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| **CURRICULUM VITAE OF NOLUVUYO MURIEL BANGANI****Cell Number: 083 720 6570****Email Address:** **vuyo.bangani@gmail.com****Postal Address: 12 Bothrill Avenue, The Reeds, Centurion, 0157** |

I am a livestock production researcher with diverse experience, having worked in research institutions, industry, and institutions of higher learning. My area of specialisation is ruminant nutrition, and my research interest is on finding alternative feedstuffs to improve production and reduce greenhouse gas emissions in livestock.

1. **CAREER GOAL**

To provide excellent service to the organisation and communities through engaging in research, training and development thereby contributing to the knowledge pool of information for the best interest of the client and the organisation at large.

1. **EDUCATION**
* PhD (Animal Science, Ruminant Nutrition) – Stellenbosch University, 2019. **Study title:** Comparing feed use efficiency and enteric gas production of Holstein and Jersey cows in a kikuyu pasture-based system using mathematical models.
* Two weeks course on climate change at Radboud University in the Netherlands, 2017: Climate Change History, Politics and Governance, and Mitigation Strategies.
* Short courses attended include writing a grant proposal, scientific writing, thesis writing, and Microsoft Office programmes e.g., Microsoft Word for large documents, Excel, and PowerPoint – these were offered by the Post-graduate skills office of Stellenbosch University, 2016 to 2019.
* Management Development Programme – Gordon Institute of Business Science of the University of Pretoria, December 2014.
* MSc Agric. (Animal Science, Ruminant Nutrition) – Stellenbosch University, 2001. **Study title:** Oat silage in milk production systems in the Western Cape.
* BSc Agric. Honours (Animal Science, Monogastric and Ruminant Nutrition) – Stellenbosch University, 1999.
* BSc Agric. (Animal Sciences) – University of Fort Hare 1998.

**Awards**

* I was nominated to join the Young Professional Person’s Programme. The programme requirement was that I finish Honours and MSc in a period of three years while working as a research scientist at Elsenburg research station, this I successfully completed in record time.
* Received scholarships from the Stellenbosch University to attend a two-week course on climate change at Radboud University in the Netherlands in 2017, and four short courses offered by the African Doctoral Academy of Stellenbosch University (see academic record).

**Achievements**

* Wrote scientific papers for publication.
* Presented abstracts and posters in conferences.
* Gained excellent computer, verbal and writing skills.
* Management skills – the Management Development Programme course empowered me with people skills, project management and financial management skills.
* Self-taught a feed formulation programme (Nutritional Dynamic System Professional which uses the biological platform of Cornell Net Carbohydrate and Protein System) and a statistical analysis programme – Statistical Analysis Systems, Enterprise Guide version 7.1.
1. **WORK EXPERIENCE**
2. **SENIOR RESEARCHER – Agricultural Research Council (July 2021 – present)**
* Writing grant proposals for research funds and submitting when there are open calls.
* Negotiate with industry to bring their research needs to the organisation and draw budgets for potential clients.
* Working as an external examiner – marking thesis.
* Training the trainers and small-holder farmers – compiling and offering Ruminant Nutrition courses to Kaonafatso ya Dikgomo scheme farmers.
1. **LECTURER – Tshwane University of Technology (January – December 2015)**
* Compiling study material, lecturing, setting examination papers, drafting memos and marking Animal Nutrition scripts – B.Tech students.

**Achievements**

* Established relationships between the university and RCL Foods in Pretoria West which resulted in obtaining feed samples for the university laboratory and visiting the company with students to expose them to feed manufacturing process.

**Reason for leaving: I registered for full time PhD with Stellenbosch University.**

1. **SKILLS PLANNING MANAGER – AgriSETA (July 2013 – January 2015)**
* Conducting research to identify skills shortages in the agricultural sector and compile a Sector Skills Plan and the Strategic Plan to address the shortages.
* Monitor progress on the set strategic goals and report on training achievements by the SETA to the Department of Higher Education and Training.
* Coordinate standing committees involved in skills planning and compile reports for presentation to the Board.
* Training Skills Development Facilitators on Workplace Skills Plan and Annual Training Reports and ensuring that mandatory grants are paid to qualifying stakeholders.
* General management: this included general supervision, leave management, performance management and career development of subordinates, identifying departmental risks and compiling the Risk Register, attending to Audit queries, and serving in Bid Committee, writing monthly reports and any report as may be required.

**Achievements**

* Improved people management skills
* Acquired qualitative research skills
* Co-authored the Sector Skills Plan of 2013 and 2014

**Reason for leaving: I wanted to go back to natural sciences.**

1. **SALES MANAGER – Voermol Feeds (April 2009 – June 2013)**
* Establishing market in the developing agriculture sector and formulating marketing strategies to ensure that sales targets are achieved.
* Liaise with clients and internal departments to improve customer service.
* Giving technical support to developing farmers and Agricultural Officers – running workshops in partnership with Pharmaceutical companies to train Officers and Farmers on animal nutrition while at the same time promoting the company brands.
* Giving technical support to agents through attending Farmers’ Information Days, compiling flyers in English, isiZulu and isiXhosa (do outsourcing for translating to other indigenous languages) for distribution in occasions such as Farmers’ Information Days and Agricultural Shows.
* Writing technical articles / advertorials for publishing in farming magazines – wrote for FarmingSA and the Lesotho Agric Newspaper – the Silo.
* Liaising with tertiary institutions – was a link for factory visits, assist in curriculum reviews, career days, a visiting lecturer to give lectures on Animal Nutrition and play an advisory role in some of the projects the institutions run.

**Achievements**

* Reached out to developing farmers, established a market in this sector and identified outlets where they could get the products.
* Made information available for developing farmers in various indigenous languages.
* Strengthened relationships between the company and the department of Agriculture.
* Published advertorials (see technical articles).
* Through the advisory role I played on fattening steers for slaughter, Owen Sithole College of Agriculture got the first position in both on hook and on hoof competition in the Royal Show in Pietermaritzburg in 2010 and 2011.

**Reason for leaving: Got a new job in Pretoria.**

1. **ASSISTANT TECHNICAL MANAGER – Voermol Feeds (May 2003 – March 2009)**
* Least cost formulations using Format software, preparing raw material costs of finished products and coordinating product development.
* Planning – doing weekly and monthly raw material breakdown to determine the estimated tonnages required for the week or month based on the weekly production schedule or forecasted sales for the month.
* Managing Quality Control - this involved accepting and rejecting raw materials and products based on whether they meet the specifications registered for. The job also involved writing Standard Operating Procedures and raising product quality awareness to workers by offering training, organising trips and exhibitions.
* Managing exports by liaising with importing countries and export governing authorities (Import and Export Policy Unit – Department of Agriculture).
* Giving lectures to visitors (mostly students from tertiary institutions and Officers from Government Departments) on Animal Nutrition, the range of company products, and take them for factory tours. Also participated in career days.
* Driving or coordinating assigned projects and compiling reports.
* General management of subordinates – that is, their KPAs, leave, safety, health and environment related issues, planning and conflict management.

**Achievements**

* Wrote technical articles and published in farming magazines
* Management, planning, decision making and presentation skills
* Improved product quality as indicated by reduction in rejects
* Successfully registered the company for exporting

**Reason for leaving: Promotion.**

1. **SENIOR AGRICULTURAL SCIENTIST – Western Cape (April 2002 - April 2003)**
* Developing the Unit Standards for Animal Husbandry study material.
* Compiling study materials and giving lectures to developing farmers especially Land Reform and Development beneficiaries (LRAD) on animal husbandry (Dairy, pigs, poultry and small stock).
* Lecturing in learnership programmes developed by Primary Agriculture Education and Training Authority aimed at improving skills of farm workers.

**Reason for leaving: Wanted to move to commercial sector – career progression.**

1. **AGRICULTURAL SCIENTIST – Western Cape (January 1999 – March 2002)**
* Research: Feed formulations, conducting field experiments and *in sacco* technique, chemical analysis of feedstuffs, processing data and doing statistical analysis.
* Writing scientific papers for publication and presentation in conferences.
* Teaching pig and poultry farming to Emerging Farmers – LRAD beneficiaries.
* Translated the “Southern African Chicken Book” by Ed Wethli to isiXhosa.

**Achievements**

* Completed Honours and Masters.
* Published articles in scientific journals.
* Presented in congresses.

**Reason for leaving: Promotion**

1. **PROFESSIONAL MEMBERSHIP**
* South African Council for Natural Scientific Professions (Reg. No.- 400218/08)
* South African Society for Animal Science – was also a Committee member KZN branch in 2006 and 2007.
1. **PUBLICATIONS**

**Scientific Papers**

Bangani, N.M., Muller, C.J.C. & Botha J.A., 2000. Evaluation of cottonseed oil-cake meal as a protein source in calf starter meals. S. Afr. J. Anim. Sci. 30 (1), 67 – 69.

Marandure, T., Bennett, J., Dzama, K., Gwiriri, L. C., Bangani, N. & Mapiye, C., 2019. Envisioning more effective delivery of custom feeding programs using participatory approaches: lessons from Eastern Cape Province, South Africa. Outlook on Agriculture. Volume: 48 issue: 2, page(s): 157-166.

Bangani, N.M., Dzama, K., Muller, C.J.C., Cruywagen, C.W. & Imbayarwo-Chikosi, V.E. Factors affecting milk production of Holstein and Jersey cows in a kikuyu pasture-based production system **(submitted – pending)**.

Bangani, N.M., Dzama, K., Muller, C.J.C., Cruywagen, C.W., Imbayarwo-Chikosi, V.E. & Nherera-Chokuda, F.V. Estimating milk production and energetic efficiencies of Holstein and Jersey cows in a kikuyu pasture-based production system **(submitted – pending)**.

**Conference Contributions**

Bangani, N.M., Botha, J.A., Muller, C.J.C. & Cruywagen, C.W., 2000. The production performance of lactating Jersey cows receiving varying levels of lucerne hay and oat silage as roughage sources. Short paper and poster abstracts: S. Afr. J. Anim. Sci. 30 (Suppl. 1). 38th Congress of SASAS. Alpine Heath. KwaZulu-Natal. p. 6-7.

Bangani, N.M., Botha, J.A., Muller, C.J.C. & Cruywagen, C.W., 2000. The comparative performance of lactating Jersey cows receiving varying levels of lucerne hay and oat silage as roughage sources. SASAS Congress 25-27 July 2000. Alpine Heath. KwaZulu-Natal.

Bangani, N.M., Cruywagen, C.W. & Muller, C.J.C., 2002. Production performance of lactating Jersey cows receiving varying levels of oat hay and oat silage as forage sources. GSSA/SASAS Joint Congress. 13-16 May 2002. Christiana Aventura. NW Province.

Cruywagen, C.W., Bangani, N.M. & Muller, C.J.C., 2002. Breed differences in the ruminal fibre digestibility of cows receiving a high forage diet. GSSA/SASAS Joint Congress. 13-16 May 2002. Christiana Aventura. NW Province.

Muller, C.J.C., Bangani, N.M. & Cruywagen, C.W., 2002. In situ fractional disappearance of freeze-dried, oven-dried and fresh oat silage in Jersey cows receiving a high forage diet. GSSA/SASAS Joint Congress. 13-16 May 2002. Christiana Aventura. NW Province.

Bangani, N.M., Dzama, K., Cruywagen, C.W., Muller, C.J.C. & Nherera-Chokuda, F.V., 2017. Comparing estimated feed intake and greenhouse gas emissions of fresh primiparous Holstein and Jersey cows in a pasture-based production system. Poster – 50th SASAS Congress, 18-21st September 2017. Boardwalk Conference Centre, Port Elizabeth, Eastern Cape Province.

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. Proceedings of the SASAS Congress, 10-12 June 2019. University of the Free State, Bloemfontein. Page 8.

Bangani, N. M., Dzama, K., Muller, C. J. C., Nherera-Chokuda, F. V. & Cruywagen, C. W., 2019. Comparing the carbon dioxide and methane emissions of Holstein and Jersey cows in a kikuyu pasture-based system. Proceedings of the 23rd Conference of the Association for the Advancement of Animal Breeding and Genetics, Armidale, New South Wales, Australia, 27th October-1st November 2019. Pages 476-479.

**Technical articles**

Bangani, N.M. Pre and post-calving feeding using Voermol Production Lick.

Bangani, N.M. Voermol Super 18, a multi-purpose product.

Bangani, N.M. Voermol Premix 450 completing the circle.

Bangani N.M. Fattening beef cattle for slaughter using Voermol SB 100

Bangani N.M. Feeding Voermol Maxiwol to sheep.

Bangani N.M. Using Voermol Blocks as supplements in natural pasture.

1. **REFERENCES**

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