfly (Diptera: Simuliidae) problem on the Orange River | Dr NA Rivers-Moore |
| | 3 | Investigate Babesia bovis vaccine breakthroughs | Mr M Combrinck |
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| 2014 (18 projects) | 1 | A decision support system for managing climate impacts and quantification of production risk on the financial feasibility of "cattle" farming | Prof B Grove |
| | 1,2 | The greenhouse gas emissions from the South African livestock industry | Mr CJL du Toit |
| | 2 | Characterization of breed additive and heterosis effects in beef cattle using experimental results | Prof MM Schotlz |
| | 5 | The food composition of raw and cooked beef offal (A Pilot study, as a pro-active activity) | Dr SM v Heerden |
| | 5 | Molecular surveillance of zoonotic foodborne pathogens associated with red meat produced in South African rural abattoirs: knowledge as part of the solution | Dr Evelyn Madoroba |
| | 2 | Environmental descriptors influencing performance of different beef cattle ecotypes | Prof MM Scholtz |
| | 2 | Beef cattle management and systems development for optimal production | Prof MM Schotlz |
| | 5 | Quantifying the factors that influence the composition of South African beef | Prof HC Schönfeldt |
| | 2 | Improved production efficiency to reduce the carbon footprint of beef | Prof MM Schotlz |
| | 3 | Worm control in small ruminants using remote integrated systems technology on communal and commercial farms | Dr J Van Wyk |
| | 4 | The effect of beta agonists and animal age on beef quality | Dr P Strydom |
| | 4 | The effect of genotype on beef colour, surface morphology (texture), pathology, shelf life, tenderness and juiciness | Dr L Frylink |
| | 5 Pork | Quantification of haem iron in sheep, beef and pork meat | Prof HC Schönfeldt |
| | 5 Pork | Isolation of potential bacteria from indigenous pigs and evaluation of probiotic properties in porcine gastro-intestinal model | Mr S Langa |
| | 6 | Investigating the low income consumer's perception towards beef and sheep meat | Prof HC Schönfeldt |
| | 6 | Investigating the middle income consumer's perception towards beef and sheep meat | Prof HC Schönfeldt |
| | 9 | Management of problem causing animals within the livestock industry | L du Pissanie |
| | 9 | Estimating the impact of predation on the beef cattle industry in South Africa | Prof HO de Waal |
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| 2015 (8 projects) | 3 | An integrative approach to the development of a vaccine against the cattle tick, Rhipicephalus microplus | Prof C Maritz-Olivier |
| | 6 | A survey to investigate the SA consumer's perception towards red meat (beef and sheep meat) - focusing on the high LSM consumer (LSM 9 & 10) | Prof HC Schönfeldt |
| | 2 | Determination of optimal mature weight supporting production efficiency in beef cattle in the different South African (ecological) production environments | Prof EC Webb |
| | 1,2 | Development of methane mitigation strategies for ruminant production systems in the tropical and sub-tropical regions of South Africa | Prof WA v Niekerk |
| | 3 | Testing of various formulations of an attenuated heartwater vaccine in Friesian cattle | Dr H Steyn / Dr M v Kleef |

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| | 6 | The Socio-economic impact of Wildebeest-associated malignant catarrhal fever in cattle in South Africa | Dr P Taljaard / W Grobbelaar |
| | 6 | Survey on information available on the front of the package of freshly packed red meat (beef and lamb) available to the South African consumer through the formal retail market | Prof HC Schönfeldt |
| | 3 | Epitope mapping of two heartwater proteins and identification of vaccine components to be included in the multi-epitope DNA vaccine | Dr I Sebatjane |
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| 2016 (6 projects) | 2 | Establishing genomic selection for the South African beef industry | Prof E v Marle-Köster |
| | 2 | Enhancing poor quality roughage utilization through supplementation and subsequent improvement in extensive ruminant production in South Africa | Prof WA v Niekerk |
| | Pork | Pig Leanness Insulin-like Growth Factor 2 gene staus in South Africa | Dr P Soma |
| | 5 | Price transmission in the red meat value chain - The case of Bloemfontein, South Africa | F Mare |
| | 2 | Innovative management to increase beef productivity in South Africa | SM Grobler |
| | 2 | Agribenchmark sheep and beef | HN v Niekerk |
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| 2017 (11 Projects) | 4 | Characterization of breed-specific additive and heterosis effects on beef sensory and leather quality traits | Prof MM Scholtz |
| | 3 | A Survey of veterinary and farmer experiences and opinions on heartwater incidence, distribution and associated factors in domestic ruminants in South Africa | Prof G Bath |
| | 4,5 | Improving the effectiveness of the red meat industry in meeting the needs of the modern consumer within South Africa as a developing country with socio-economic diversity | H Vermeulen |
| | Pork | To investigate the effect of probiotics (*Lactobacillus reuteri* ZJ625, *Lactobacillus reuteri* VB4, *Lactobacillus salivarius* ZJ614 and *Streptococcus salivarius* NBRC 13956) on growth performance, haematological parameters and antibody stimulation in weaned indigenous and Large White (LW) pigs | S Langa |
| | Pork | Proficiency testing for sodium content in processed pork meat products | Dr B Pretorius |
| | 6 | Ecology and population dynamics of black-backed jackal (Canis mesomelas) on reserves and farms | Prof Graham Kerley |
| | 4 | Prevalence and risk factors of Shiga toxin-producing Escherichia coli serotypes in beef at abattoirs and retail outlets in Gauteng | Prof Peter Thompson |
| | 4 | The effect of moisture enhancement by brine injection on the chemical, microbial and sensory quality of beef | Dr Philip Strydom |
| | 4 | Determining the amino acid profile of selected cuts from four age groups of South African beef, as additional to the previously approved project on the nutrient content of South African beef, in order to determine protein quality | Prof HC Schönfeldt |
| | 7 | The financial implications of methods used to control livestock theft in the Free State, Eastern Cape and KwaZulu-Natal | MR WA Lombard |
| | 3 | Development of a predictive management model for Orange River blackfly outbreaks | Dr NA Rivers-Moore |
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| 2018 (18 projects) | 4 | Effects of chilling and electrical stimulation on carcass and meat quality attributes of selected breeds of cattle with different carcass weights | Prof EC Webb |
| | 4 | Pre-slaughter stress, animal-related factors, stress biomarkers, nanostructure and technological properties of beef | Prof V Muchenje |
| | 2 | Evaluation of different techniques to quantify methane emissions from South African livestock | Dr CJL du Toit |
| | 2 | Genomic technologies for the improvement of South African beef cattle | Ms P Soma |
| | 4 | The effects of steroidal growth implants and β- adrenergic agonist, alone, or in combination on feedlot performance and residues in lamb | Prof EC Webb |
| | 2 | Crossbreeding effects with specialized sire lines in Afrikaner, Bonsmara and Nguni beef cattle herds | Prof MM Scholtz |
| | 1 | Direct manure methane and nitrous oxide emissions from a commercial beef feedlot in South Africa | Dr CJL du Toit |
| | 4 | South African retail lamb and mutton quality audit | Dr M Hope-Jones |
| | 1 | Does short duration grazing improve livestock production, veld condition and climate resilience compared to other grazing systems in a mesic grassland of South Africa? | Dr H Hawkins |
| | 2 | Marker detection in beef cattle (Phase 2) | Prof A Maiwashe |
| | 2 | The effectiveness of genomic markers in predicting the meat tenderness in pure beef genotypes under South African production and slaughter conditions | Dr L Frylinck |
| | 2 | Genome-wide genetic marker discovery in South African indigenous cattle breeds using next generation sequencing | Dr A Zwane |
| | 4 | Determination of slaughter conditions to optimise chevon visual and eating quality | Dr L Frylinck |

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| | 4 | Detection of quantitative trait loci affecting wet carcass syndrome in sheep | Dr L van der Westhuizen |
| | 4 | The nutritional composition of South African lamb and mutton offal | Dr B Pretroius |
| | 5 | Small scale dairy ranching for the resource poor sector in South Africa | MS SM Grobler |
| | 6 | Karoo Predator Project Management Survey | Prof B Conradie |
| | 5 | Hidden in Plain Sight: A Regional Inquiry into the Size, Scope and Socioeconomic Effects of the Western Cape's Formal and Informal Red Meat Industries | Prof N Vink |

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The RMAA is an independent membership-based organisation, which was established in February 1991 with its primary aim being training at all abattoirs in South Africa. The Association is a representative forum for red meat abattoir owners in South Africa and aims to establish communication and co-operation between the members of the Association in order to determine a coordinated opinion on matters of general, as well as specific, importance. The Association provides members with specific and general information and technology regarding all aspects of the industry and related activities and renders services to advance and promote the industry.

Rooivleis Red Meat Abattoir Vereniging - Association

**STRIVING TOWARDS MEAT SAFETY AND QUALITY**

## ABATTOIR SKILLS TRAINING (AST)

AST was established by the Association to adhere to the legislation and regulations of the Department of Higher Education and Training as a registered Further Education and Training College. AST conducts generic and specific food safety and quality training in the meat industry and other related industries.

Abattoir Skills Training is responsible for the formal training with the industry on behalf of the RMAA and is an accredited training provider registered with:

AgriSETA as a training provider (ETQA) – AGRI/c prov/027710
Department of Education as a Further Education and Training College – 2011/ FE07/010
SAATCA accreditation for Lead auditors training
AST has a Level 4 BBBEE rating with a B-BBEE Procurement Recognition level of 100%

ABATTOIR SKILLS TRAINING AST