

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

Johann Kirsten

Department of Agricultural Economics

University of Pretoria

# 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.

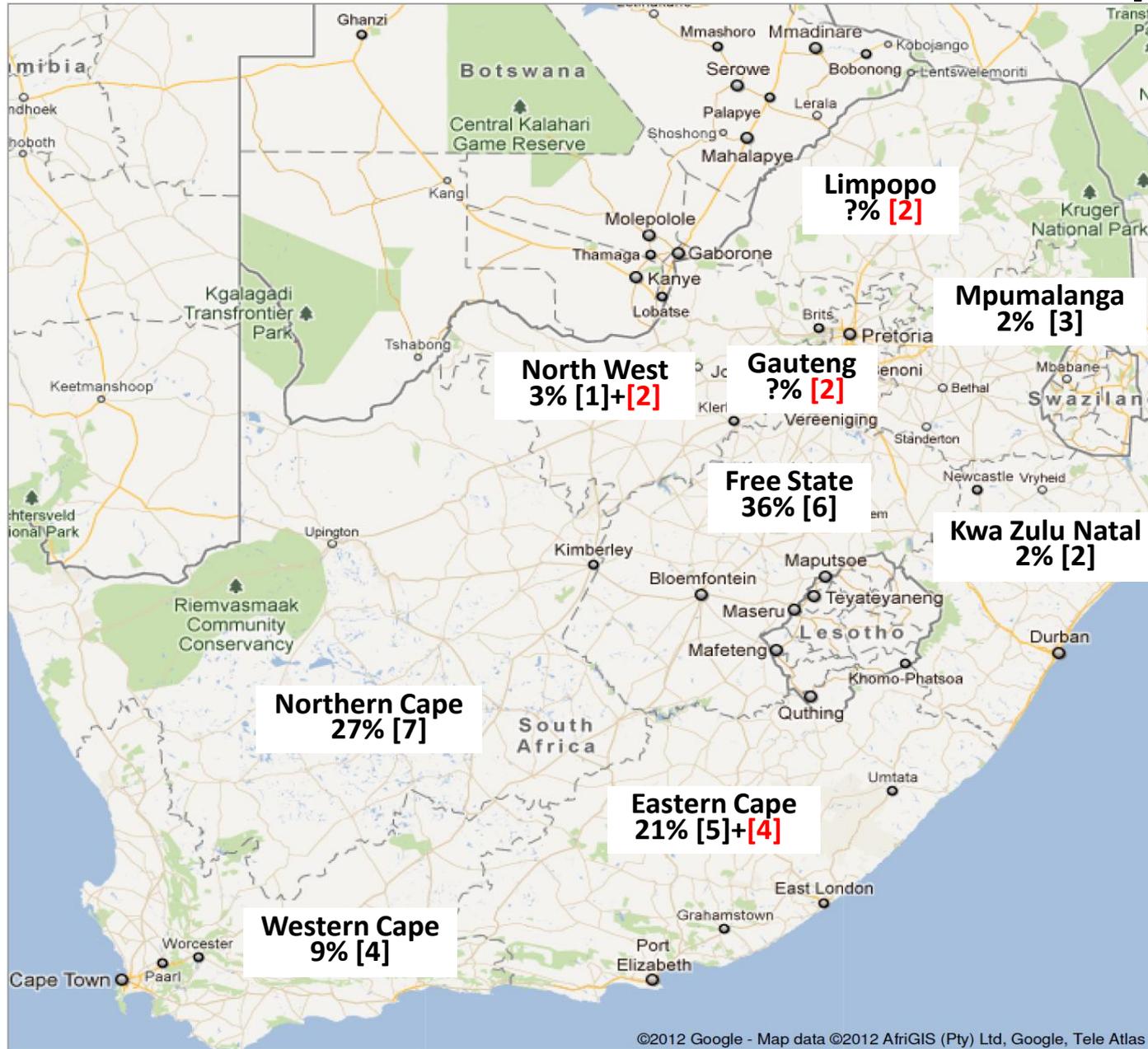
# Traceability: Depth

- 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.

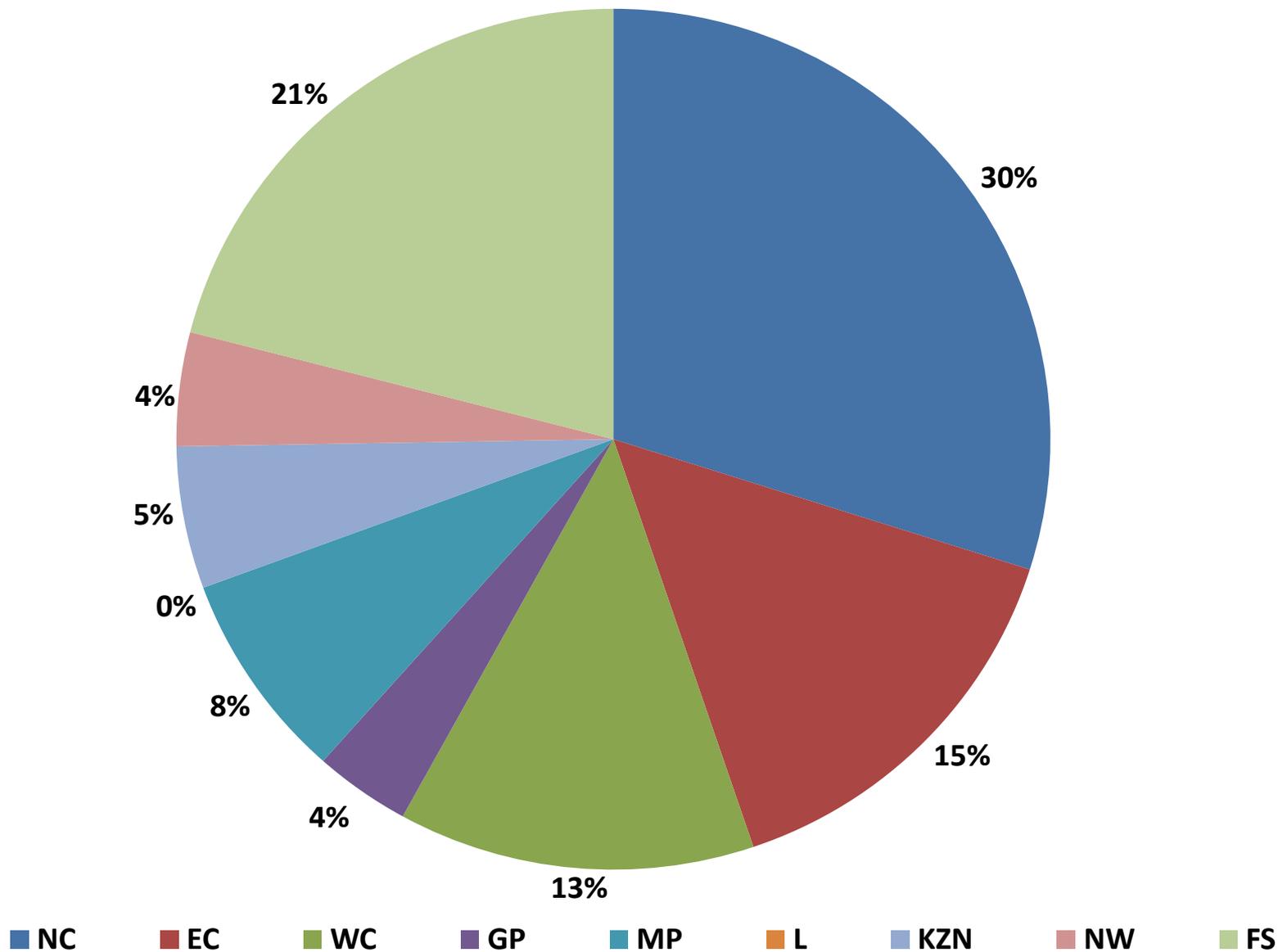
# Data

- 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!**