

A review of traceability systems in South African Red Meat Abattoirs and its relevance for origin based meat products

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Introduction

- The why and what of traceability
- The nature and extent of traceability systems in red meat abattoirs in South Africa
- Survey of abattoirs – results
- The importance of traceability systems to market origin based food stuffs such as Karoo Lamb.

Traceability Defined

- A proactive approach to create and maintain a trail of information that follows the path of a product throughout the whole production process.
- Provide for the quick identification, measurement and containment of a hazard which can reduce the negative effects to consumers brought upon by such a health hazard.
- Elements of traceability:
 - *Level*
 - *Breadth*
 - *Depth*

Traceability: Level

- Way in which a product can be traced back or forward within a supply chain.
- Three levels in the meat industry exist:
 - *Genetic traceability* - taking DNA samples from carcasses to locate the records of the animal
 - *Farm to retail traceability* - the ability of the system to track the identity of all cuts from a farm through the processing and distribution channels
 - *Batch traceability* - traceability from farm up to carcasses without further tracking on the cutting floor; the identities of the source are maintained at the batch level

Traceability: Breadth

- Refers to the amount of information that the traceability system records:
 - Contact information of the farmer and location of the farm.
 - Breed of the animal
 - Production information such as free range, organic, Karoo origin, grain-fed etc.

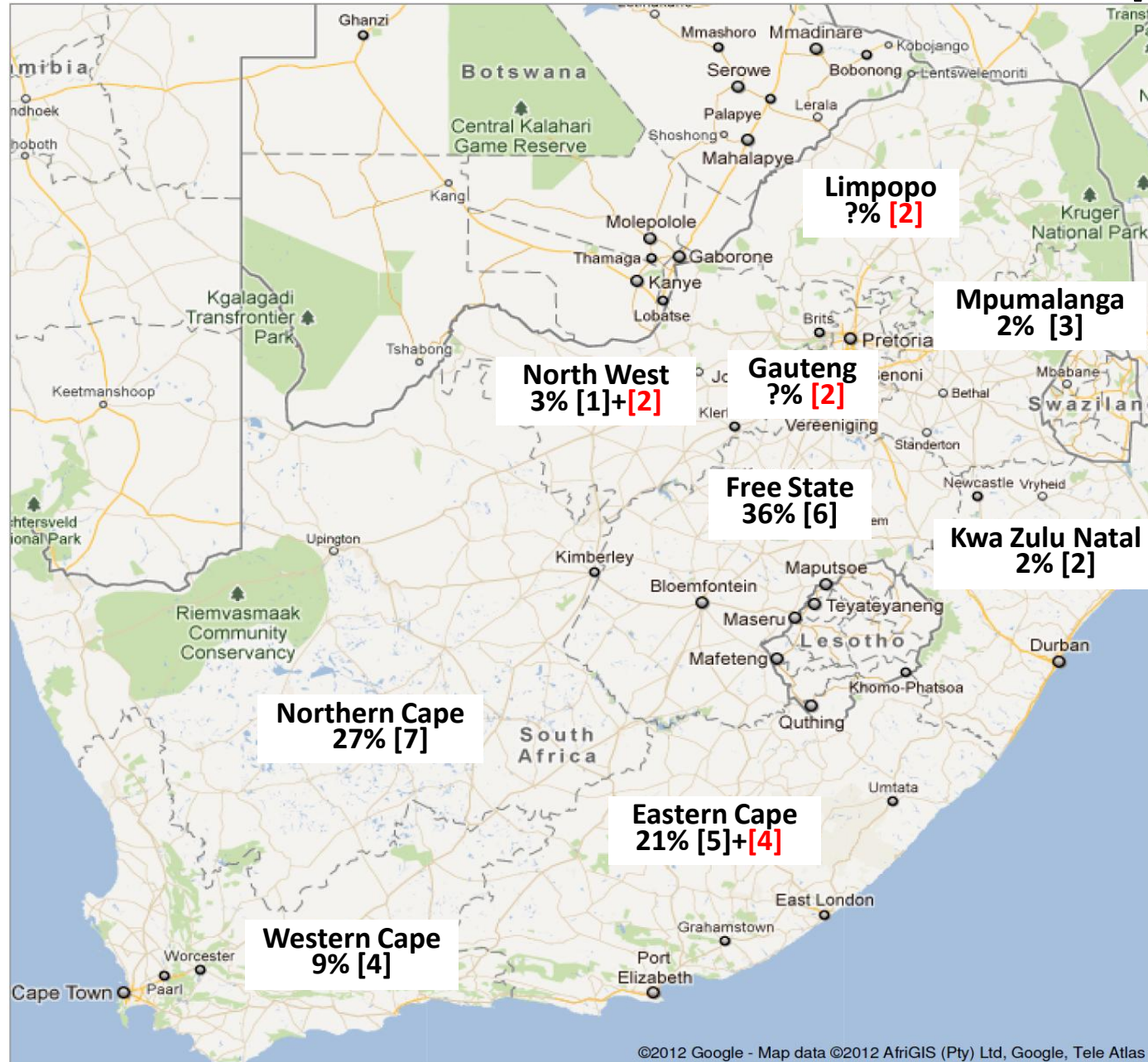
Traceability: Depth

- Refers to how far back or forward the traceability system is able to trace an item for example from the abattoir to auction, feedlot or farm.

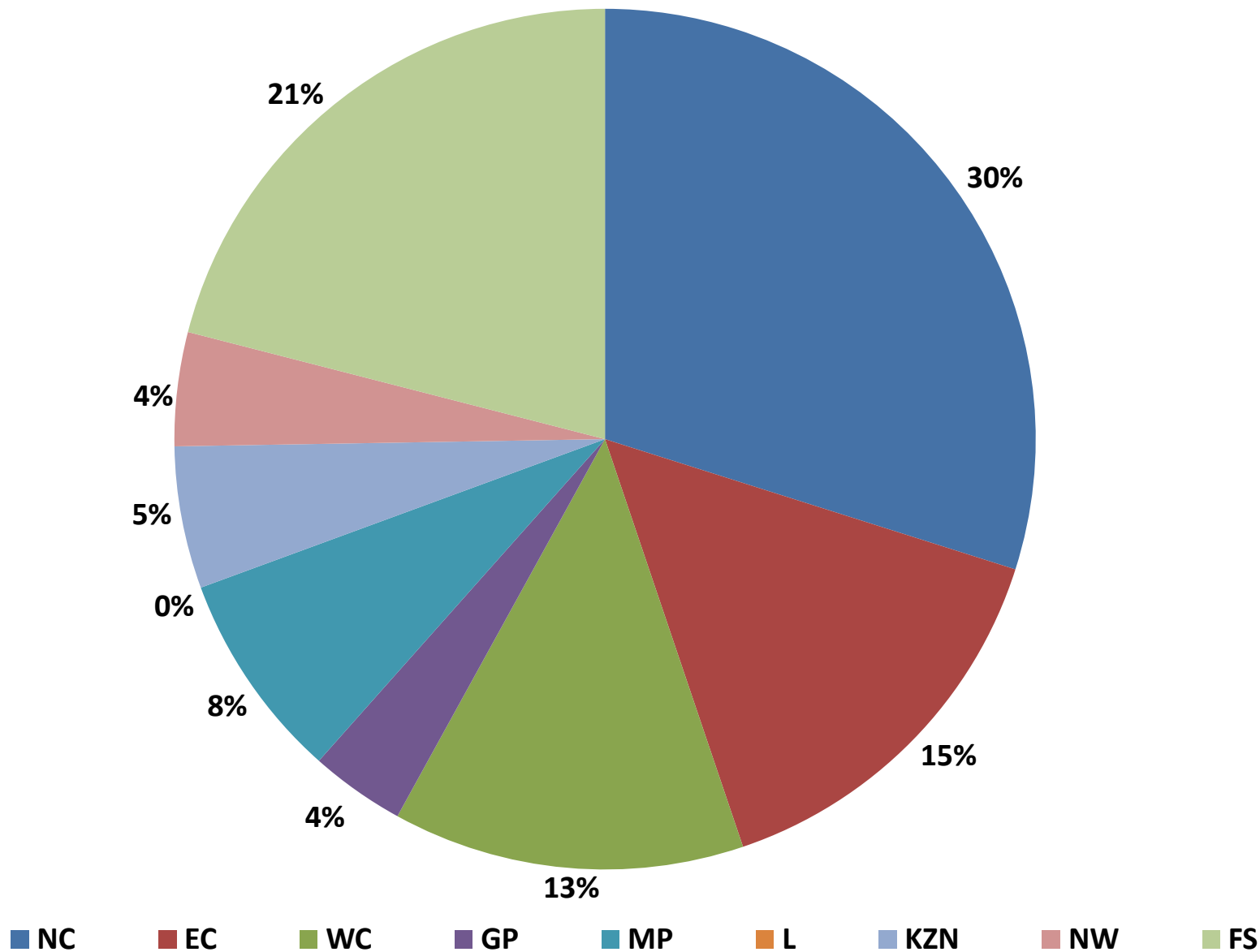
Data

- Population for the survey was obtained from the list provided by RMAA
- The list of red meat abattoirs in South Africa is out-dated. Many on the list have closed.
- Survey limited to the **284** sheep slaughtering abattoirs in South Africa
- A sample of 90 of the 284 sheep slaughtering abattoirs on the list was contacted to confirm species slaughtered and capacity.
- Of the 90 abattoirs contacted only 66 are still functional and only 58 are still slaughtering sheep. 55 were eventually contacted and 38 agreed.

Provincial distribution of Sample



Origin of Sheep Slaughtered by Sample Abattoirs



Some Preliminary Conclusions

- The following preliminary conclusions and observations can be made in terms of traceability in abattoirs:
 - High throughput abattoirs are more likely to have traceability systems in place than low throughput abattoirs.
 - Most abattoirs are of the opinion that the weak link in the traceability within the sheep meat supply chain is at meat processing and packaging plants.
 - The abattoirs that have proper traceability systems in place accomplish this by means of a computer based system mostly the Abaserve system and supporting paper documentation.
 - The abattoirs allocate their own serial numbers to each carcass to include the date and time of day slaughtered as well as the batch number.
 - The information captured by typical traceability systems:
 - The name of the farmer and the farm on which the animal was reared
 - The live weight, slaughter weight, moisture content, temperature and pH of the carcass
 - The grade and class of the carcass
 - Basic information on the first point of sale.

Opinions on Traceability Systems

- Traceability systems are currently used for management purposes, especially the management of inventory.
- Not so much used to guarantee quality claims or to have a complete traceability system from farm to fork.
- 82% of the cost to implement a traceability system is carried by the abattoir
- But no clear view on who benefits: abattoirs (68%), consumers (64%), farmers (50%), wholesalers (46%) and retailers (46%).
- 81% of abattoirs argue that traceability will in the near future be an inevitable part of the sheep meat industry.
- Options : abattoirs prefer the IT-based traceability system.

Laws and regulations governing South African abattoirs

- Meat Safety Act, 2000 (Act 40 of 2000) and regulations thereto pertaining to the implementation of a hygiene management system.
 - Hygiene Management System (HMS).
 - Hygiene Assessment System (HAS) to evaluate the HMS.
- Agricultural Product Standards Act, 1990 (Act 119 of 1990).
- Foodstuffs, Cosmetics and Disinfectants Act 54 of 1972, in particular R908 issued thereunder and which pertains to the implementation of Hazard Analysis and Critical Control Points (HACCP).
 - Good Manufacturing Practices (GMP) forms part of the implementation for HACCP.
- Consumer Protection Act, 2008 (Act 68 of 2008).

Data Analysis – Adherence to Government Regulations

- Up to this point 28 abattoirs were contacted:
 - 24 of the abattoirs had HAS in place and adhere to Government regulations.
 - 12 of the abattoirs had HACCP standards in place.
 - 4 of the abattoirs had no standards in place and do not get audited for adherence to Government regulations.
 - 2 abattoirs slaughter sheep that has no form of identification (tattoo's or ear tags). This is a contravention of the Animal Identification Act, 2002.

Traceability to Guarantee Origin

- 92% of all abattoirs surveyed have some form of traceability system in place.
- 42% have Abaserve as a traceability system. Other systems include: Meat Matrix, BeefTech, SAP, AMS and their own systems generated on Excel.
- All abattoirs have a supporting paper documentation system in place.
- This is a good basis for introducing a certification scheme guaranteeing the origin of meat

Introducing a certification scheme for Karoo Meat of Origin

- The case for a certification scheme for Karoo Meat of origin
- Current legislation prohibit the **misuse of regional names** for food products.
 - *Consumer Protection Act*
 - *Agricultural Product Standards Act, 1990* (APS Act): Regulations regarding the classification and marking of meat intended for sale in the Republic of South Africa – Government Notice No. R. 863 of 1 September 2006.
 - New regulation on food labelling
 - (Regulations Relating to the Labelling and Advertising of Foodstuffs, No R 146 of the *Foodstuffs, Cosmetics and Disinfectants Act, 1972* (Act 54 of 1972) Issued in 2010 and enforced since 1 March 2012.):
 - Misleading descriptions such as healthy or healthier or additive-free or veterinary medicine-free or which indicates the more humane treatment/rearing of food animals, such as, but not limited to, “grain fed”, “grassfed”, “Karoo lamb”, “natural lamb”, “country reared”, “free range”, “pure”, “organic”,
- **So it is “illegal” to indicate “Karoo Lamb” if it is not supported by a protocol “approved” by the registration process under the APS act of 1990.**

Misappropriation of the name “Karoo”

- Strong evocative value of ‘Karoo’ has significant marketing potential which should be used to benefit the Karoo community.
- But commercial value of the name “Karoo” has led to widespread misappropriation.
- Search of Trade Mark register indicates that the name is being appropriated by various individuals and businesses.
- Woolworths and Shoprite Checkers designed marketing strategies for lamb around the images of the “Karoo”.

How do we protect the name, reputation and identity of the Karoo?

- A trade mark? No – Karoo cannot be appropriated. It belongs to the inhabitants of the Karoo.
- Only option is a certification mark in the absence of ‘sue generis’ legislation.
- This mark should guarantee the ‘origin’; ‘integrity’ and ‘reputation’ of the product.

Final certification mark



Meat carcass stamp



Process since submission of application in 2011

- Mark and insignia are now protected by SA law.
- The 'Karoo Development Foundation' is the proprietor of the mark on behalf of the Karoo region
- Protocol approved by DAFF and stamp on carcass is now legal.
- Certification and audit process – 40 farmers and 2 abattoirs and 2 butchers/deli's
- With certification establishments will comply with regulations under:
 - Consumer protection Act
 - Meat Safety Act
 - Agricultural Product Standards Act, 1990 (APS Act)
 - New regulation on food labelling (R146)

First certified carcasses delivered in Franschhoek in November 2011



Certified Karoo Lamb in the stores



Proposed packaging for frozen meat



Exhibition at Agri Kaap week – Bienne Donne 19-21 April



Your only guarantee that it is from the Karoo!

Values of “Certified Karoo”?

- A guarantee that the product originates from Karoo veldt
- Honesty and integrity of all role players
- A guarantee on food safety
- Compliance with all legal requirements

- Bottom line is: most abattoirs in Karoo should be able to qualify for this scheme – very few have applied.
- Great opportunity to rewrite the rules and process of red meat marketing in South Africa.
- An opportunity to take a premium product out of the ‘commodity market’
- **A good and fool proof traceability system is however absolutely critical!**