DEER HERD PERFORMANCE

Introduction to Richmond Wrightson Deer Performance Project

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1. Introduction

The concept of this project was initiated by the Hawkes Bay Branch of the New Zealand Deer Farmers Association in July 1995.

Members of this branch were interested in benchmarking performance on deer farmers so that individual farmers could assess their own performance. Normal performance levels were difficult to ascertain.

Viable farm management practices could then be identified with good performance levels which would impact on deer farming profitability.

Members of the Hawkes Bay Branch of New Zealand Deer Farmers Association became aware of various funding options which were available, and thus the project and concept became a reality.

2. Objectives

The stated objective in the project proposal is "To increase on-farm deer productivity and profitability by achieving set performance targets for venison and velvet production".

This objective was to be achieved through the development, refining and implementation of a mix of new and existing technologies in 3 key areas:

2.1 Nutrition

- use of Stockpol computer modelling
- pasture quality assessment
- analysis of supplementing feeds
- residual dry matter assessment

2.2 Animal Health

- condition scoring of deer
- pregnancy scanning of hinds
- faecal egg/larval counts
- trace element testing

2.3 Genetic Improvement -

- data base analysis of farm performance data
- on farm sire group referencing

3. Performance Indicators

Current performance levels before the program commenced were identified from a variety of sources. These sources included:

- Farmers within the Hawkes Bay Branch of NZ Deer Famers Association and many guesstimates from a range of deer farmers.
- A Massey University PhD thesis titled "Deer herd Health & Production Profiling" by Laurent Audigé, which was a survey taken from 15 farms in the lower North Island of New Zealand under the supervision of Peter Wilson and Roger Morris.
- Client data and Survey results from Ian Walker (Vet Services (HB) Limited) and Roy Fraser (Agriculture (NZ) Limited).

Program targets were then identified also for the various classes of stock (see Table 1).

A financial model was created based on 1167 stock units deer farm (215 hinds fawning, 130 3-year + velvet stags, and replacements) to compare existing performance and proposed target performance. There was an expected improvement of $26,748 per farm per year ($22.80/s.u. wintered) once target performance levels were achieved (See Table 2).

Table 1 Current and Proposed Key Performance Indicators

Key Performance Indicator	Class of Stock	Actual Performance	Range	Program Targets
Fawning %	R2 hind	65%	45-85%	85%
	MA hind	80%	70-91%	93%
Weaning weights (March)	Wnr hind	42kg	37-52kg	48kg
	Wnr stag	45kg	40-54kg	52kg
Yearling weights	Hind 12 mth	62kg	55-80kg	80kg
	Stag 12 mth	75kg	60-90kg	95kg
	Hind 16 mth	80kg	65-110kg	90kg
	Stag 16 mth	92kg	80-115kg	110kg
Velvet weight (kg/Stag)	Spikers	0 2kg	0 15-0 35kg	0 3kg
	R2 Stag	1 0kg	0 7-1 7kg	1 3kg
	R3 Stag	1 4kg	1 2-2 0kg	1 95kg
	MA Stag	2 1kg	1 5-3 2kg	2 75kg
Velvet Grade	3 yr Stag	D	E-B	C+
	MA Stag	D & C	D-B+	B+-SA

Table 2 Financial Summary of Current and Proposed Performance

	Existing Performance	Improved Performance	Expected Gain
Deer Sales	$44219	$58841	$14622
Velvet Sales	$39432	$56872	$17440
(Less Production Costs)	($8879)	($14193)	($5314)
	$74772 p a	$101520 p a	$26748 p a

4. Methodology

The implementation of this project involved formation of 4 key groups.

4.1 Focus farm

The functions of Focus Farm are:.

- Implement all relevant management practices and new technologies targeting maximised performance.

- Implement a detailed monitoring program incorporating new formalised monitoring systems.
- Use the Focus Farm to demonstrate to the Deer Farmers of Hawke's Bay.

4.2 Satellite Farms (12 in total)

The purposes of Satellite Farms are:

- Provide further opportunity to measure the impact of applied technologies.
- Provide replication and validate response measurements.
- To utilise and reinforce the technology transfer program.
- Provide district coverage (geographically).

4.3 Management Group

This is a small group of Hawke's Bay DFA members including farm consultant Roy Fraser and veterinarian Ian Walker whose responsibility is to manage the project including financial control, attending to sponsors contractual requirements and organising the technology transfer part of the program.

4.4 Technical Group

This is a group of people with specialised skills in stipulated disciplines including representation from Massey University Deer Unit, Invermay Research Station, Poukawa Research Station, Batchelar Animal Health Laboratory, and farm consultants Roy Fraser and Andrew Mason, veterinarian Ian Walker, and overall project chairman Angus Mabin.

The function of this group is to oversee all technical issues relating to the project including data collection and analysis.

5. What are the farmers recording?

5.1 Farm data:

- number and area of paddocks
- soil tests/pasture analysis/supplement analysis.
- fertiliser applications – area and rate of application.
- financial monitoring – accounts analysis.

5.2 Management Issues:

- monthly residual pasture estimates, including quality.
- Stock reconciliation and grazing histories.
- Key management dates eg. date stag introduced and removed from hinds, identify which stags are mated to which hinds, dates of stag changes, weaning dates, etc.
- Sire groups and parentage.

5.3 Animal Performance:

- liveweight and condition score of all classes of stock four times per year 1st March, 1st June, 1st September and 1st December.
- Pregnancy scanning in May/June.
- Pre-fawning hind assessment of pregnancy.
- Serological testing/liver analysis
- Deer slaughter plant examination.
- Faecal egg/larval results.

5.4 Velvet data:

- button casting dates, velvetting dates, velvet weight, velvet grade, age of stags.

6 Data Collection

Monthly pasture residual dry matter estimates, pasture quality assessment, and stock reconciliations are entered by the farmer on a prepared form and sent to the database immediately.

Three-monthly weights and condition scores and other relevant information are also sent in regularly and entered onto the database.

It is interesting to note that over half of the participants send their information to the database by computer disc or e-mail, having spent time to enter data on their own computers. This saves a huge amount of time by the project computer operators.

7. Farmer Motivation

After specific training of farmers in some areas, the quality of information admitted was very good.

The farmer motivation was maintained by:

- regular on farm meetings with the farmers concerned.
- Regular feedback of group data to the farmers.
- Peer pressure between group members especially when information had not been submitted. ie. blank spaces in farmer/data areas.
- Comparison of performance between farmers eg. winter growth rates, R2 hind in fawn rates.
- Stimulated discussion of specific management/performance factors pertinent to the time of the year in which the on farm meetings were occurring eg. mating management, winter growth rates.
- General positive energy input and motivation from the farm consultant and veterinarian on an individual and group basis.

8. Sponsorship

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