

# COST AND BENEFITS OF ANIMAL IDENTIFICATION AND PERFORMANCE RECORDING

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# COST AND BENEFITS OF ANIMAL IDENTIFICATION AND PERFORMANCE RECORDING: AN ECONOMIC EVALUATION OF COMMERCIAL BEEF CATTLE PRODUCERS

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# CONTENT

- Introduction
- Economic evaluation and the concept of opportunity cost
- Different applications of AI and PR among producers
  - Stud breeders
  - Commercial producers
- Cost and benefits of AI and PR
- Comparing the cost and benefits
- Conclusion

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# INTRODUCTION

- Main objective of AI and PR?
  - Evaluation of farm livestock
- How to achieve objective?
  - Convince as many livestock farmers as possible to participate in the identified animal recording scheme
- But...
  - How do you convince a producer to participate

# INTRODUCTION

- Commercial beef cattle producer
  - Goal: Maximize monetary returns from operations
  - Extensive production → Challenges, cyclical
  - More concerned about own herd than national herd
- How to encourage participation
  - Cost / benefit analysis → Benefits > Cost
- Calculate according to economic outcome, not accounting outcome

# ECONOMIC EVALUATION AND THE CONCEPT OF OPPORTUNITY COST

- $\text{Income (Revenue)} - \text{Cost} = \text{Profit}$
- Accounting profit
  - *Difference between all revenues or receipts of the firm and all expenses paid.*
- Economic profit
  - *Difference between all revenues or receipts of the firm and the value of all inputs used by the firm, whether paid for or not.*
- Economic profit takes *opportunity cost* into account
  - *The value of a resource in its highest alternative use.*

# DIFFERENT APPLICATION OF AI AND PR AMONG PRODUCERS

- Diverse differences between beef cattle producers → Impossible to calculate the generic cost and benefits
- Producers classified into:
  - Stud breeders
  - Commercial producers
- Stud breeders and commercial producers further classified:
  - Size of operation (number of animals)
  - Type of production system

# DIFFERENT APPLICATION OF AI AND PR AMONG PRODUCERS

- Stud breeders: Registered stud of certain breed
- Forced by specific Breeders' Society to do PR for each calve:
  - Registration numbers of Dam and Sire
  - Weaning weight
  - Female calves: 12 or 18 month weight
  - Male calves: 12 and 18 month weight / Growth test (FCR & ADG)
  - DNA Test if Sire is unknown
- Commercial producers: Any breed / cross-bred
  - Do not have to comply to any type of PR
  - Records for own use → Varies between producers
  - Some producers same PR as stud breeders
  - Some producers do not even use individual identification

# COST AND BENEFITS OF AI AND PR

- Varies between producers/breeders and is thus subjective
- Costs
  - Commercial producers
    - Identification mark (Ear tag)
    - Data recording (PC Programme / PR fees)
    - Opportunity cost (Extra time of producers / workers)
  - Stud breeders
    - Registering authority fees (SA Studbook)
    - Breeders' Society fees

# COST AND BENEFITS OF AI AND PR

- Takes time to realise all possible benefits
- Benefits
  - Commercial producers
    - Increase in weaning percentage
    - Better calves (weaning weight)
    - Bulls chosen on breeding values
  - Stud breeders
    - Higher prices for registered/stud calves
    - Generic marketing
    - Generic breed research

# COMPARING THE COST AND BENEFITS

	<b>Farm Information</b>		
<b>Productive cows</b>	200		
<b>Bulls</b>	6		
<b>Heifers at bull</b>	30		
<b>Young heifers</b>	30		
<b>Total Animals</b>	266		
<b>Weaner R/kg</b>	R19.00		
<b>C-grade R/kg</b>	R44.00		
	<b>Production System</b>		
<b>Physical Information</b>	<b>Base</b>	<b>Commercial</b>	<b>Stud</b>
Weaning %	65%	88%	88%
Calves weaned	130	176	176
Calves marketed	100	146	73
Cows culled	30	30	30
Stud Females	0	0	36
Stud Males	0	0	7
Weaning weight	220	230	230

# COMPARING THE COST AND BENEFITS

	<b>Base</b>	<b>Commercial</b>	<b>Stud</b>
<b>Income</b>			
Calves	R418 000	R638 020	R319 010
Cows	R330 000	R330 000	R330 000
Stud Females	R-	R-	R314 640
Stud Males	R-	R-	R91 770
<b>Cost of I &amp; PR</b>			
Tags	R-	R3 990	R3 990
Production Records	R-	R3 232	R3 232
Opportunity Costs	R-	R8 000	R8 000
Registration Costs	R-	R-	R10 019
<b>Net Benefits</b>	<b>R748 000</b>	<b>R952 798</b>	<b>R1 030 179</b>
<b>% Difference</b>		<b>27%</b>	<b>38%</b>

# CONCLUSION

- The estimated results showed that AI and PR may have more benefits than costs.
- In order to start an AIR scheme in a country, the first thing you need is participants (producers).
- If an AIR scheme is started without participants it will run at a loss for many years.

**Thus, start at the beginning and take  
SMALL steps to achieve **BIG** things**

**Thank You**

**Dankie**

**Ke a leboha**

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