Pastoral Industry Survey 2004

Alice Springs

Northern Territory Government

Dear Reader,

There is an old saying in management: if you can't measure it, you can't manage it ...

The Alice Springs Pastoral Industry Survey for 2004 was a project proposed to the Alice Springs Pastoral Industry Advisory Committee (ASPIAC) back in August 2004. This project was endorsed by ASPIAC because of the following objectives -

1. To document the state of the cattle industry in the Northern Territory to better enable government and industry to monitor the performance of research and development through time.
2. To collect information to better allow the needs of the industry to be addressed by Department of Primary Industry, Fisheries and Mines and groups such as Industry Advisory Committees and the Northern Territory Cattleman's Association.
3. To determine the most effective ways of providing extension information to producers in each region and to initiate or improve communication between DPIFM staff and cattle producers.
4. To give the industry an up to date picture of management practise to better tailor future directions for research.

The results from this survey have been extremely valuable and have provided a snapshot of the state of the industry in 2004. The findings will be critical for decisions that will be made on the direction of the industry and its future development. Thank you for your contribution and participation in the project.

Yours sincerely,

Paul Smith

Chairman, ASPIAC
Tieyon Station

Contents

Table of Figures

Table of Graphs

Table of Tables

Researched and written by Sally Leigo

Acknowledgments

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Executive Summary

The last survey conducted of the pastoral industry in the Alice Springs Region was the *Alice Springs District Cattle Industry Survey* 1979 by Petty, Holt and Bertram. The changes that have occurred in the industry over the past 25 years in some aspects are vast, while in some areas there has been minimal change due to the nature of the environment. This survey was conducted with the cooperation of 40 of the 64 pastoralists that are located in the region and is taken as representative of the Alice Springs Region.

The average size of stations in the Alice Springs Region is 3885 km^2, with the most common herd size being between 5000 and 7000 head. The genotype of these cattle is predominantly *Bos taurus* (60 per cent of stations) and *Bos indicus* cross (43 per cent). The majority of stations have a management structure in which the station owner of the station is also the manager (44 per cent). On average the number of permanent staff required to manage a station is three with two seasonal staff employed for periods such as mustering.

So what is the nature and production from a cattle station in the Alice Springs Region? Forty-five per cent of pastoralists describe their cattle enterprise as being solely a breeding operation. This type of enterprise fits in with the type of cattle being sold in the Alice Springs Region. In 2004 the most common animals sold were two-year-old steers and cull-for-age cows. Bullocks were not a high proportion of the cattle sold. Seventy-five per cent of pastoralists choose to send a proportion of their sale cattle to abattoirs. The average estimated weaning percentage from the breeder cattle joined each year is 76 per cent.

These outcomes in production have been achieved efficiently through careful management. Cattle are mustered on average twice per year. The first muster is held between February and July, while the second muster occurs between July and December. The most common months for mustering to occur are April and September. With the unpredictable nature of rainfall in the region, the majority of pastoralists choose to continuously join their breeders with bulls. The percentage of bulls joined with cows is, on average, 4.6 per cent but this can range from 2 per cent to 10 per cent.

Weaning is commonly practised by pastoralists because it allows cows to recover their body condition sooner before their next pregnancy and also allows pastoralists the opportunity to educate their future breeding and production stock. Production is further encouraged from dry pasture through the use of supplementation. Eighty-one per cent of pastoralists choose to feed their cattle supplements, such as urea and phosphorus, through lick blocks, loose mix or water medicators.

Radio frequency identification devices (RFIDs), which comply with the National Livestock Identification System (NLIS), are used by 72 per cent of stations in the district for tagging primarily sale cattle (50 per cent of stations) and all stock (32 per cent). The high uptake rate of this technology has been as a result of the mandatory requirements of other states.

The important grazing land management issues are grazing strategies, watering points, introduced pasture, fire management, native tree and shrub build up, weeds and feral animals. Grazing strategies used by pastoralists include spelling (65 per cent of stations) and continuous grazing (55 per cent). The placement of permanent water on a station influences the grazing patterns of cattle. The average number of permanent watering points is 27, with producers planning an average distance between watering points of 9km. Buffel grass (*Cenchrus ciliaris*) is the only introduced pasture present on cattle stations in the region and, of those surveyed, makes up an estimated area of 6098 km^2. Fire in 2004 had a medium to low impact on stations in the region, with on average, wildfires affecting 23 per centand controlled fire affecting 13 per centof a station. Seventy per cent of pastoralists had noticed a build up of native tree and shrubs but only 37 per cent said this was of major concern.

Weeds and feral animals limit production from cattle stations because they compete with cattle for grazing land. The weeds that pastoralists regard as having the greatest impact include athel pine *(Tamarix aphylla)*, mexican poppy *(Argemone ochroleuca)* and mimosa bush *(Acacia farnesiana)*. Pastoralists are attempting to control athel pine and rubber bush *(Calotropis procera)*. The average cost of controlling weeds on a station is $2129 a year. The feral animals of highest concern are wild dogs and camels. The average cost to a station to control feral animals is $3679.

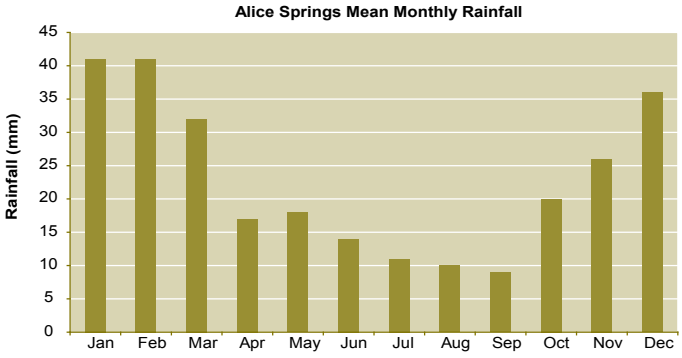
Pastoralists were asked what hurdles they encounter in managing their station, the factors that impact the most on the profitability of their enterprise and the issues that affect the sustainability of the environment on their station. The biggest difficulties in managing stations are the seasons, staff availability and the cost of production. The biggest factors that pastoralists felt affected the profitability of their enterprise were seasons, cattle prices and staff. The most common issues described as affecting the sustainability of the environment on stations were seasons and fire. The common factor between all these prioritised limitations was the seasons and their unpredictability.

With the number of different aspects that require management on a cattle station, pastoralists are required to work hard for long hours, seven days a week in isolated areas of the Alice Springs Region. The reason why pastoralists choose to live in the industry is that they enjoy the lifestyle (53 per cent of pastoralists). The lifestyle was felt to be healthy and providing a good environment for raising a family.

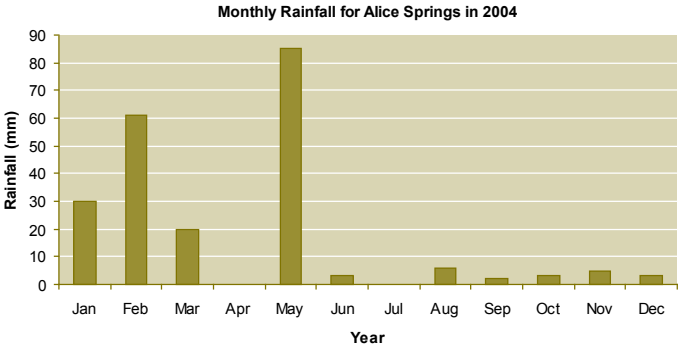
In comparing the pastoral industry of 1979 with 2004, there has been little change in the size of stations, who manages them, the amount of boundary fencing or the herd size. Major changes have occurred in activities that increase the efficiency and production of stations. For example, the number of paddocks on a station has doubled since 1979. Shorthorns were the most common breed in 1979 but in 2004 Herefords and Santa Gertrudis are the most common breeds. Weaning of calves was a practice only done by 35 per cent of stations, in 2004 this has increased to 95 per cent of stations. Supplementary feeding was minimal in 1979 but in 2004, 81 per cent of stations supplemented their cattle with urea and phosphorus. The number of bulls pastoralists aim to run has also increased from an average of 3.5 per cent to 4.6 per cent.

An area of greater focus for pastoralists since 1979 is that of grazing land management. Pastoralists are involved in Landcare, Environmental Management Systems and Farmbis funded courses. To address the land management activities, the 2004 survey covered additional issues of carrying capacity, grazing strategies, woody weeds, fire and drought management.

GRAPH 1 – ALICE SPRINGS MEAN MONTHLY RAINFALL



GRAPH 2 – ALICE SPRINGS MONTHLY RAINFALL FOR 2004



Introduction

The Alice Springs Region is semi-arid to arid with an average rainfall that varies from 100mm in the south-east to 350mm in the north. Rainfall of the region is summer dominant, especially in the north (see Graph 1).

Pasture types of the Alice Springs Region were described by Bastin, Shaw and Dance (1996) with the most common being Spinifex sandplains and Dune fields (140,000 km^2). The most productive country is the Mitchell Grass Plains (800 km^2), but the most common occurring pasture type of moderate to high productivity is that of open woodlands (18,000 km^2). This type of country is made up of the more desirable species of grass such as the oat grasses (*Enneapogon spp*.) and umbrella grass (*Digitaria coenicola*). Other pasture types found in the region include Mulga Shrublands (30,000 km^2), Gidyea Woodlands (19,000 km^2), Calcareous Shrubby Grasslands (6,000 km^2). Chenopod Shrublands (11,000 km^2), Clayey Stony Slopes (750 km^2), Alluvial Plains of Major Rivers (5000 km^2), Small Hills (33,000 km^2) and Mountain Ranges (34,000 km^2).

The year 2004 was a mixed one for most pastoralists. Rainfall was limited, fuel prices were increasing but cattle prices reached a record high level. Rainfall in Alice Springs was below average and there was no significant summer rainfall (see Graph 2). Rain was received in the early winter but this did not produce the bulk of the pasture required. The lack of summer rainfall for 2004/2005 saw the majority of the Alice Springs Region being drought declared.

Fuel prices continued to rise especially during the middle of the year. Average oil prices for 2004 were $US 36.05 a barrel, this was a 22 per cent increase from 2003. This rise in oil prices was felt by pastoralists who are reliant on diesel for the day to day running of their stations.

Cattle prices, on the other hand, were very favourable, benefiting pastoralists who were destocking in response to the dry conditions. At the Alice Springs Annual Show sale, record prices were paid for all store cattle. Steers made on average $603 per head; heifers averaged $478 per head and mickey bulls averaged $460 per head.

Methodology

The Pastoral Industry Survey findings are drawn from 40 stations in the Alice Springs Region out of a total of 64. This sample of stations is regarded throughout the report as being representative of the whole region. By 2004 ninety-nine Property Identification Codes (PICs) had been allocated suggesting the total number of stations was 99. However a number of stations are being managed jointly or are not currently active so 64 pastoral properties with stations over 300 head in size have been recognised for the purpose of the survey.

The Alice Springs Region is an area that stretches from Barrow Creek in the north, the South Australian border in the south, west to the West Australian border and east to the Queensland border. Pastoral stations in the Alice Springs Region make up a total area of 218,859 km^2. Within this report there are two districts discussed, the Northern Alice Springs District (incorporating Northern Alice Springs and Plenty)and the Southern Alice Springs District. (see Map 1)

The results presented have generally been reported as percentages. The majority of questions answered did not stipulate a single answer and often multiple answers were provided. This has meant that in some of the data, the percentages do not total 100.

1. Picture of the Alice Springs Pastoral Industry 2004

Size

Station Size

The average size of an Alice Springs cattle station is 3885 km^2, (range 450 - 10000 km^2). (See Table 1 & 2)

Number of Paddocks and Their Size

The average number of major paddocks is 11 (range 3 - 90) (see Table 3). In the Northern Alice Springs District the average number of paddocks is 14 (3 - 90). In the Southern Alice Springs District the average is 8 (4.5 - 17).

The average size of a major paddock is 335 km^2 (range 13 - 1500 km^2) (see Table 4). In the Northern Alice Springs District the average size is 364 km^2 (73 - 1500 km^2) and in the Southern Alice Springs District the average size is 343 km^2 (30 - 800 km^2).

MAP 1 - DISTRICTS OF THE NORTHERN TERRITORY

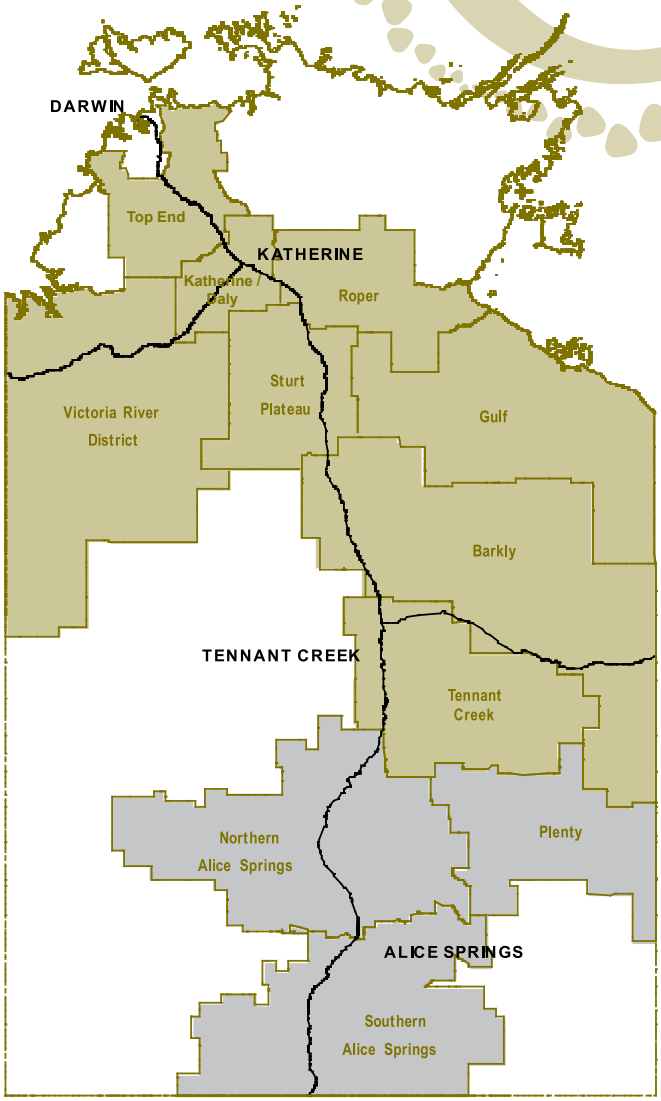


TABLE 1 – AVERAGE STATION SIZE BY DISTRICT

	AVERAGE SIZE (KM^2)
Alice Springs Region	3885
Northern Alice Springs District	3452
Southern Alice Springs District	4255

TABLE 2 – AVERAGE STATION SIZE COMPARED TO TOTAL HERD SIZE

TOTAL HERD SIZE	AVERAGE SIZE (KM^2)
Not Stated	3513
300-1000	544
1000-2000	840
2000-5000	3506
5000-7500	4435
7500-10000	5350
10000-15000	6823
15000-20000	10000

TABLE 3 AVERAGE NUMBER OF MAJOR PADDOCKS BY TOTAL HERD SIZE

TOTAL HERD SIZE	AVERAGE NUMBER OF PADDOCKS
Not Stated	8
300-1000	17
1000-2000	11
2000-5000	7
5000-7500	16
7500-10000	9
10000-15000	25
15000-20000	12

TABLE 4 – AVERAGE SIZE OF MAJOR PADDOCKS BY TOTAL HERD SIZE

TOTAL HERD SIZE	AVERAGE SIZE (KM^2)
Not Stated	266
300-1000	30
1000-2000	82
2000-5000	499
5000-7500	369
7500-10000	446
10000-15000	180
15000-20000	100

TABLE 5 – MANAGEMENT STRUCTURE

	% OF STATIONS	NORTHERN ALICE SPRINGS DISTRICT (% OF STATIONS)	SOUTHERN ALICE SPRINGS DISTRICT (% OF STATIONS)
Company / Manager	15	13	21
Indigenous Owned Land	8	19	0
Owner / Manager	44	44	42
Private / Lessee	8	13	5
Private Owned / Manager	21	13	26
Family Trust	3	6	0
Other	3	0	5

Ownership

Management Structure

The most common form of management structure of cattle stations is that of owner/manager (44 per cent of stations) where the owner of the station is also the manager (see Table 5). Twenty-one per cent of stations are privately owned and employ a manager, and 15 per cent are company owned and employ a manager. Some stations have structured their business as a company with a current family member being employed as the manager; this situation is also being used for succession planning for the management of the station. Indigenous owned land and privately owned land that is being leased each make up 8 per cent.

There is no real difference in management structure between the two districts - they both have the most common structure of an owner/manager. In the Northern Alice Springs district the second most common form of ownership is that of Indigenous-owned land while in the Southern Alice Springs District privately owned land employing a manager is the second most common structure.

Seventy-five per cent of the cattle stations are run as an individual station while only 23 per cent run the station as an integrated production system with other stations in the region or interstate.

Length of Ownership and Management

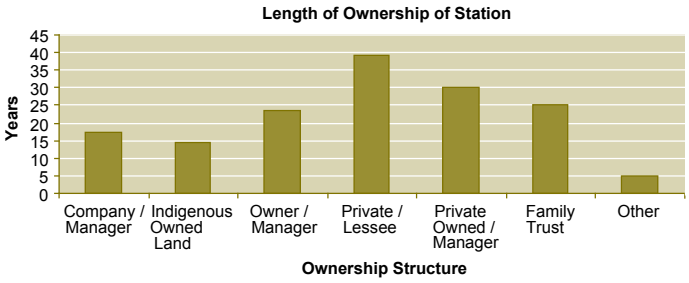
The average number of years that a station has stayed under the same ownership is 25 (range 5 - 85 years) (see Graph 3). This average did not differ between the Northern and Southern Alice Springs Districts.

The average number of years that a manager has worked on a cattle station is 16 years (range 1 - 44 years) (see Graph 4). There was no difference between the number of years a manager had been working on a station between the Northern and Southern Alice Springs Districts.

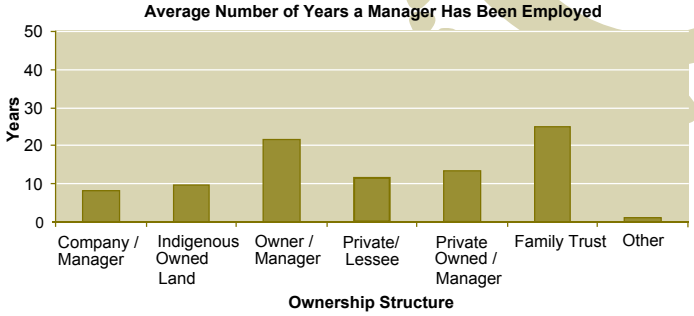
Staff Employed

On average there are 3 permanent and 3 seasonal employees on a cattle station (see Graph 5). This figure changes with the size of the station; for example a station that is running a herd of between 7500 - 10000 head employ on average 5 permanent and 6 seasonal employees. A cattle station that has a herd of 2000 - 5000 employ 3 permanent and 4 seasonal employees on average; and those with a herd of less than 1000 do not employ any seasonal employees (see graph 6).

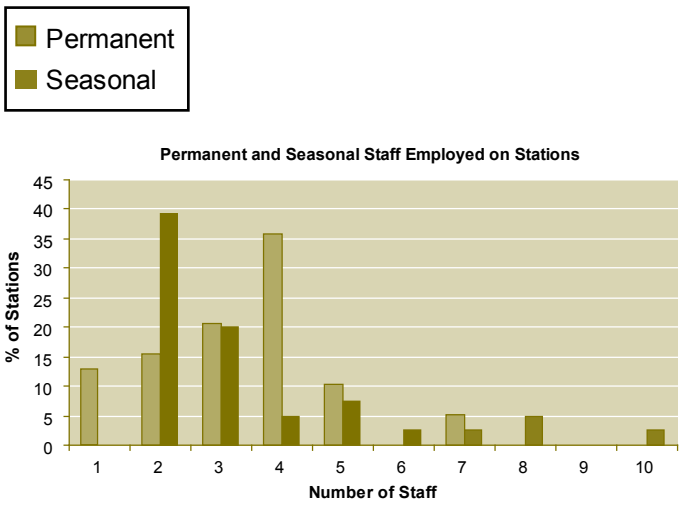
GRAPH 3 – LENGTH OF OWNERSHIP OF STATION



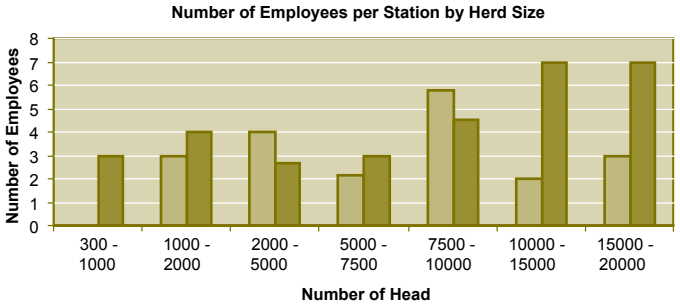
GRAPH 4 - AVERAGE NUMBER OF YEARS A MANAGER HAS BEEN EMPLOYED ON THE STATION



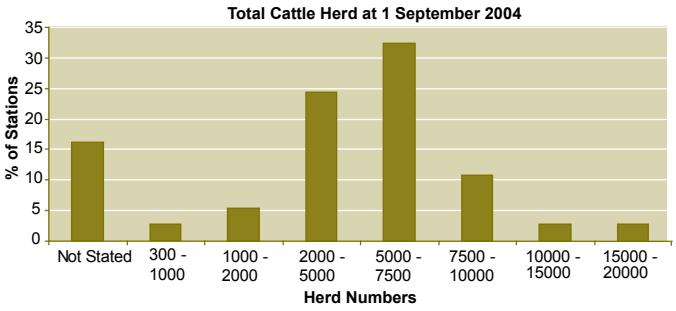
GRAPH 5 - PERMANENT AND SEASONAL STAFF EMPLOYED ON STATIONS



GRAPH 6 - NUMBER OF EMPLOYEES PER STATION BY HERD SIZE



GRAPH 7 - TOTAL CATTLE HERD 1 SEPTEMBER 2004



Number of Cattle

Total Number of Cattle

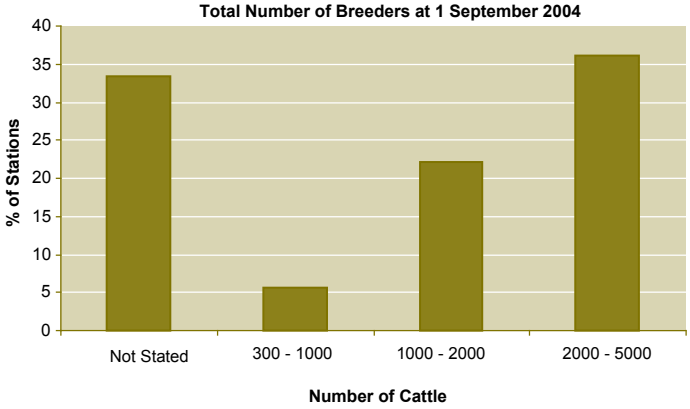
The most common total herd size for the Alice Springs Region is 5000 - 7500 (32 per cent of stations) followed by 2000 - 5000 (24 per cent). (see Graph 7)

Only one station in the Alice Springs Region acts as a depot for cattle.

Number of Breeders

The most common breeder herd in the Alice Springs Region is between 2000 - 5000 (36 per cent of stations) followed by 1000 - 2000 (22 per cent) (see Graph 8). Thirty three per cent of pastoralists did not respond to this question as they had provided their total herd numbers. On some stations there is more than 5000 head of breeders.

GRAPH 8 – TOTAL NUMBER OF BREEDERS 1 SEPTEMBER 2004



GRAPH 9 – MAIN CATTLE ENTERPRISES

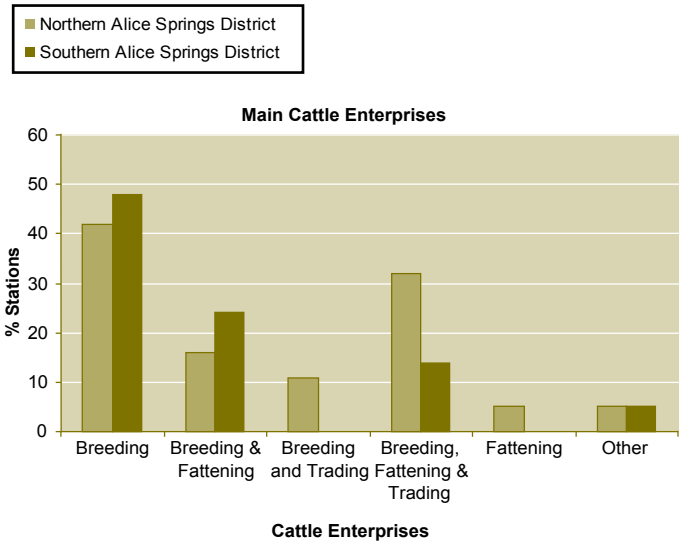
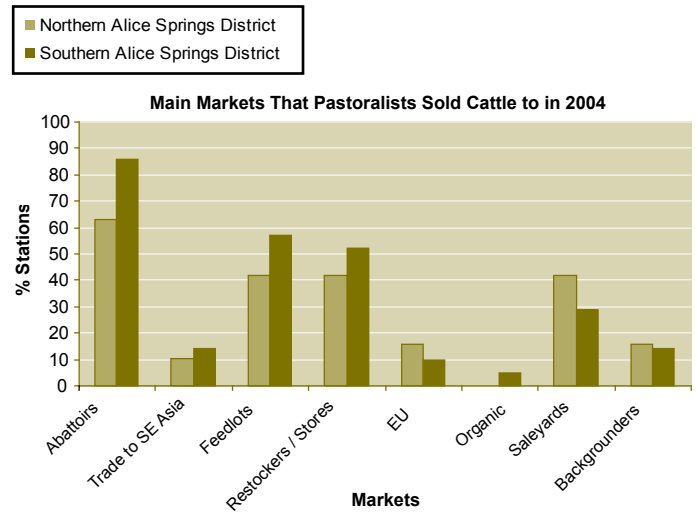


TABLE 6 - MAJOR TYPE OF CLASS OF STOCK TURNED OFF IN 2004

	MAJOR TYPE OF CLASS OF STOCK (% OF STATIONS)	2ND TYPE OF CLASS OF STOCK (% OF STATIONS)	3RD TYPE OF CLASS OF STOCK (% OF STATIONS)
Bullocks	8	8	3
Bulls	0	8	6
Cows	21	21	27
Cows and Calves	5	16	9
Heifers	0	18	24
Jap Ox Steers	3	0	3
PTE Heifers	0	3	0
Spayed Cows	0	3	3
Steers	54	18	27
Weaner Heifers	0	5	6
Weaner Steers	5	0	6

GRAPH 11 – MAIN MARKETS THAT PASTORALISTS SENT CATTLE TO IN 2004



2. Management Practices of the Alice Springs Pastoral Industry 2004

Turn-off and Markets

Main Types of Cattle Enterprises

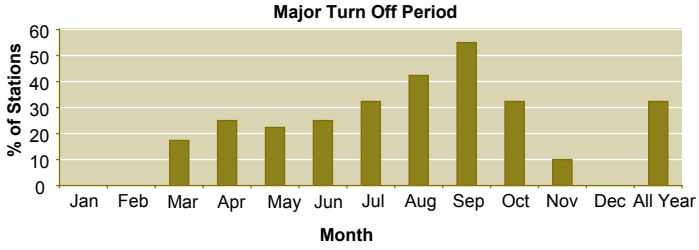
Forty five per cent of pastoralists describe their main cattle enterprise as being solely a breeding operation. The other significant cattle enterprises in the region include breeding, fattening and trading (23 per cent of stations) and breeding and fattening (20 per cent). There is little difference between the Northern and Southern Alice Springs Districts in terms of the most common cattle enterprise being breeding but there are more pastoralists in the Northern Alice Springs District who describe trading cattle as being part of their main cattle enterprise. Thirty two per cent of pastoralists in the North describe their enterprise as breeding, fattening and trading compared with 14 per cent of pastoralists in the Southern Alice Springs District (see Graph 9).

Main Types of Animals Turned Off and When

Pastoralists were asked to list the top three types of animals that they turned off in 2004. The most significant turn-offs that pastoralists identified were two-year-old steers with an average weight of 418kg (54 per cent of stations) (see Table 6).

The main turn-off period for cattle is August (43 per cent of stations) and September (55 per cent). This is similar in the Northern Alice Springs District with August (53 per cent) and September (63 per cent); in the Southern Alice Springs District July (38 per cent) and August (48 per cent) is the main turn-off period (see Graph 10).

GRAPH 10 - MAJOR TURN-OFF PERIOD

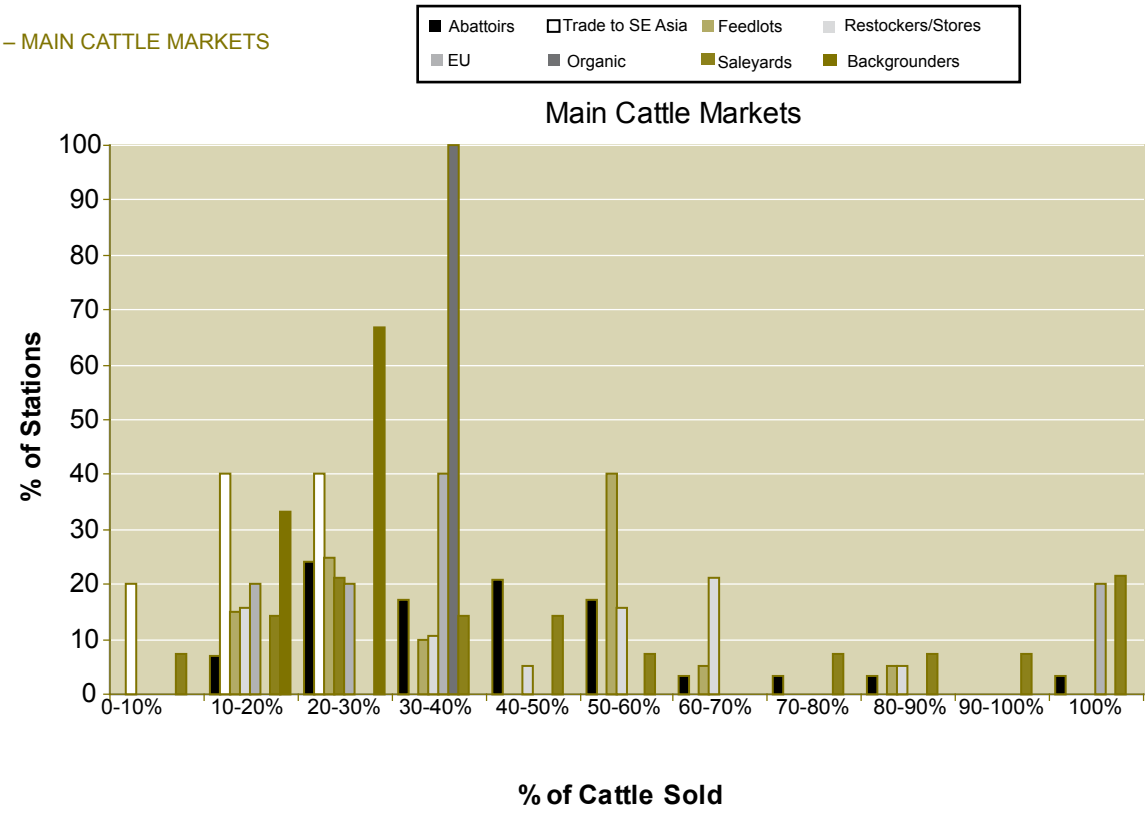


Type and Location of Markets

In 2004, 75 per cent of Alice Springs pastoralists participated in the abattoir market, with 50 per cent selling cattle to feedlots and 48 per cent as stores. There was no difference between the Northern and Southern Districts with regards to markets. (see Graph 11)

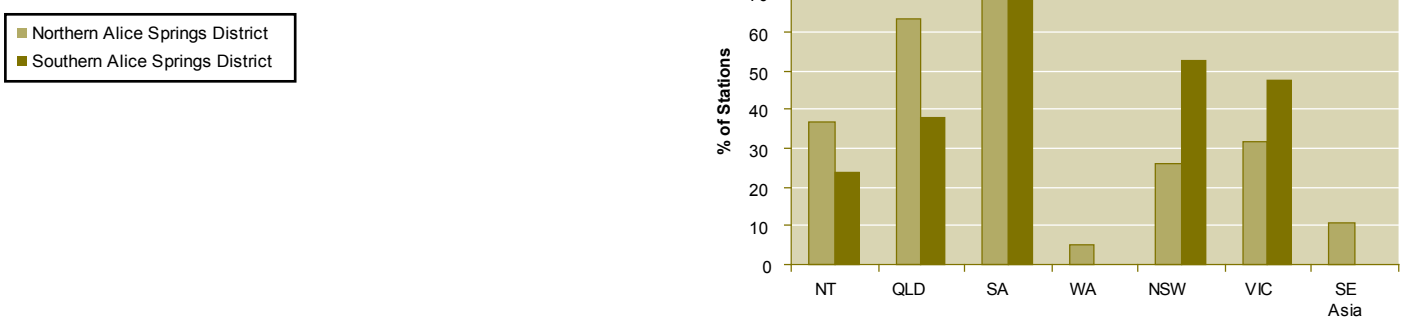
Of those pastoralists who sold cattle to the abattoir market, 24 per cent of pastoralists sold 20 - 30 per cent of their sale cattle (range 10 - 100 per cent). Of those pastoralists who sold cattle to feedlots, 40 per cent of pastoralists sold 50 - 60 per cent of their sale cattle. Twenty-one per cent of pastoralists sold 20 - 30 per cent and 21 per cent of pastoralists sold 60 - 70 per cent of their sale cattle as stores to re-stockers. It should be noted that the 21 per cent of pastoralists who sold cattle to the saleyards, sold 100 per cent of their sale cattle there. (see Graph 12)

GRAPH 12 – MAIN CATTLE MARKETS



Pastoralists sent cattle to market in South Australia (75 per cent of stations), Queensland (50 per cent), NSW (40 per cent) and Victoria (40 per cent). Northern Alice Springs District pastoralists send cattle to market in South Australia (68 per cent), Queensland (63 per cent) and the Northern Territory (37 per cent). Southern Alice Springs District pastoralists send cattle to market in South Australia (81 per cent), New South Wales (52 per cent) and Victoria (48 per cent). (see Graph 11)

GRAPH 13 - LOCATION OF MARKETS PASTORALISTS CHOSE TO USE IN 2004



Of those pastoralists who send cattle to a market in South Australia, 30 per cent of them sent between 50 - 60 per cent of their sale cattle. Of the pastoralists who sold cattle in Queensland, 25 per cent sent 20 - 30 per cent of their sale cattle. Of pastoralists who sent their cattle to NSW, 25 per cent sent 100 per cent and 25 per cent sent 20 - 30 per cent of their sale cattle. Fifty-six per cent of pastoralists who sold cattle in Victoria, sent 20 - 30 per cent of their sale cattle (see Graph 14).

GRAPH 14 - LOCATION OF MARKETS IN 2004

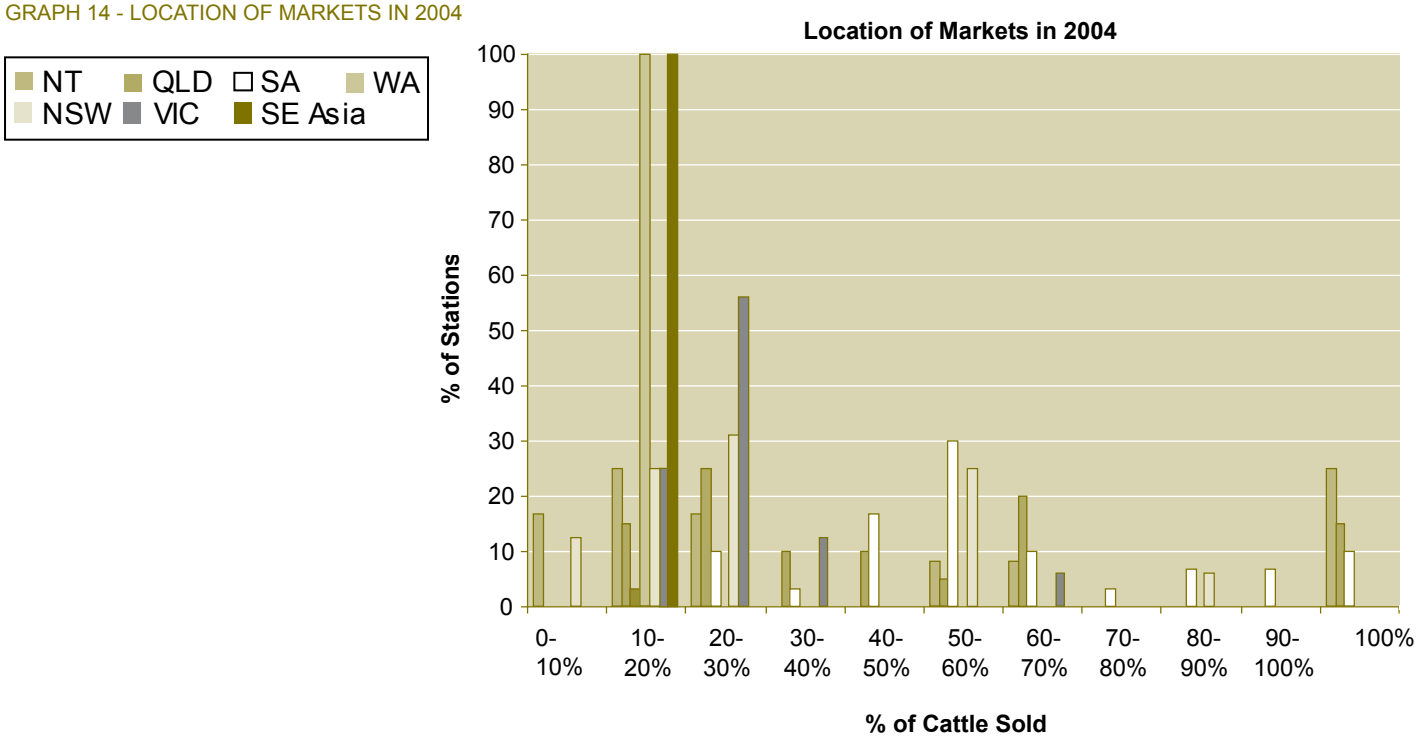


TABLE 7 – NUMBER OF ROUNDS OF MUSTERING PER YEAR BY TOTAL HERD SIZE

	1 ROUND (% OF STATIONS)	2 ROUND (% OF STATIONS)	3 ROUND (% OF STATIONS)
Not Stated	0	100	0
300-1000	0	0	100
1000-2000	0	100	0
2000-5000	0	100	0
5000-7500	50	42	8
7500-10000	100	0	0
10000-15000	0	100	0
15000-20000	100	0	0

Cattle Management

Mustering

The average number of musters that each station performs each year is 2 (range 1 - 4). There is little difference between the Northern and Southern Alice Springs Districts (see Table 7).

All pastoralists with a herd size of 2000 - 5000 conduct 2 musters a year. Of pastoralists with a herd size of 5000 - 7500, 50 per cent conduct a single muster each year while 42 per cent conduct two musters per year.

Pastoralists who only conduct a single muster each year can start mustering as early as March or start as late as September. Pastoralists who conduct two musters a year, can start their first muster as early as February or as late as July. The start of their second muster can be as early as July and as late as December. The two most common months for mustering to occur in the Alice Springs Region are April and September (see Graph 15).

Eighty-eight per cent of pastoralists use trap yards when mustering their cattle. Pastoralists also commonly use motorbikes (70 per cent) and helicopters (43 per cent) to assist with mustering. Eighteen per cent of stations choose to use a combination of trap yards, motorbikes and helicopters when undertaking their mustering (see Graph 16).

Predominant Breed of Cattle

The most common predominant breed of cattle is Hereford (35 per cent of stations) followed closely by Santa Gertrudis (23 per cent) (see Graph 17). Another 6 breeds of cattle were listed and when broken down into their genotypes 60 per cent were *Bos taurus*, 43 per cent were a *Bos indicus* cross and only 7 per cent were pure *Bos indicus*.

Of the Hereford breeders, 25 per cent of Herefords are found in a herd of a size between 2000 - 5000 head. Santa Gertrudis that are bred in the region are most commonly (29 per cent of stations) found in a herd of the size between 5000 - 7500. (see Appendix 1)

Breeding Aims

The main breeding goal of pastoralists is to breed for traits found within the breed of their choice (35 per cent) (see Table 8).

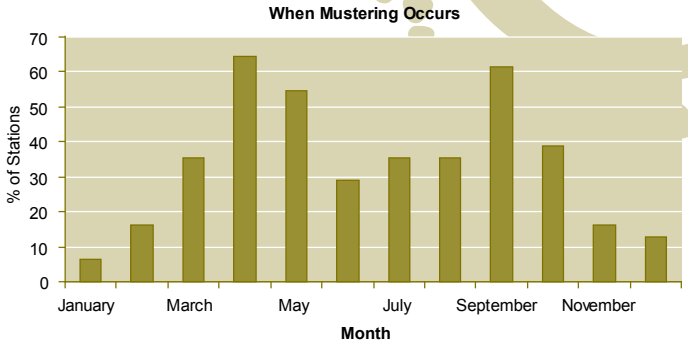
Bulls

The average bull percentage used by pastoralists is 4.6 per cent (range 2 - 10 per cent). In the Northern Alice Springs District they aim to use a bull percentage of 3.6 per cent (2.5 - 6 per cent). In the Southern Alice Springs District they aim to use a bull percentage of 5.4 per cent (2 - 10 per cent).

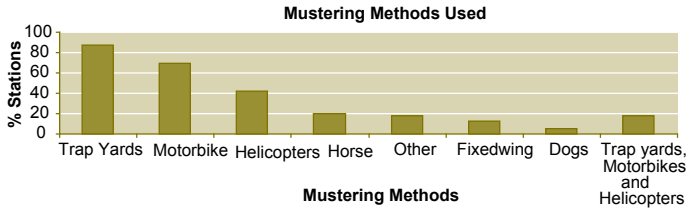
Stations that run a total herd size of 2000 - 7500 head have an average bull percentage of 4.9 per cent. Stations that have a herd size of 7500 - 15000 head have an average bull percentage of 4 per cent. Stations that are smaller (less than 1000 head) have a bull percentage of 2 per cent (see Table 9).

Bulls are sourced throughout the country for breeding herds in the Alice Springs Region. Most are sourced from Queensland (53 per cent of stations), South Australia (53 per cent) and New South Wales (28 per cent) (see Table 10).

GRAPH 15 – WHEN MUSTERING OCCURS



GRAPH 16 – MUSTERING METHODS USED



GRAPH 17 - PREDOMINANT BREED OF CATTLE HERDS

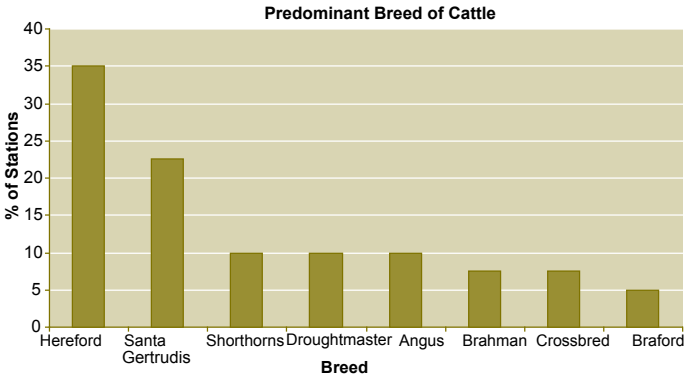


TABLE 8 – BREEDING GOALS OF PASTORALISTS

MAIN BREEDING GOAL	% STATIONS
To select traits within breed	35
To crossbreed to suit market	25
To upgrade to purebred	23
To cross breed for improved herd performance	13
Other	5

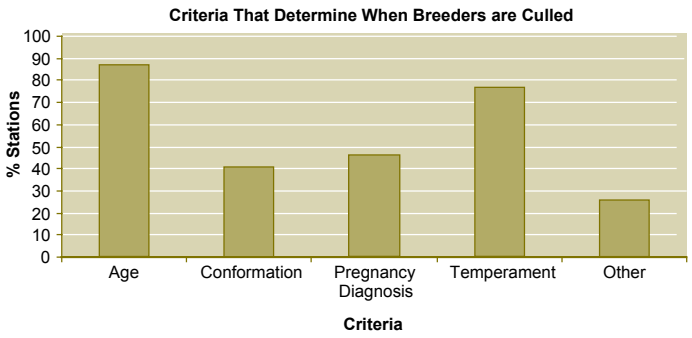
TABLE 9 - AVERAGE BULL PERCENTAGE BY TOTAL HERD SIZE

SIZE OF TOTAL HERD	AVERAGE BULL %
Not Stated	2.6
300-1000	2.0
1000-2000	4.5
2000-5000	4.9
5000-7500	4.9
7500-10000	4.0
10000-15000	4.0
15000-20000	10.0

TABLE 10 - SOURCE OF BULLS FOR STATIONS

	% OF STATIONS
Breed Your Own	20
Commercial Breeders	13
Within Company	0
NT Stud Breeders	15
QLD Stud Breeders	53
NSW Stud Breeders	28
SA Stud Breeders	53
Other	5

GRAPH 18 – CRITERIA THAT DETERMINE WHEN BREEDERS ARE CULLED



When selecting bulls 49 per cent of pastoralists use Estimated Breeding Values (EBVs). Of these pastoralists, the two most important traits to their breeding program are fertility (53 per cent of Stations) and carcase traits (21 per cent). Other traits that are not EBVs that pastoralists use are temperament (100 per cent), structure (93 per cent) and polled (73 per cent).

Fertility testing of bulls is conducted by 28 per cent of stations. Of stations that fertility test their bulls, tests occur on average once every 5 years (ranging from every 2 - 10 years).

Breeder Management

With the majority of cattle stations describing their cattle enterprise as breeding, it follows that weaning management plays an important role in the success of the station. Production from breeders can be measured by the weaning percentage (number of calves weaned/number of cows joined). The average weaning percentage is 76 per cent (ranging from 35 - 90 per cent). There is little difference between the Alice Springs Northern and Southern districts.

Breeder cattle achieve this weaning percentage as a result of continuous mating. Controlled mating of breeder cows is only practised on 3 per cent of stations. Artificial Insemination (AI) is only carried out on 11 per cent of stations and is purely for their own stud cattle.

Twenty-one per cent of Pastoralists use pregnancy testing of breeder cattle as a management tool, with only 5 per cent of stations testing all cows each year.

Pastoralists choose to segregate their breeder cattle. The most common form of segregation of breeders is by age (64 per cent of stations). Other reasons that segregation of a breeder herd occur are pregnancy status (18 per cent), colour (14 per cent), condition (7 per cent) and breed (14 per cent).

Each year, on average, 18 per cent of cows are culled. The average age for culling cows is 8.5 years (range 7 - 12 years). The main criteria used by pastoralists to select which breeders are to be culled are age (87 per cent of stations) and temperament (77 per cent) (see Graph 18).Pastoralists also cited other criteria they used when culling. These including whether the cow was polled (5 per cent) and her colour (5 per cent).

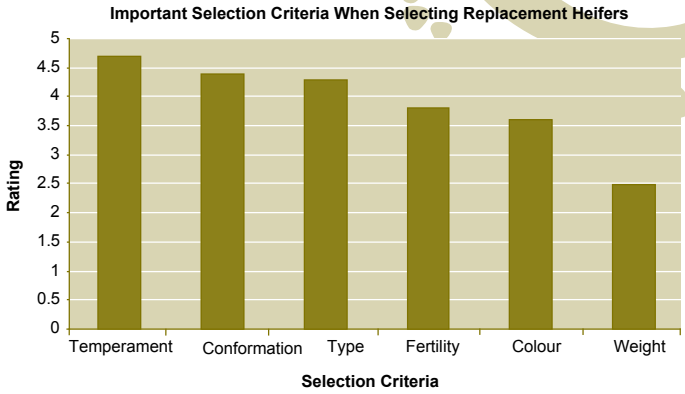
The estimated mortality rate for breeder cows is 3 per cent while in older cows (over 8 years) is estimated at 7 per cent. Mortality rates are hard to estimate due to the extensive size of the paddocks and the minimal contact that pastoralists have with their cattle.

The average number of heifers kept for replacement breeders is 62 per cent (range 10 - 100 per cent). In the Northern Alice Springs District 61 per cent (10 - 100 per cent) and in the Southern Alice Springs District 70 per cent of heifers are kept as replacement (40 - 100 per cent)

The average age that heifers are selected for replacement is 1.5 years (range 0.8 - 2). There is little difference between the Northern and Southern Alice Springs Districts.

Pastoralists were asked to give a score to set criteria that they might use when deciding which heifers to keep for future breeding (see Graph 19). A score of 5 was extremely important and a score of 1 not important.

GRAPH 19 - SELECTION CRITERIA WHEN SELECTING REPLACEMENT HEIFERS



Some pastoralists choose to segregate heifers from their breeder herd. Fifty-eight per cent of pastoralists in the region practise segregation of some form on their heifer herd. Of those pastoralists who do segregate heifers, 38 per cent segregate until the start of the heifer's first joining, 24 per cent segregate until the start of the heifer's second joining and 14 per cent have heifers staying in their age group for life.

In regard to the management of the heifer's health, 37 per cent of stations vaccinate heifers against botulism, 8 per cent a 5-in-1 vaccine and one station gives a 7-in-1 vaccine. Of the pastoralists who vaccinate their heifers for botulism, the timing of administering these vaccines is at weaning (50 per cent of stations) and annually at their muster (36 per cent).

(Note: The more detailed heifer management questions are not reported here but will be reported at the conclusion of the NT Heifer Project).

Management of Young Stock

The management of calves through to adult animals is an important period on a station as they establish the calf for life in regards to its performance and behaviour. The greatest opportunity that pastoralists have to mould their cattle to the type of animal they require is during weaning. The majority of pastoralists wean their calves (95 per cent of stations). Calves are weaned according to their age (77 per cent of stations), while 23 per cent wean at a different weight each year according to seasonal conditions. No pastoralists wean according to the weight of the calf. This made it difficult for pastoralists to estimate the minimum weight of weaned calves. It was estimated however that on average, the minimum weight in the first muster was 158kg, and 161kg at the second muster.

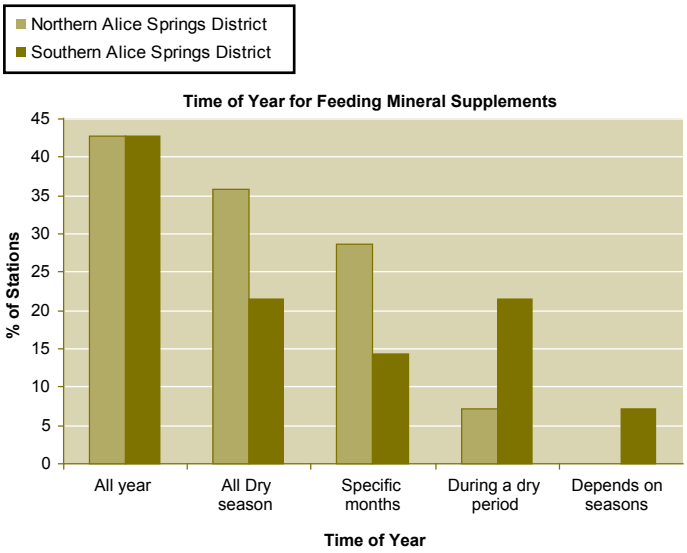
Of the few pastoralists who do not wean their calves, two stations stated that they did not have the infrastructure to be able to wean and one station had encountered problems when previously weaning. One station also mentioned that 2004 was too dry a season to wean.

The most common way of feeding weaners is short - term feeding in the yards with hay (78 per cent of stations). Other practices (one station) include putting glucose through the water medicator that weaners drink from and tailing weaners out in the paddock (see Table 11).

TABLE 11 – FEEDING STRATEGIES FOR WEANERS

STRATEGY	% STATIONS
Short Term Feeding In Yards With Hay	78
Put On Spelled Pasture	41
Other	14
Short Term Feeding In Yards With Concentrate	5
None	3

GRAPH 20 – TIME OF YEAR FOR FEEDING SUPPLEMENTS



Nutrition Management

With short grass-growing seasons and unpredictable rainfall, dry grass is often the only pasture available to cattle for long periods of time. Eighty-one per cent of pastoralists feed their cattle mineral supplements. Of those feeding supplements, 87 per cent feed urea and 20 per cent feed phosphorus. Production feeding is not a practice undertaken by pastoralists in the Alice Springs Region.

Forty-three per cent of pastoralists feed supplements all year, while 25 per cent feed supplements during the dry season (see Graph 20). The Northern Alice Springs District and Southern Alice Springs District differ in when pastoralists choose to supplement. In the Northern Alice Springs District 36 per cent of pastoralists choose to supplement in the dry season, 29 per cent in a specific month and 7 per cent during a dry period. In the Southern Alice Springs district 21 per cent of pastoralists choose to supplement in the dry season, 14 per cent in a specific month and 21 per cent during a dry period.

Pastoralists who are supplementing provide the supplements as lick blocks (75 per cent of stations), while feeding in a loose mix or via water medicators only occurs on 16 per cent of stations. The classes of stock that are targeted for supplementation include all stock (77 per cent of stations), breeding heifers (17 per cent) and wet adult breeders (17 per cent). Of the stations currently using water medicators the average number of water medicators per station is 7 (range 1 - 16).

Twenty-seven per cent of pastoralists in the Alice Springs Region have attended the Nutrition*Edge* course. Of those who attended the course 56 per cent said that they had made decisions or had changed practices relating to the management of cattle nutrition.

Hay production is not a common practice within the Alice Springs Region. Eight per cent of stations produce their own hay. Of the stations that produced their own hay in 2004 the average amount was 170 tonnes (range 9 - 300). This hay is produced from a mixture of native and improved pastures.

Animal Health Issues

The three most common animal health problems reported are botulism (43 per cent of stations), plant poisonings (11 per cent) and lice (11 per cent) (see Table 12). There is minimal use of chemicals on cattle in the region with 50 per cent of stations stating that they do not use any. The chemicals that are used are for lice control (28 per cent), wound antisepsis (22 per cent) and worming (11 per cent).

Ninety-five per cent of pastoralists stated that they were aware of the procedure they would need to take if they suspected an outbreak of an emergency animal disease. Seventy-two per cent of pastoralists were also aware of the Cattle Council of Australia's 'Beef Cattle Bio-security Plan for the Australian Cattle Industry'. Seventy-four per cent of pastoralists were also aware of Animal Health Australia's 'Look, Check, Ask a Vet' program.

National Livestock Identification System (NLIS)

As the NT pastoral industry is compliant with NLIS requirements, pastoralists in the Alice Springs Region have been required to tag their cattle with Radio Frequency Identification Devices (RFIDs) to meet interstate market requirements. In 2004, 72 per cent of pastoralists were using accredited RFIDs in their cattle. RFID usage ranged from 86 per cent in the Southern Alice Springs District to 56 per cent of pastoralists in the Northern Alice Springs District. More Southern Alice Springs District pastoralists may have tagged their cattle with RFIDs in 2004 due to legislative requirements to sell cattle into South Australia and Victoria.

Of the pastoralists with a herd size less than 1000 head or greater than 7500 head, 100 percent were using accredited RFIDs. Of those with a herd size 2000 - 5000 head, 67 per cent were using RFIDs and 33 per cent were not; while of those with a herd size of 5000 - 7500 head, only 42 per cent were using RFIDs and 58 per cent were not using them. (see Appendix 2)

Fifty-six per cent of pastoralists are choosing to use just the RFID tag and 44 per cent are using the RFID tag with a management tag. The cattle that are currently being tagged are sale cattle (50 per cent of stations) and all cattle (32 per cent). In the Northern Alice Springs District the majority of pastoralists using RFIDs are tagging all their cattle (50 per cent) and sale cattle (30 per cent). In the Southern Alice Springs District 61 per cent of pastoralists are tagging sale cattle and only 22 per cent are tagging all cattle (see Graph 21).

As part of the 2004 survey, 74 per cent of pastoralists said that they did not need to use NLIS readers for the RFIDs. Fifty-eight per cent of pastoralists surveyed also did not plan to use NLIS tags as a management tool in the future. For an update on the NT NLIS requirements please see Appendix 8.

Grazing Management

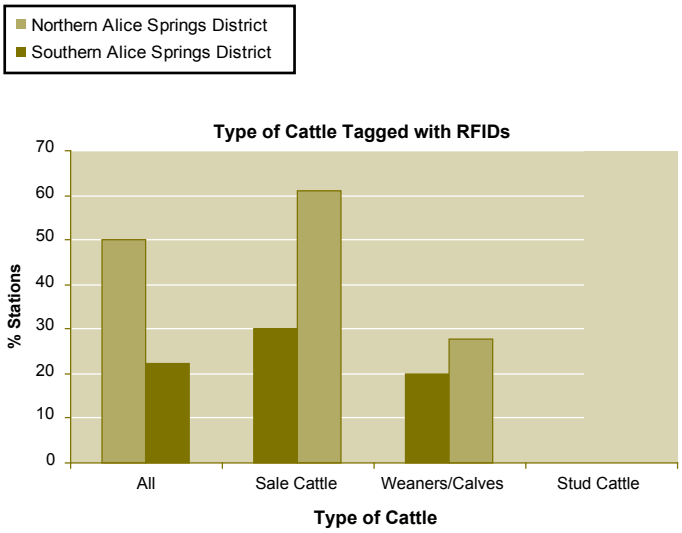
Carrying Capacities

Pastoralists were asked to give the estimated carrying capacity for their property with their current infrastructure. The average carrying capacity was 6240 head (range 839 - 15,000 head).

TABLE 12 – COMMON ANIMAL HEALTH PROBLEMS SEEN

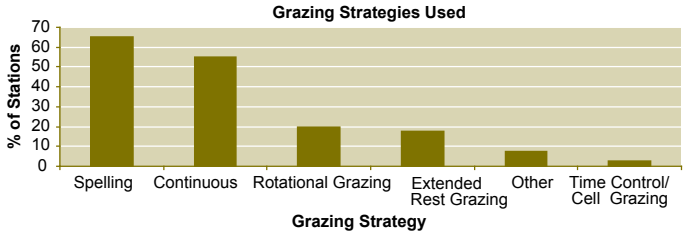
	% OF STATIONS
Botulism	43
Plant Poisoning	11
Lice	11
Eye Cancer	8
Pink Eye	8
Peg Leg	5
Dystocia	3
Unexplained Deaths	3
Scouring	3
Lack of Rain	3
Respiratory	3

GRAPH 21 - TYPE OF CATTLE TAGGED WITH RFIDS

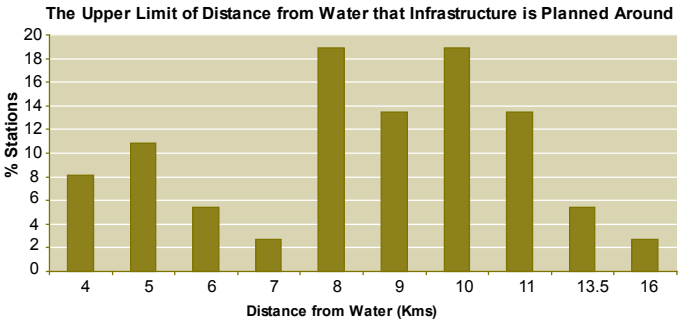


The pastoralists were also asked how they determined the carrying capacity for a paddock. The three most common responses were amount of available pasture (30 per cent of stations), season (30 per cent) and available watering points (19 per cent). Within the Northern Alice Springs District pastoralists stated that they considered the amount of pasture available (33 per cent), the season (17 per cent), history of the paddock (17 per cent) and the condition of the cattle (17 per cent). In the Southern Alice Springs District pastoralists consider the season (32 per cent), the amount of pasture available (26 per cent), the available watering points (21 per cent) and the type of country (21 per cent). Eighty per cent of pastoralists felt that they could estimate the different carrying capacities of the different land systems found on their station. (see Appendix 3)

GRAPH 22 - GRAZING STRATEGIES USED



GRAPH 23 - THE UPPER LIMIT OF DISTANCE FROM WATER THAT INFRASTRUCTURE IS PLANNED AROUND



With further infrastructure development in 5 years time pastoralists felt that on average they would be able to carry an extra 335 head/station (an increase of 5 per cent). In 10 years time pastoralists felt that on average they would be able to carry an extra 535 head/station, an increase of 9 per cent. A number of pastoralists commented that they would not like to actually increase the number of cattle on their station in the future.

Grazing Strategies

The predominant grazing strategies used are those of spelling (65 per cent of stations) and continuous grazing (55 per cent) (see Graph 22). One pastoralist described the spelling regime for the station as *"Bores that have low feed scores are shut down and destocked until sufficient rain and feed score improves"*. Another station highlighted the difficulties that pastoralists have in managing a spelling program on their station *"We try to spell areas but due to lack of infrastructure this is often difficult, the paddocks we have we try to spell each year during (the) growing season"*. A station that has a rotational grazing system described their system as *"Each mob of cows has 3 paddocks in use and steers have 2 paddocks in use"*. A station that uses both spelling and continuous grazing strategies described their grazing management as *"Fragile country and highly productive country is spelled, harder country is lowly stocked continuously because it is more resilient"*.

Water Points

Water is a very important issue in the Alice Springs Region. The access to and placement of watering points influences greatly the grazing management of a station. The average number of man made permanent watering points on a station is 27 (range 5 - 82). Thirty-five per cent of pastoralists surveyed said that there are natural watering points present on their station, on average 4.5 (1 - 25).

The distance from water that pastoralists plan watering point infrastructure around is, on average, 9km (ranging from 4 - 16kms) (see Graph 23).

For development of infrastructure in 2005, 74 per cent of pastoralists planned to develop more watering points on their stations with 60 per cent citing watering point development as being their highest priority.

Introduced Pastures

The existing area of high input improved pasture on stations averages 6 km^2 (range 0.01 - 10 km^2). High input improved pasture was defined as being as a result of clearing, cultivating and sowing of the land. The existing area of low input improved pasture averages 675 km^2 (6 - 2500 km^2). Low input improved pasture was described as being a result of seed being broadcast into an uncultivated seed bed. Of the pastoralists surveyed there is approximately 6098 km^2 of improved pasture, which makes up approximately 4 per cent of the pastoral land in the Alice Springs Region. The improved pasture is buffel grass (*Cenchrus ciliaris*) and its main purpose is for special purpose areas such as holding paddocks (58 per cent of stations).

Pastoralists planning to increase the area of improved pasture, on average will sow 2.5 km^2 as high input pasture (range 2 - 3 km^2) and 81 km^2 as low input pasture (2 - 460 km^2). The respondents stated that the main purposes of sowing buffel grass were for special purpose areas such as holding paddocks (56 per cent of pastoralists) and rehabilitation (56 per cent) (see Graph 24).

The role of introduced pasture was described by the pastoralists surveyed as for cattle feed (19 per cent of stations) and for erosion control (15 per cent) (see Table 13). Some pastoralists described introduced pasture as a fire risk, as a weed and that some varieties are unpalatable.

Fire Management

Fire plays a role in the grazing management of a station. It is used by pastoralists to burn spinifex (26 per cent of stations) and for scrub control (19 per cent) (see Table 14). Twenty-two per cent of pastoralists surveyed prefer to burn during summer while 19 per cent prefer to burn during winter (see Table 15). The type of fire preferred is a hot fire (19 per cent of stations) (see Table 16). Pastoralists described the frequency of controlled burns as being dependent upon fuel loads (19 per cent) and that they would only burn in a good season (7 per cent) (see Table 17).

The role of fire in the Northern Alice Springs District differs from that in the Southern Alice Springs District. The two main roles that fire plays in the Southern Alice Springs district are for scrub control (27 per cent of stations) and to control wildfires (20 per cent). In the Northern Alice Springs District fire is used to burn spinifex (42 per cent) and to burn off rank feed (17 per cent). There is little difference between the districts as to timing and how often controlled burns occur. This is similar with the type of fire used, but in the Northern Alice Springs District pastoralists felt that it should be both a hot fire (25 per cent) and a controlled fire (17 per cent).

TABLE 15 - TIME OF YEAR FOR CONTROLLED BURNS

TIME OF YEAR	% STATIONS	NORTHERN DISTRICT % STATIONS	SOUTHERN DISTRICT % STATIONS
April	4	8	0
December	4	0	7
Good Season	4	0	7
Pre Wet Season	4	8	0
Start of Summer	4	8	0
Summer	22	25	20
Winter	19	17	20

GRAPH 24 - PURPOSE FOR IMPROVED PASTURE

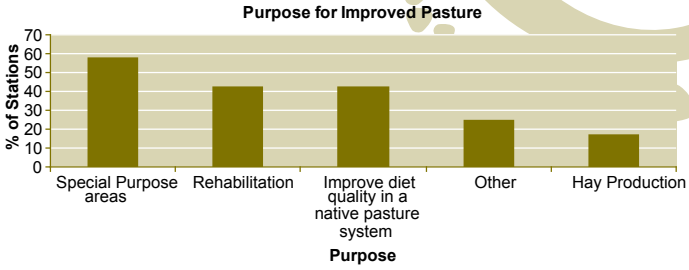


TABLE 13 - ROLE OF INTRODUCED PASTURE ON STATIONS

ROLE	% OF STATIONS	NORTHERN ALICE SPRINGS DISTRICT (% OF STATIONS)	SOUTHERN ALICE SPRINGS DISTRICT (% OF STATIONS)
Erosion Control	15	15	15
Feed	19	23	15
Fire Risk	4	0	8
Hay	4	8	0
Responds quickly to rain	4	8	0
Unpalatable Varieties	4	0	8
Weed	4	8	0

TABLE 14 - REASON FOR USING CONTROLLED FIRES

REASON	% STATIONS	NORTHERN DISTRICT % STATIONS	SOUTHERN DISTRICT % STATIONS
Burn Off Rank Feed	7	17	0
Burn Problem Areas	4	8	0
Burn Spinifex	26	42	13
Control Wildfires	11	0	20
Regenerate Native Grasses	7	0	13
Scrub Control	19	8	27
Stop Regrowth	4	8	0
Weed Management	4	0	7

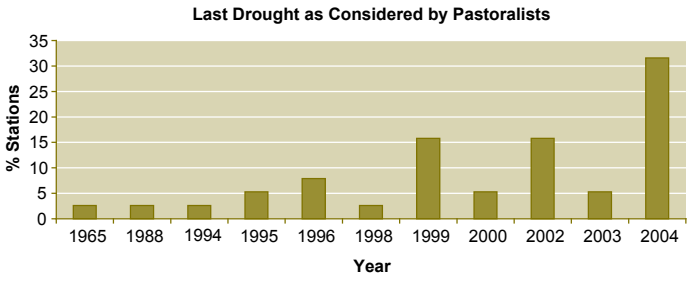
TABLE 16 - TYPE OF FIRE USED

TYPE OF FIRE	% STATIONS	NORTHERN DISTRICT (% OF STATIONS)	SOUTHERN DISTRICT (% OF STATIONS)
Hot	19	25	13
Cool	7	8	7
Controlled	7	17	0

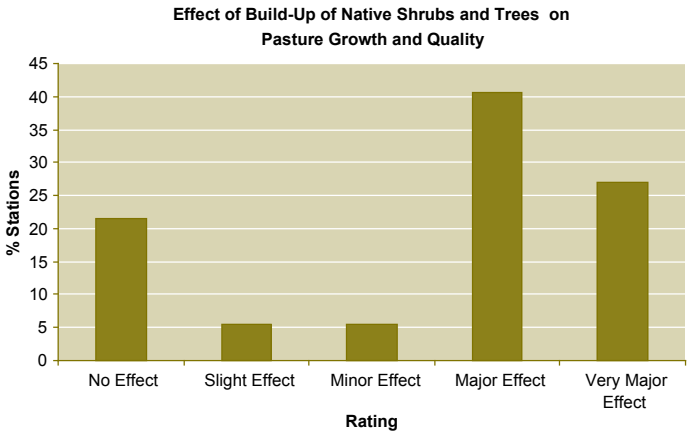
TABLE 17 - FREQUENCY OF CONTROLLED BURNS

FREQUENCY	% STATIONS	NORTHERN DISTRICT (% OF STATIONS)	SOUTHERN DISTRICT (% OF STATIONS)
1 in 5 years	4	8	0
1 per year	4	0	7
2 per year	4	0	7
3 per year	4	8	0
In A Good Season	7	8	7
Depends On Fuel Load	19	17	20
If Rain In February And April	4	8	0

GRAPH 25 - LAST DROUGHT AS CONSIDERED BY PASTORALISTS



GRAPH 26 - EFFECT OF BUILD-UP OF NATIVE SHRUBS AND TREES ON PASTURE GROWTH AND QUALITY



From September 2003 - September 2004 the number of stations in the Alice Springs Region that were affected by fire was moderate to low. The average area of a station that was burnt in 2003/2004 due to wildfire was 23 per cent (range 1 - 60 per cent) and intentional fire was 13 per cent (1 - 60 per cent).

In the Northern Alice Springs District, on average, 18 per cent of each station was affected by wildfire in 2003/2004 (range 1 - 60 per cent). Forty-two per cent of Northern stations had intentional fires that burned, on average, an area of 13 per cent on each station (1 - 60 per cent).

In the Southern Alice Springs District, on average, 29 per cent of each station was affected by wildfire in 2003/2004 (range 5 - 56 per cent). Fourteen per cent of southern stations had intentional fire that burned, on average, an area of 10 per cent on each station

Drought

Drought is common in the Alice Springs Region and can occur consistently throughout the region or in localised districts. The last drought, as considered by pastoralists, was felt to be 2004 (32 per cent of stations), 2002 (16 per cent of stations) and 1999 (16 per cent of stations) (see Graph 25). Ninety-five per cent of pastoralists in the region said they had a plan for drought conditions.

Native Tree and Shrub Build Up

A threat to the amount of grazing land available is the build-up of native shrubs and trees, also known as woody weeds invasion. Seventy per cent of pastoralists have noticed a build-up of native shrubs and trees on their stations and 15 per cent have noticed a build up as regrowth on previously cleared areas. Forty-five per cent of pastoralists felt that this was of minor concern while 37 per cent felt that it was of major concern. The effect this build-up has had on pasture growth and quality was rated by pastoralists, on average, as 3.6 on a scale whereby 1 was not affected and 5 was greatly affected (see Graph 26). The effect that this build up has had on mustering was rated by pastoralists on average as 3.5 (see Graph 27). Pastoralists also cited many other reasons why the build-up of native shrubs and trees is a problem, including growth on fencelines (36 per cent of stations) and growth on roads (14 per cent) (see Table 18).

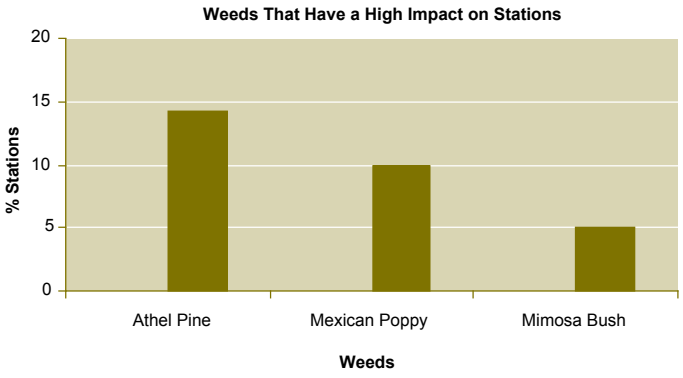
To control the build-up of native shrubs and trees 47 per cent of pastoralists conduct controlled burning. Forty-two per cent of pastoralists surveyed, though, do not take any action as they either believe there is not a problem or that they are unable to do anything (see Graph 28). Fifty-one per cent of pastoralists plan to conduct a control burn in the future and 26 per cent of pastoralists will not take any action as they do not believe that there is a problem (see Graph 29).

Weeds

Pastoralists were asked to rate the impact that weeds were having on their station. Weeds rated as having a high impact were all from the Southern Alice Springs District, athel pine (*Tamarix aphylla*), mexican poppy (*Argemone ochroleuca*) and mimosa bush (*Acacia farnesiana*) (see Graph 30). The main weeds listed as having a medium impact on stations in the region were mimosa bush (16 per cent of stations) and saffron thistle (*Carthamus lanatus*) (12 per cent) (see Appendix 4). The main weeds that were listed as having a low impact were mimosa bush (45 per cent) and rubber bush (*Calotropis procera*) (30 per cent) (see Appendix 5).

Pastoralists are attempting to control these high impact weeds described above. As a region, pastoralists are tackling athel pine (49 per cent of stations) and rubber bush (29 per cent). In the Northern Alice Springs District 36 per cent of pastoralists are attempting to control parkinsonia (*Parkinsonia aculeata*) and rubber bush (36 per cent).

GRAPH 30 – WEEDS THAT HAVE A HIGH IMPACT ON STATIONS



Note: weeds with high impact were only recorded from Southern Alice Springs District

GRAPH 27 - EFFECT OF BUILD-UP OF NATIVE SHRUBS AND TREES ON MUSTERING

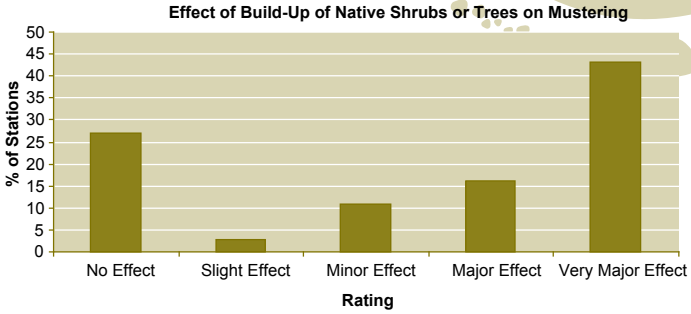
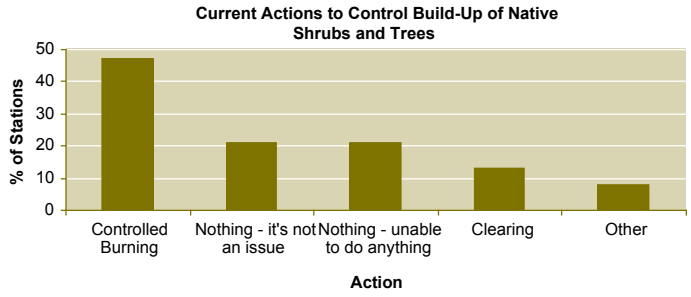


TABLE 18 - OTHER EFFECTS THAT THE BUILD-UP OF NATIVE SHRUBS AND TREES HAS ON STATIONS

OTHER PROBLEMS	% OF STATIONS
Decreases grass species	5
Divert water flow	5
Erosion	5
Fire breaks	5
Flat tyres	5
Growth in trap paddocks	5
Growth on fencelines	36
Growth on roads	14
Locks nutrients up	5
Temperament of stock	5
Use of herbicides	5
Visibility	5
None	27

GRAPH 28 - CURRENT ACTIONS TO CONTROL BUILD-UP OF NATIVE AND TREES



GRAPH 29 - PLANNED FUTURE ACTION TO CONTROL BUILD-UP OF NATIVE SHRUBS AND TREES

TABLE 19 - METHODS USED TO PREVENT WEEDS BECOMING A PROBLEM ON STATION

	% OF STATIONS	NORTHERN ALICE SPRINGS DISTRICT (% STATIONS)	SOUTHERN ALICE SPRINGS DISTRICT (% STATIONS)
Buy Accredited Hay	54	42	64
Buy Certified Seed	4	8	0
Check Incoming Cattle	12	17	7
Chip Out Weeds	19	25	14
Do Not Buy In Hay	4	8	0
Monitor The Property	8	8	7
Not a Problem	4	0	7
Wash Down Vehicles	12	17	7
Spray Weeds	15	8	21
Burn Weeds	8	8	7
Cattle Are Cleaned Out In Yards	4	0	7
Do Not Plant Weeds	4	0	7

In the Southern Alice Springs District 65 per cent of pastoralists are attempting to control athel pine, mexican poppy (29 per cent) and saffron thistle (29 per cent). (See Appendix 6)

Pastoralists were asked to estimate the percentage of area that is affected by weeds on their station. On average in the Alice Springs Region 5.6 per cent of a station is affected (range 0 - 75 per cent) by weeds. In the Northern Alice Springs District the average area affected by weeds is 2 per cent (0 - 10 per cent). Pastoralists in the Southern Alice Springs District on average had 9 per cent of their station affected by the weeds listed (0 - 75 per cent).

Pastoralists identified that the best way to control weeds is to prevent them from becoming a problem on the station. Sixty-seven per cent of pastoralists attempt to prevent the introduction of weeds onto their station. Current prevention methods include buying accredited hay (54 per cent of stations) and chipping out weeds as they appear (19 per cent) as a means of reducing weed infestation. (see Table 19).

The control of these weeds can be an expensive and time-consuming exercise on stations. On average, pastoralists spend $2129 a year on weed control (range 0 - $20,000). In the Northern Alice Springs District, on average, pastoralists spend $1281 a year on weed control ($100 - $5000) and in the Southern Alice Springs District, on average, pastoralists spend $2976 (0 - $20,000). These costs include labour, fuel, transport in addition to the cost of the actual treatment whether it was chemical or mechanical.

Pest Animals

Pest animals are common throughout the Alice Springs Region, notable include donkeys, camels, horses and rabbits. While the pastoral industry recognises the importance of dingos and that under NT legislation they are protected native wildlife, wild hybridised dogs are a problem to the industry.

Kangaroos and wallabies, although native animals, were considered in this section due to the grazing pressure that they put on pasture species. Pastoralists were asked to list the impact that these animals had on their station as high, medium, low or not applicable (see Table 20 - 23). The type of impact that these animals have is both environmental and financial.

Wild dogs are regarded by 46 per cent of pastoralists as having a medium impact on their station. Donkeys are regarded by 11 per cent of pastoralists as having a high impact on their station

Camels are regarded by 30 per cent of pastoralists as having a low impact on their station. Thirty-eight per cent of pastoralists in the Southern Alice Springs District regard camels as having a high impact on their station compared with 6 per cent of pastoralists in the Northern Alice Springs District.

Ten per cent of pastoralists in the Southern Alice Springs District regard horses as having a high impact on their stations while there are no pastoralists in the Northern Alice Springs District who regard horses as having such an impact.

Kangaroos and wallabies are regarded by the majority of pastoralists as being of low impact (37 per cent of pastoralists). However 29 per cent of pastoralists surveyed felt that kangaroos and wallabies are having a high impact on their station.

Rabbits are regarded by the majority of pastoralists as having a low impact on their station (56 per cent of pastoralists). Fourteen per cent of pastoralists surveyed in the Southern Alice Springs District believe that rabbits are having a high impact on their station.

TABLE 20 - PEST ANIMALS THAT HAVE A HIGH IMPACT ON STATIONS

	WILD DOGS	DONKEYS	CAMELS	HORSES	KANGAROOS/ WALLABIES	RABBITS
% of Stations	33	11	24	5	29	10
Northern Alice Springs District	33	13	6		29	6
Southern Alice Springs District	43	10	38	10	29	14

TABLE 21 - PEST ANIMALS THAT HAVE A MEDIUM IMPACT ON STATIONS

	WILD DOGS	DONKEYS	CAMELS	HORSES	KANGAROOS/ WALLABIES	RABBITS
% of Stations	46	8	19	24	32	10
Northern Alice Springs District	39		19	24	35	6
Southern Alice Springs District	43	14	19	14	29	19

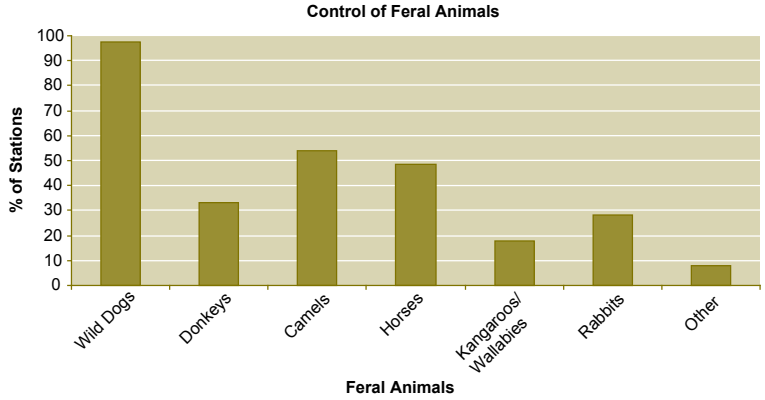
TABLE 22 - PEST ANIMALS THAT HAVE A LOW IMPACT ON STATIONS

	WILD DOGS	DONKEYS	CAMELS	HORSES	KANGAROOS/ WALLABIES	RABBITS
% of Stations	18	27	30	34	37	56
Northern Alice Springs District	22	31	31	24	35	44
Southern Alice Springs District	14	24	29	43	38	67

TABLE 23 - PEST ANIMALS NOT CONSITERED TO BE SIGNIFICANT IN ALICE SPRINGS REGION

	WILD DOGS	DONKEYS	CAMELS	HORSES	KANGAROOS/ WALLABIES	RABBITS
% of Stations	3	54	27	37	3	21
Northern Alice Springs District	6	56	44	41	0	44
Southern Alice Springs District	0	52	14	33	5	0

GRAPH 31 - CONTROL OF PEST ANIMALS



Pastoralists are attempting to control feral animals. Ninety-seven per cent of pastoralists surveyed are attempting to control wild dogs and 54 per cent are attempting to control camels (see Graph 31). The cost of controlling feral animals for each station is, on average, $3679 a year (range $100 - $22,000). Stations in the Southern Alice Springs District spend, on average, $4829 a year ($300 - $22,000). Pastoralists in the Northern Alice Springs District spend, on average, $2283 ($100 - $10,000).

GRAPH 32 - HOW LABOUR IS SOURCED

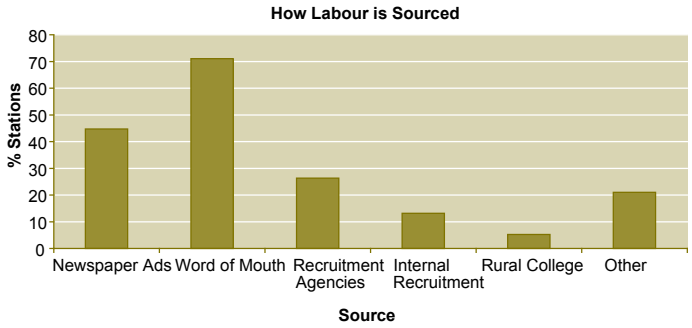


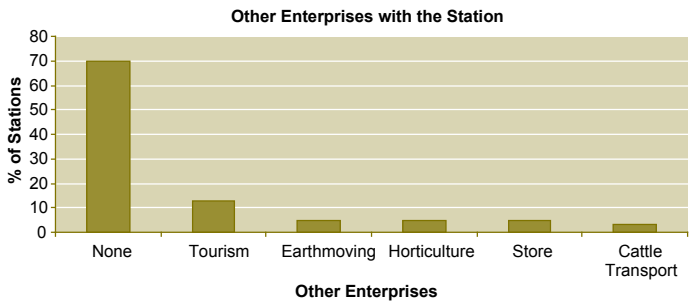
TABLE 24 - STAFF TRAINING THAT OCCURS ON STATIONS

STAFF TRAINING	% OF STATIONS
Cattle Handling	13
Bull Selection	3
Certificates	3
Licenses	7
First Aid	3
Low Stress Stock Handling School	7
Grazing For Profit	3
Nutrition Edge	3
In House	3
Induction	3
Occupational Health & Safety	3
On the Job	57
Spaying	7
Preg Testing	3
Record Keeping	3
Benchmarking	3
Cattle Condition Scoring	3
Apprenticeship Courses	3

TABLE 25 - FINANCIAL INSTITUTIONS USED BY STATIONS

	% OF STATIONS
Major Trading Bank, NT	19
Major Trading Bank, Interstate	0
Agricultural Bank	23
Agribusiness	52
Other	6

GRAPH 33 - OTHER ENTERPRISES WITH THE STATION



Business Management

Staff

On average 3 permanent staff and 2 seasonal staff, are employed on a cattle station. Staff are recruited by pastoralists from a number of sources but predominantly by word of mouth (71 per cent of pastoralists) and newspaper advertisements (45 per cent) (see Graph 32). Other sources mentioned include backpacker lodges, hotels, family and organisations such as the Isolated Children's Parents Association.

Seventy-eight per cent of pastoralists said that staff training occurs on their stations. The type of training that staff receive is on-the-job training (56 per cent of stations) and cattle handling including Low Stress Stock Handling Schools and general cattle handling (13 per cent) (see Table 24). Operations on stations are considered by 43 per cent of pastoralists to be limited by low staff availability and high turn over.

Benchmarking

Benchmarking is a useful tool for comparing performance. Sixty-eight per cent of pastoralists in the Alice Springs Region understood benchmarking. Thirty-five per cent of pastoralists currently use financial or production benchmarks to help with their management. Only 21 per cent of pastoralists use benchmarks to assist with their management of natural resources.

Property Management Plans have been prepared on 32 per cent of stations. Of the property management plans, 83 per cent cover financial management, 75 per cent cover natural resource management, 58 per cent cover sustainable productions systems and 42 per cent human resource management.

Financial

The majority of stations conduct their financial affairs through an agribusiness organisation (52 per cent of stations). Twenty-one per cent of stations use a major trading bank in the Northern Territory (see Table 25).

Thirty per cent of stations have other enterprises associated with their cattle enterprise. The range of enterprises is broad but the main ones are tourism (13 per cent of station) and earthmoving (5 per cent) (see Graph 33).

3. Priorities of Pastoralists in the Alice Springs Region

Hurdles of Managing a Pastoral Enterprise

Managing a cattle station in the Alice Springs Region requires the manager to be innovative and versatile in response to the challenges faced daily. Pastoralists were asked to list the biggest hurdles that they face in the management of their station. The three most common were the seasons (55 per cent of stations), staff availability (53 per cent) and the cost of production (16 per cent) (see Table 26).

When describing seasons as being a major difficulty, pastoralists refer to the variability and unpredictability of good and bad seasons. Good seasons are periods when there is sufficient rainfall to trigger good pasture growth. Bad seasons are prolonged periods of no rainfall. As a result of the variability of good and bad seasons, the grazing land and cattle management can be challenging.

Staff availability impacts on the management of the station due to the problems of attracting and retaining staff and also the quality of the staff available. A number of stations in the district are hiring young, inexperienced staff who require a great deal of training and do not stay employed on the station for long periods. There are a number of reasons why there is a labour shortage in the Alice Springs Region. These include a strong employment sector nationally and competition from other industries within the region such as tourism and mining.

Cost of production refers to the necessary business costs such as fuel, wages for staff, mineral supplements, fencing equipment and maintenance. Most of these costs rose significantly in 2004 and continue to rise in 2005. The current beef cattle market is also very buoyant and pastoralists are concerned about their returns when cattle prices decrease and costs remain high.

In the Northern Alice Springs District, the three main hurdles encountered by pastoralists were staff availability (53 per cent of stations), seasons (47 per cent) and money (18 per cent) (see Table 26). Pastoralists in the Northern Alice Springs District raised other issues such as family, isolation, native title, ownership of station, potential damage from trespassers and time.

In the Southern Alice Springs District the three main hurdles encountered by pastoralists were seasons (62 per cent of stations), staff availability (52 per cent) and the cost of production (29 per cent) (see Table 26). The pastoralists in the Southern Alice Springs District also raised a number of additional issues such as water, trespassers, regulations, neighbours, lack of government support, future developments and credibility within the industry.

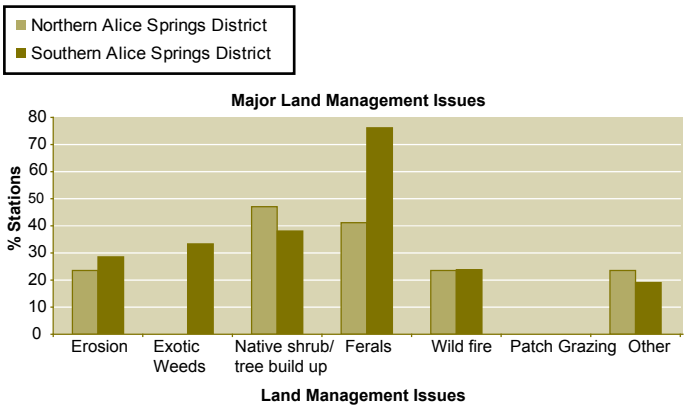
TABLE 26 - BIGGEST HURDLES TO PASTORALISTS IN MANAGING THEIR ENTERPRISE

	% OF STATIONS	NORTHERN ALICE SPRINGS DISTRICT (% OF STATIONS)	NORTHERN ALICE SPRINGS DISTRICT (% OF STATIONS)
Credibility	3	0	5
Cost of Production	16	0	29
Distance	5	6	5
Family	3	6	0
Feral Animals	11	6	14
Fire	5	6	5
Future Development	3	0	5
Isolation	3	6	0
Lack of Government Support	3	0	5
Markets	5	6	5
Money	8	18	0
Native Titles	5	12	0
Neighbours	3	0	5
Ownership	3	6	0
Potential damage from trespassers	3	6	0
Regulations	3	0	5
Research Management	3	0	5
Roads	11	12	10
Seasons	55	47	62
Staff Availability	53	53	52
Time	3	6	0
Transport	5	6	10
Trespassers	5	0	10
Water	3	0	5

TABLE 27 - MAIN ISSUES AFFECTING PROFITABILITY OF STATIONS

	% OF STATIONS	NORTHERN ALICE SPRINGS DISTRICT (% OF STATIONS)	SOUTHERN ALICE SPRINGS DISTRICT (% OF STATIONS)
Business Partners	3	6	0
Cattle Prices	21	17	25
Cost of Production	13	6	20
Credibility	3	0	5
Diversification	5	6	5
Economies of Scale	8	6	10
Fertility	8	6	10
Fire	8	0	15
Fuel Costs	13	6	15
Good Luck	3	6	0
Infrastructure	3	0	5
Insurance	3	0	5
Interest Rates	3	0	5
Land Development	3	0	5
Market Access	8	6	10
Market Specifications	3	6	0
Marketing Skills	3	6	0
Markets	5	6	5
Minimising Mortality Rates	5	0	10
Native Title	3	6	0
Quality of Cattle	3	6	0
Road Conditions	11	6	0
Seasons	63	56	70
Staff	18	28	10
Succession Planning	3	0	5
Transport	11	6	15
Wages	3	0	5
Weights	3	0	5
Wild Dogs	3	0	5
Workers Compensation	3	0	5

GRAPH 34 – MAJOR LAND MANAGEMENT ISSUES



Profitability

When asked what were the main issues affecting the profitability of their stations the responses were no different to those of the biggest hurdles when managing their cattle stations. The three main issues were seasons (63 per cent of stations), cattle prices (21 per cent) and staff (18 per cent) (see Table 27). The main difference between issues of profitability and hurdles encountered is that cattle prices are considered to have a greater impact on profitability than cost of production. This may be due to the fact that cattle prices are considered by the majority of pastoralists to be beyond their control unlike the cost of production over which they have some control.

Land Management Issues

The top three land management issues for pastoralists are feral animals (55 per cent of stations), native shrub/tree build-up (42 per cent) and erosion (26 per cent) (see Graph 34). Other issues that pastoralists were concerned about included individual plant species, trespassers, kangaroos and wind damage to pasture grasses.

In the Northern Alice Springs District pastoralists were concerned about native shrub/tree build-up (47 per cent of stations), feral animals (41 per cent) and erosion (24 per cent). Pastoralists in the Southern Alice Springs District are concerned about feral animals (76 per cent), native shrub/tree build-up (38 per cent) and exotic weeds (33 per cent).

Environmental Sustainability

Alice Springs pastoralists were asked to describe the main issues affecting the environmental sustainability of their enterprise. The top three issues are seasons (62 per cent of stations) and fire (12 per cent). Seasons are considered to be the biggest issue affecting the environmental sustainability of the cattle enterprise. One pastoralist described the influence of weather as *"weather - extremes of rain means woody weeds - extremes of dry - dust storms and erosion from wind".*

Fires are also considered to influence the sustainability of the environment. The timing of a fire, the intensity of the fire and the amount of land burnt all influence the survival and return of pastures. Of particular concern for one pastoralist was the risk of arson. Intense fires in the Alice Springs Region can leave ground uncovered and without growth (even in the

presence of soil moisture or rain) and can encourage soil erosion and decrease the infiltration rate of water when rain does occur.

Relevant Industry Issues

Fifty-five per cent of pastoralists felt that having an Environmental Management System was of importance to the pastoral industry (see Table 28). An EMS documents what measures and management actions that pastoralists undertake to ensure environmental sustainability on their stations. By having an EMS in place pastoralists are able to demonstrate the quality of their land management skills. In response to the pastoral industry survey many pastoralists said that one goal was to ensure their land in future would be in the same condition, if not better than, when they began managing the station.

Improving animal welfare was another issue that pastoralists believed was relevant (55 per cent of pastoralists). Pastoralists would like to be able to demonstrate that their management practices ensure their cattle are healthy and in good care.

A conservation plan was felt to be a relevant issue according to 40 per cent of pastoralists. A conservation plan on stations would safeguard areas of environmental and historical significance. Some of these are either managed by the station owners themselves or in conjunction with local Landcare groups or NT Parks and Wildlife.

TABLE 28 - ISSUES RELEVANT TO THE PASTORAL INDUSTRY

	% OF STATIONS
Environmental Management System	55
Improved Animal Welfare	55
Conservation Plan	40
Quality Assurance Scheme	38
Biodiversity Conservation	33
Organic Accreditation	18
Eco Tourism	13

TABLE 29 - WHY PASTORALISTS CHOOSE TO BE MEMBERS OF THE PASTORAL INDUSTRY

	% STATIONS	NORTHERN ALICE SPRINGS DISTRICT (% OF STATIONS)	SOUTHERN ALICE SPRINGS DISTRICT (% OF STATIONS)
Born into the Industry	34	12	52
Challenging	13	12	14
Freedom	3	0	5
Insanity	5	0	10
Job Satisfaction	5	0	10
Lifestyle	53	35	67
Love the Industry	34	35	33
Multi-Skilled	3	6	0
No Other Skill	16	29	5
Opportunity	11	12	10
Own Boss	8	6	10
Unsure	3	6	0
Want to leave a good legacy	3	0	5

Motivation to be a Member of the Pastoral Industry

The final question of the survey asked why pastoralists choose to be members of the pastoral industry. The answers were varied but the resounding response was that pastoralists enjoyed the lifestyle that the pastoral industry had to offer (53 per cent of pastoralists).

Other common reasons why they choose to be members of the pastoral industry are because they love it (34 per cent of pastoralists) and the fact that they were born into the industry and thus the lifestyle (34 per cent). Of those surveyed 16 per cent of pastoralists felt that they had no other skill or were too old to change careers to be able to support themselves and their family.

The final word belongs to one pastoralist who said: *"I love getting dirty, working long hours and not getting paid for it! On a more serious note it is a healthy industry to be in, even in this modern life".*

TABLE 30 - CHANGES IN MANAGEMENT STRUCTURE

	% OF STATIONS	
	1979	2004
Company / Manager	-	15
Indigenous Owned Land	5	8
Owner / Manager	77	44
Private / Lesses	-	8
Private Owned / Manager	16	21
Family Trust	-	3
Other	-	3

GRAPH 35 – COMPARISON OF STATION SIZE 1979 AND 2004

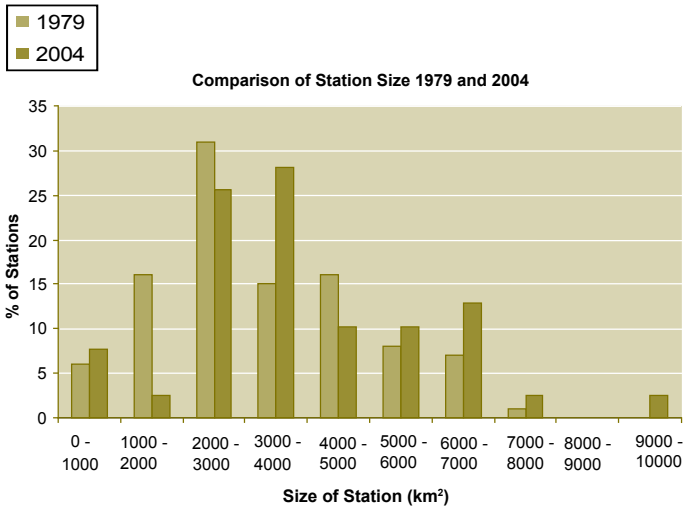


TABLE 31 - CHANGES IN ESTIMATED HERD SIZE

TOTAL HERD SIZE	1979 (% OF STATIONS)	2004 (% OF STATIONS)
Not Stated	0	16
<2000	4	11
2000-10000	71	67
>10000	25	6

TABLE 32 - CHANGES IN BREED OF CATTLE ON STATIONS

	1979 (% OF STATION)	2004 (% OF STATIONS)
Angus	5	10
Braford	3	5
Brahman	0	8
Brahman X Shorthorn	3	0
Crossbred	5	8
Droughtmaster	0	10
Hereford	24	35
Other	3	0
Santa Gertrudis	0	23
Shorthorn	57	10

4. How the Alice Springs Pastoral Industry has Changed 1979 – 2004

Demographic Change

In the Alice Springs Region in 1979 there were 99 pastoral leases on 87 stations. In 2004 there were 99 Property Identification Codes but effectively 64 station owners because some stations are being managed jointly as one station.

In 1979, 77 per cent of stations were managed by an Owner/Manager while in 2004 only 44 per cent of stations surveyed were structured in this manner (see Table 30). This change may be because most stations are now being operated with a company name either for accounting purposes or for managing succession within the family business.

The majority of stations in 1979 were between 2000 - 5000 km^2. This has not changed in 2004 with the majority of stations falling within this range (see Graph 35). In 1979 the average number of paddocks was 3.6 while in 2004 this figure had doubled to 7.7.

Comparison of estimated herd sizes between the 1979 and 2004 surveys shows little difference in the herd size for the majority of stations. In 2004 though there was an increase in the percentage of stations with less than 2000 head and a decrease in the percentage of stations with greater than 10,000 head (see Table 31).

The cattle herds in 1979 were predominantly Shorthorn (57 per cent of stations) and Hereford (24 per cent) (see Table 32). When broken down into genotype, 91 per cent of cattle stations in the region had *Bos taurus* cattle with only 6 per cent being *Bos indicus* cross and there were no pure *Bos indicus.*

In 2004 the predominant breeds were Hereford (35 per cent of stations) and Santa Gertrudis (23 per cent) while predominantly shorthorn cattle herds were only found on 10 per cent of stations. When broken down into genotype 60 per cent of cattle stations in the region have *Bos taurus* cattle with 43 per cent of stations having *Bos indicus* cross and 7 per cent of stations with pure *Bos indicus*. The number of stations that run predominantly *Bos taurus* cattle has decreased while *Bos indicus* cross cattle, such as Santa Gertrudis, have increased.

Turn-off and Markets

There has not been great change to the timing of when pastoralists sell their cattle. In 1979 sixteen per cent of pastoralists said they turned off cattle all year long; in 2004 this figure increased to 33 per cent. In 1979 the majority of pastoralists turned cattle off from April through to October; in 2004 the main months were from March to November (see Graph 36).

The main market that cattle were sent to in 1979 was the abattoir trade (99 per cent of stations) and this was similar in 2004 (75 per cent of stations). There were 5 new markets in 2004 compared to 1979 (see Graph 37).

Cattle Practices

During 1979 pastoralists felt that the best means for increasing their efficiency during mustering was to have more paddocks and yards, to increase their use of trapping cattle and the use of helicopters. In 2004 the most common mustering methods were trapping cattle (88 per cent of stations), motorbikes (70 per cent) and helicopters (43 per cent).

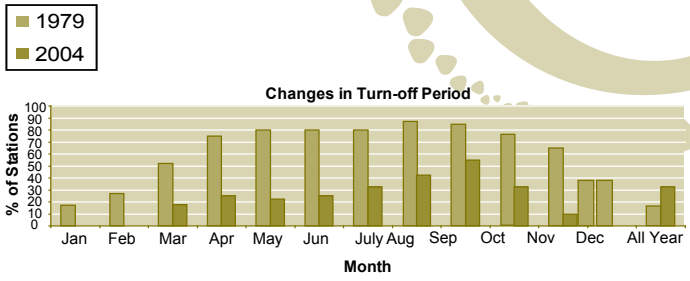
The bull percentage that pastoralists aim to use in their breeder herds has increased since the 1979 survey. In 1979 pastoralists aimed to run, on average, 3.5 per cent bulls (range 1 - 16 per cent) but in 2004 the average was 4.6 per cent (2 - 10 per cent). Petty, Holt and Bertram (1980) did comment that scrub bulls were still present within breeder herds.

Herd bulls in 1979 were either property-bred, purchased locally or purchased interstate. In 2004 Bulls continued to be sourced from a variety of sources (see Table 34). A tool that was not available to pastoralists in 1979 is the use of Estimated Breeding Values (EBVs) when purchasing bulls. Forty-nine per cent of pastoralists in the Alice Springs Region use EBVs as a tool when selecting bulls for purchase.

The culling of breeder cattle in 1979 was determined by age, then poor breeding ability, then colour and finally temperament. In 2004 cows are culled primarily by age, followed by temperament and finally pregnancy status. Only 5 per cent of pastoralists now cull cows on the basis of coat colour.

Controlled mating was not practised by any of the stations surveyed in 1979 and continuous mating was the only mating practice. In 2004 3 per cent of stations control mated their breeder herd. Sixteen per cent of stations conduct control mating with the first joining of

GRAPH 36 - CHANGES IN TURN-OFF PERIOD



GRAPH 37 - MAIN MARKETS 1979 AND 2004

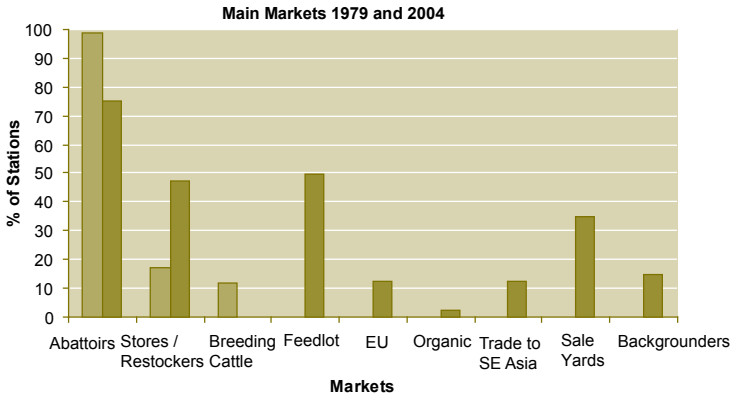


TABLE 33 – DISTRIBUTION OF STATIONS BY SOURCE OF HERD BULLS IN 1979

	% OF STATIONS	
% OF HERD BULLS	PROPERTY BRED	LOCAL PURCHASE
1-25	23	47
25-50	31	15
50-75	15	9
75-100	9	8
100	14	5

TABLE 34 – SOURCE OF HERD BULLS IN 2004

SOURCE	% OF STATIONS
Breed Your Own	20
Commercial Breeders	13
Within Company	0
NT Stud Breeders	15
QLD Stud Breeders	53
NSW Stud Breeders	28
SA Stud Breeders	53
Others	5

TABLE 35 – PROBLEM WEEDS OF 1979

WEED	% OF STATIONS
Couch Grass (*Cynodon dactylon*)	7
Mossman River Grass (*Cenchrus echinatus*)	31
Bathurst Burr (*Xanthium spinosum*)	7
Castor Oil Bush (*Ricinus communis*)	4
Unpalatable Buffel (*Cenchrus spp.*)	-
Eucalypts and gums	1
Parkinsonia (*Parkinsonia aculeata*)	4
Birdsville Indigo (*Indigofera linnaei*)	39
Khaki Weed (*Alternanthera pungens*)	2
Pattersons Curse (*Echium lycopsis*)	1
Reeds	2
Woody Weeds	1
Others incl *Xanthium pungens*	24

their heifers. Eleven per cent of pastoralists artificially inseminate their stud cows, which was identified as a management tool that pastoralists wanted to learn about in 1979.

The management of breeder herds has also improved since 1979. With greater infrastructure now in place, 82 per cent of stations segregate their breeders. Breeder cattle in 2004 are segregated by age (64 per cent of stations), pregnancy status (18 per cent), colour (14 per cent) and condition (7 per cent).

The estimated weaning percentage on stations in the region in 2004, on average, was 76 per cent. In 1979 66 per cent of stations in the region had an estimated weasing percentage of more than 70 per cent.

Weaning was only undertaken on 35 per cent of stations in 1979. This figure has improved vastly with 95 per cent of stations surveyed in 2004 weaning calves. Those who weaned in 1979 did so according to the age of the calf, whereas 77 per cent of pastoralists in 2004 wean by age according to a set weight each year. In 1979 there was no hand feeding of weaners being undertaken and 52 per cent of those who did wean their calves trucked them to another area on the station. In 1979 only one station was using any training methods on their weaners. In 2004 78 per cent of pastoralists fed their weaners for a short period in the yards with hay and 41 per cent of pastoralists put their weaners onto spelled pasture.

In 1979 supplementary feeding was minimal and was targeted at horses, bulls and stud cattle. In 2004 supplementation is a common practice on 81 per cent of stations. The primary nutrients that are offered as supplements to cattle include urea and phosphorus.

The National Livestock Identification System (NLIS) is a new system introduced to the pastoral industry in 2004 as an improved traceability system. NLIS is able to trace forward and back cattle movements in response to a disease outbreak and provides increased quality assurance of beef product. The majority of states in Australia must tag their cattle with RFIDs to be compliant with NLIS. With this technology pastoralists will be able to record individual animal details and performance for the entire cattle herd if desired.

Grazing Land Management Practices

Since 1979 attitudes to land management have changed. In the 1979 survey land management issues covered included the amount of ‘useable land’, improved pastures, feral animals and weeds. In the 2004 survey additional land management issues included carrying capacity, grazing strategies, fire, drought management and woody weeds. Formation of groups and courses such as the Centralian Land Management Association, Environmental Management System group and the Central Australian Grazing Land Management course demonstrates the commitment that pastoralists have to ensuring the sustainability of their land.

Weeds continue to be of concern to pastoralists due to the impact that they have on grazing land. In 1979 25 per cent of stations said they had no major weed problems.

In 1979 Birdsville indigo (*Indigofera linnaei*), even though a native forb, was considered a weed as it is poisonous to horses. In 2004 the weeds of concern were athel pine, mexican poppy and mimosa bush. Woody weeds in 1979 were felt to be a problem by only 1 per cent of stations while in 2004 37 per cent of pastoralists were concerned (see Table 35).

The proportion of the station that was suitable for grazing in 1979 was between 80 - 90 per cent of the stations (19 per cent of stations). In 2004 the proportion of the station suitable for grazing has increased to 100 per cent of the station (26 per cent).

Improved pasture has only involved buffel grass. In 1979 on the surveyed stations there was a total area of 4217 km^2 of buffel grass. Of the pastoralists surveyed in 2004 there was a total area of 6098 km^2, approximately 4 per cent of the pastoral land in the Alice Springs Region.

During the 1979 survey there was an emphasis on fencing mainly due to the need to control cattle in response to the Brucellosis and Tuberculosis Eradication Campaign. There has been little change over the last 25 years in the area effectively enclosed on a station (see Table 37). In 2004 fencing is considered by 21 per cent of pastoralists to be their number one priority for infrastructure development. The reason for this is for further paddock subdivision (31 per cent of stations) and laneways (39 per cent) on their station.

Feral animals continued to impact on stations in 2004 although there are differences to 1979. The impact that wild dogs and feral horses are having has decreased since 1979, while the impact that camels, donkeys and rabbits have on stations has increased in 2004. Compared with 1979, the greatest feral animal impact increase is that of kangaroos and wallabies.

Points of Interest

There has been a great deal of change in the pastoral industry over the past 25 years. One of the notable differences is the change in communication. In 1979 69 per cent of pastoralists used a two-way radio in their household. In 2004, when making management decisions, 58 per cent of pastoralists use the Internet and 76 per cent use electronic mail (email). By having access to the Internet pastoralists are able to gain information immediately, a tool they did not have in 1979. Only 37 per cent of pastoralists in 1979 had a good-to-excellent reception for the ABC's Country Hour. Some stations are still unable to access radio, but they can now source information from the Internet or satellite television.

The new technologies and labour-saving devices being used on stations in 2004 include laneways (43 per cent of stations), water medicators (16 per cent), hydraulic crushes (10 per cent), solar powered watering points (10 per cent) and remote water monitoring (3 per cent).

In 1979 some stations kept animals other than cattle, which are in low numbers or no longer present on stations in 2004. Five stations in 1979 had a total of

TABLE 36 - PROPORTION OF STATION THAT IS SUITABLE FOR GRAZING 1979 VS. 2004

% OF STATION LEASE	1979 (% OF STATIONS)	2004 (% OF STATIONS)
0-10	1	0
10-20	1	3
20-30	6	3
30-40	13	3
40-50	6	3
50-60	17	5
60-70	13	18
70-80	9	16
80-90	19	16
90-100	8	8
100	6	26

TABLE 37 - CHANGE IN AREA OF STATION EFFECTIVELY ENCLOSED

AREA OF STATION EFFECTIVELY CONTROLLED	1979 (% OF STATIONS)	2004 (% OF STATIONS)
0-24%	0	3
25-49%	8	0
50-74%	12	15
75-99%	39	41
100%	41	41

TABLE 38 – IMPACT OF FERAL ANIMALS ON STATIONS 1979 AND 2004

	1979 - PROBLEM AND SOME LIMITED CONTROL	2004 - HIGH IMPACT ON STATION
Wild Dogs	44%	33%
Camels	17%	24%
Donkeys	6%	11%
Rabbits	4%	10%
Kangaroos	4%	29%
Horses	19%	5%

340 goats, 3 stations had sheep (2 stations had them for meat and one kept some for nostalgia); only 1 station in 1979 said that they had a milking cow.

Another interesting change since 1979 has been the railway. In the survey of 1979 it was commented that cattle turn-off in 1978 was limited due to the availability of rail vans for transporting cattle down to Adelaide. It was hope this problem would be alleviated when the new standard gauge railway was due to be introduced. Transporting cattle via rail ceased during the mid-1990s. Cattle in the Alice Springs Region in 2004 are transported via roadtrains.

References

Bastin G., Shaw K. and Dance R., (1996), *Rangeland Pastures of the Alice Springs District*, Agnote 274 G4, NT Department of Primary Industries, Fisheries and Mines

Organisation of the Petroleum Exporting Countries (2004), *Monthly Oil Market Report January 2004*, www.opec.org/home/monthlyper cent20oilper cent20marketper cent20reports/2004/pdf/mr012004.pdf

Organisation of the Petroleum Exporting Countries (2005), *Monthly Oil Market Report January 2005*, www.opec.org/home/monthlyper cent20oilper cent20marketper cent20reports/2005/pdf/mr012005.pdf

Petty D., Holt R. and Bertram J., (1979), *Alice Springs District Cattle Industry Survey 1979*, Technical Bulletin No. 31, NT Department of Primary Production

Appendices

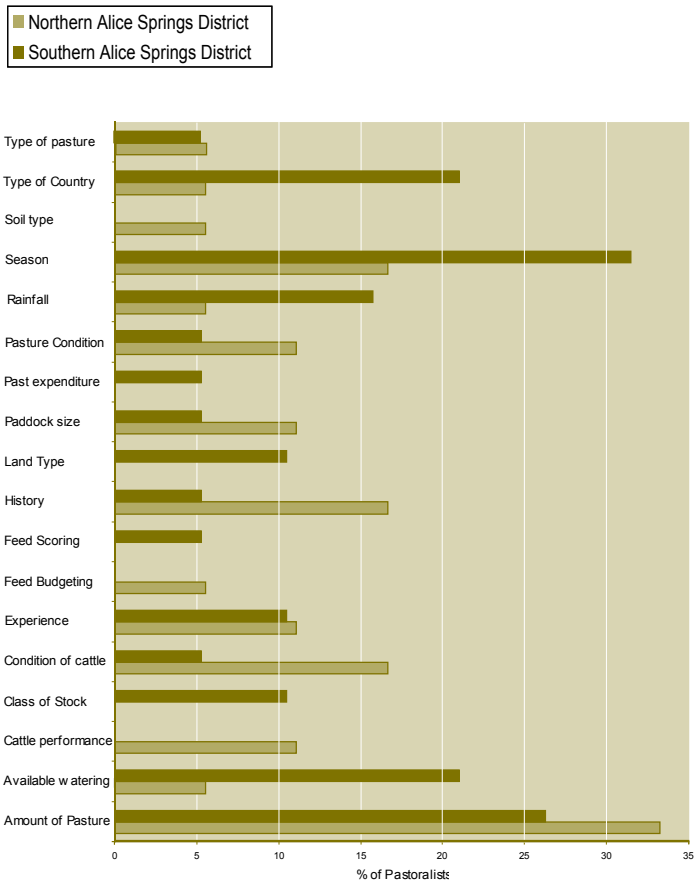
Appendix 1 - Breed of Cattle by Total

	BOS TAURUS (% OF STATIONS	*BOS TAURUS* X (% OF STATIONS	*BOS TAURUS* (% OF STATIONS
Not Stated	25	18	0
300-1000	4	6	0
1000-2000	4	6	0
2000-5000	25	18	0
5000-7500	21	29	67
7500-10000	17	6	33
10000-15000	4	0	0
15000-20000	0	6	0

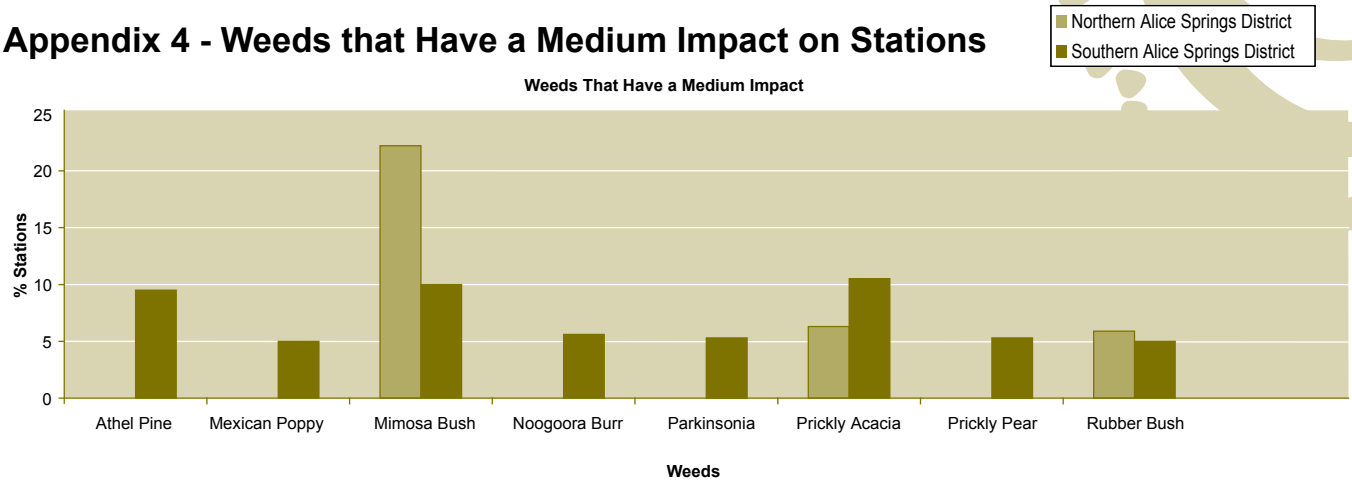
Appendix 2 - Percentage of Stations Using RFIDs according to Total Herd Size

	YES (% OF STATIONS)	NO (% OF STATIONS)
NOT STATED	100	0
300-1000	100	0
1000-2000	50	50
2000-5000	67	33
5000-7500	42	58
7500-10000	100	0
10000-15000	100	0
15000-20000	100	0

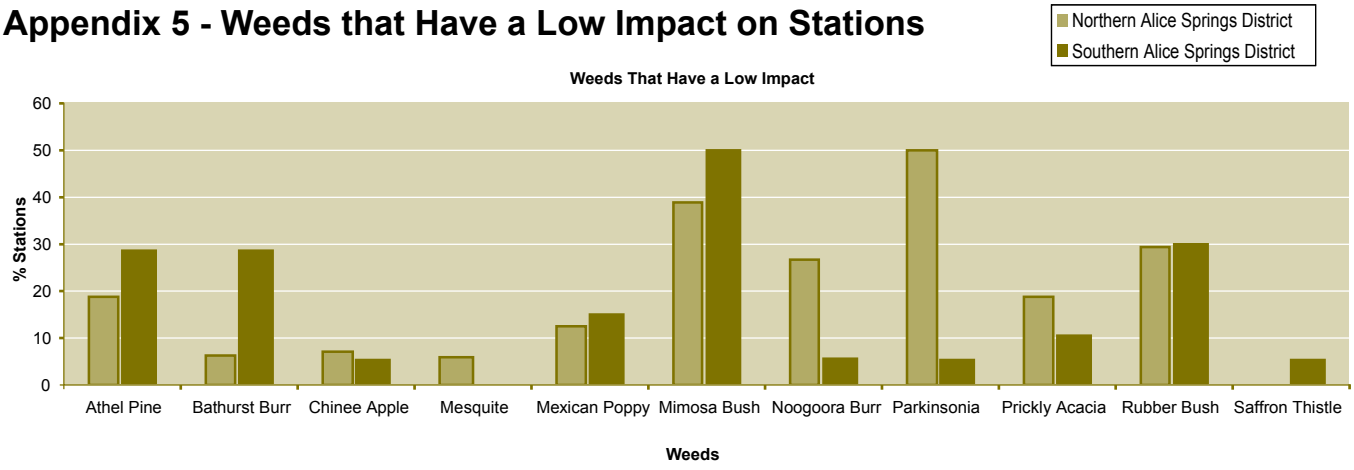
Appendix 3 - How Pastoralists Determine the Carrying Capacity of a Paddock



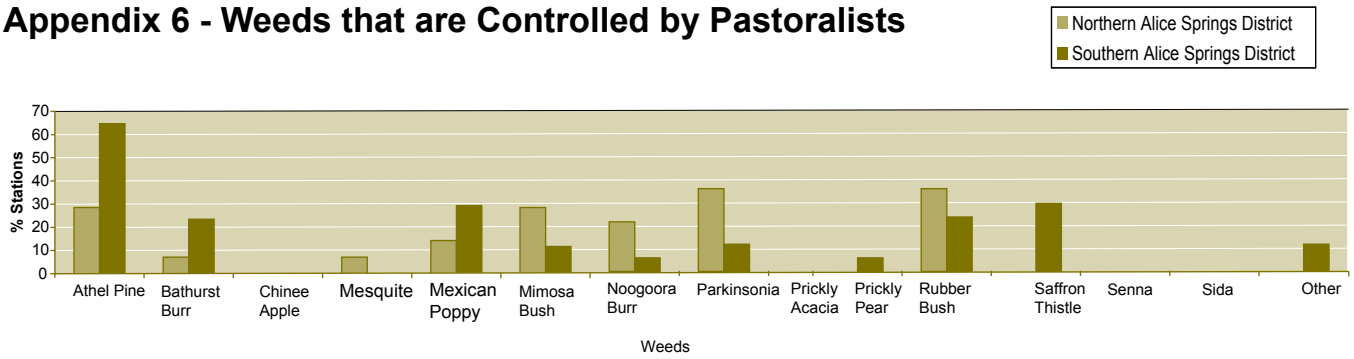
Appendix 4 - Weeds that Have a Medium Impact on Stations



Appendix 5 - Weeds that Have a Low Impact on Stations



Appendix 6 - Weeds that are Controlled by Pastoralists



Appendix 7 – Changes in Total Herd Size

1979		2004	
TOTAL HERD SIZE	% OF STATIONS	TOTAL HERD SIZE	% OF STATIONS
		Not Stated	16
<2000	4	300-1000	3
2000-4000	10	1000-2000	5
4000-6000	28	2000-5000	24
6000-8000	26	5000-7500	32
8000-10000	7	7500-10000	11
10000-12000	13	10000-15000	3
12000-14000	4	15000-20000	3
14000-16000	4		
16000-18000	4		

Appendix 8 – NLIS Update September 2005

The mandatory use of Radio Frequency Devices (RFIDs) for NT cattle will be phased in over the next two years. The change to mandatory use of RFIDs is being adopted to support a nationally consistent approach to livestock traceability. In contrast to results at the time of the survey, pastoralists subsequently are committed to implementation.

A timetable detailing the implementation milestones has been approved the Minister for Primary Industry, Fisheries and Mines. Mandatory use of RFIDs and transaction recording to the national NLIS database will apply to:

Cattle moving interstate 1 July 2005

Cattle carrying RFIDs must be recorded to the National database prior to entry to the NT. Any subsequent movements will be read and recorded. 1 July 2006

Cattle moving to saleyards 1 August 2006

Cattle moving to abattoirs 1 July 2006

Cattle moving from property to property 1 July 2007

(Under the risk based system agreed by Primary Industries Ministerial Council, exemptions may apply where cattle go direct from property of birth to slaughter or export).