BOTSWANA ANIMAL IDENTIFICATION TRACEABILTY SYSTEM

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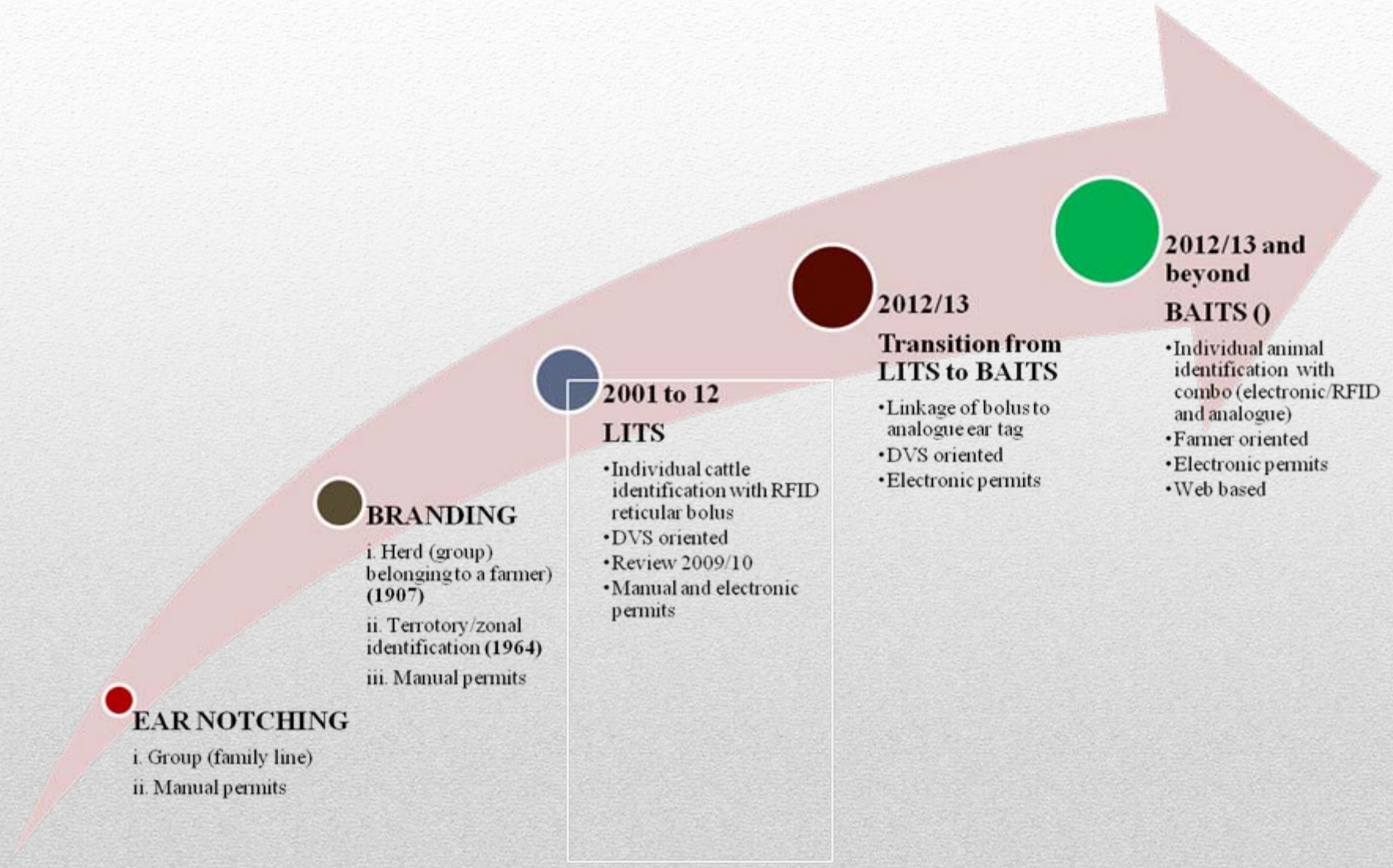
HISTORY OF LIVESTOCK IDENTIFICATION AND TRACEABILITY

- The country has a long history of LIT
  - Traditionally identification
    - Ear notching which is a group identification e.g. family or clan
    - Branding which was introduced in 1907. Links individual farmer to a his livestock
    - Zonal branding (1964) identifies cattle in a particular geographical zone


EAR NOTCHING
i. Group (family line)
ii. Manual permits
BRANDING
i. Herd (group) belonging to a farmer) (1907)
ii. Terrotory/zonal identification (1964)
iii. Manual permits
2001 to 12
LITS
•Individual cattle identification with RFID reticular bolus
•DVS oriented
•Review 2009/10
•Manual and electronic permits
2012/13
Transition from LITS to BAITS
•Linkage of bolus to analogue ear tag
•DVS oriented
•Electronic permits
2012/13 and beyond
BAITS ()
•Individual animal identification with combo (electronic/RFID and analogue)
•Farmer oriented
•Electronic permits
•Web based

LITS

- Livestock identification and traceability system (LITS)
  - Introduced in 2001 to facilitate
    - Trade following changes in the EU import conditions
    - Animal and public health controls
    - Anticipated advantage of reducing stock theft
  - Identification
    - RFID (reticular bolus)
    - Recyclable bolus

LITS

- **Traceability components**
  - Movement
  - Ownership
  - Animal health
  - Slaughter
  - Bolus recycle history
  - Production areas (farm or crush)

CHALLENGES

- Entirely dependent on government ... sustainability??
- Limited role by other stakeholders
- Resource demanding
- Fully funded by Government
- Bolus cattle no being visually identifiable
- Bolus recycling associated problems
- Prolonged updating of the central database (CDB) with field data

CHALLENGES cont`

- System designed to cover all livestock but currently only covers **cattle**
- Statutory instruments under the Diseases of Animal Act

LITS REVIEW

- Reviewed in 2009 -2011 including benchmarking
- Review recommended
  - Stakeholders to play an active role to remove dependency on government
  - Replacement of bolus with combo ear tags
  - Bolus ear tag transition (electronic and analogue pair)
  - Web based
  - Have provisions for interfacing

REVISED LITS - BAITS

- Botswana Animal Information and Traceability System (BAITS)
- BAITS objective
  - Establish an accessible farmer centric animal information and traceability system as a tool to facilitate animal and public health controls
- Cost recovery through sales of ear tags and applicators
- Farmers bear the cost of ear tag application to some extend data entry costs

BAITS DELIVERABLES

Primary objective - Establish an accessible farmer centric animal information and traceability system as tool to facilitate animal and public health controls

Role players	Deliverables	
	Primary	Activities
Farmer	None regulatory	i. Buy Combo ear tag
		ii. Application of combo ear tags
		iii. On-line registration of ear-tagged cattle or manual submission to DVS or certified tagging and data entry agents
		iv. Undertake transactions either on-line or manual submission to DVS or certified tagging and data entry agents (TADEA)
		v. Updating keeper ID information details on line or manual mission
		vi. Query and retrieve reports on-line
		vii. Animal movement request and approval subject to animal and public health restrictions
		viii. Notification of cattle deaths
Other Stakeholder participation	Facilitator	i. Certification of tagging and data input agents
		ii. Established partnership with stakeholder i.e. internet providers
BMC/Other slaughter facilities	None regulatory	i. Arrive and terminate slaughtered cattle
		ii. Query and retrieve reports on-line
Department of Veterinary Services	Official regulation	i. Capturing of animal and public health data
		ii. Imposition of animal and public health controls
		iii. Use BAITS data to inform decision making on animal and public health programmes, strategies and policies
		iv. Auditing on BAITS and holdings
		v. Build capacity on BAITS (certification of tagging and data input agents, staff, keepers and others)
		vi. Develop, review and enforce legislation
		vii. Procure and resell ear tags
Botswana Police Service	Law enforcement	Law enforcement

NATIONAL BEEF CATTLE PERFORMANCE TESTING AND RECORDING SCHEME IN BOTSWANA

Background

- Scheme initiated in 2001.
- Implemented by the Department of Agric. Research in collaboration with the Department of Animal Production

Why Monitor Livestock Performance

- Limitation in purchasing good quality replacement/breeding stock
- Limitation in marketing excess stock due to lack of performance records: Few local stud breeders (Brah, Simm, Charolais, Santa Ggertrudis)
- Dependency on neighboring countries for breeding stock which is risky in the event of trans-boundary diseases outbreaks
- Globalization : which requires production of competitive products

OVERALL OBJECTIVE OF THE SCHEME:

To provide the beef Industry with objective performance information to improve the genetic and economic efficiency of beef production

Functional Components of the Scheme

Scheme Classification into 3 main stages

I. On-Farm Evaluation (Stage 1)

II. On-Station Evaluation (Central Performance Testing Centre) (Stage 2)

III. Carcass evaluation

On- Farm Evaluation

- Carried out at the farmers premises
- Performance data recorded by farmers under supervision of field officers from DAP
- Involves evaluation of farm/herd efficiency where

1. Monitoring of cow productivity is done

2. Monitoring post weaning growth of all animals in the herd is done

On-Farm Evaluation cont.

(a) MONITORING OF COW PRODUCTIVITY (for all animals in a herd)

- Individual identification of all calves born in farm imperative
- Calf and cow weights recorded at calving (within 24 hrs after parturition)
- Weaning approx. at 7 months
- Calf and cow weight recorded at weaning

Parameters evaluated

- Cow efficiency at birth and weaning
- Calving ease
- Age at first calving and calving interval
- Calf survival up to weaning

On-Farm Evaluation cont.

b) MONITORING OF POST WEANING GROWTH (**only for young bulls, steers and heifers)**

- Weight of young bulls, steers and heifers are recorded at 12 and 18 months
- Scrotal circumference of young bulls is recorded
- Age at first calving of heifers is recorded

NB: Farmers responsible for data collection

On-Station Evaluation

Goodhope Central
Bull Performance Testing Centre

On Station Evaluation cont.

- First Pilot station established at Goodhope Research ranch
- 60 bulls will be tested at a time(15 bulls per breed from one or more farmers)

PARAMETERS EVALUATED:

- Post weaning growth rate
- Feed Conversion ratio (Feed efficiency)
- Body length and shoulder height (Beefing capacity)
- Scrotal Circumference (breeding potential)

Eligibility: Guidelines

- On- Farm Evaluation:
  - Anyone regardless of location
  - Farmers with handling and weighing facilities
  - Herd has to follow a defined breeding season

- On Station Evaluation
  - Only stud breeders can enroll
  - Farmers who participated in stage 1

Carcass Evaluation

- Evaluation of carcass quality of progeny of bulls tested under stages 1&2.
- 8-10 progeny of each bull will be evaluated
- Evaluation will be done at MITC abattoir in Lobatse

Traits Evaluated

- Carcass weight
- Dressing % Fat %
- Muscle/Bone ratio
- Meat tenderness
- Marbling effect
- Lean color

Legal & Institutional Framework:

Facilitating implementation of the new act (Livestock Improvement Act of 2009)

Act envisioned to drive livestock improvement in general in the country through:

- the establishment of an Animal Production Advisory Board
- the establishment of the office of the Registrar of Livestock Improvement
- the establishment of national livestock breeders societies
- Est. of Stud Book/herd book
- Development of the Regulations of the Act

Main Challenges of the Scheme

- Lack suitable structures at farm level (lack of handling facilities, weighing scales)
- Poor animal husbandry practices (poor recording keeping, poor animal identification)
- Limited understanding of the benefits of performance recording
- Low farmer commitment: reliance on DAR mobile scales
- Inadequate capacity (manpower (to monitor data collection on farm), transport and funds to run the scheme)
- Database to manage the data not yet in place
- Decline in number of farmers participating
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Achievements

- Interim Coordinating Committee (DAP &DAR, BCA, farmers representative) is in place
- Stakeholders awareness w/shops on the scheme and the Act being done (Farmers associations)
- Good/hope Bull Performance Testing Centre established
- Operational Guidelines of the centre developed
- 3 test runs of the Bull testing centre done using DAR animals
- Interest by some stud breeders to register (e.g Brahman, Boergoat)
- The Animal Production Advisory Board and the Registrar have been put in place

THANK YOU