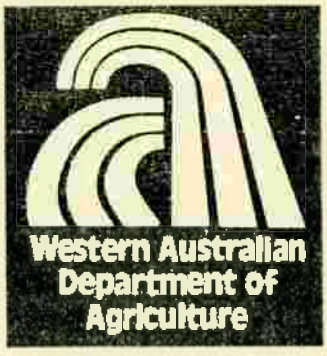
NORTHERN
AGRICULTURAL
REGION



GERALDTON REGIONAL OFFICE

WESTERN AUSTRALIAN DEPARTMENT OF AGRICULTURE

Northern Agricultural Region

Introduction

Western Australia has about 10 per cent of Australia's farmers and accounts for 15 per cent of the nation's gross value of rural production. In 1987/88, the State's gross value of rural production exceeded $3 billion, 9 per cent of the State's GDP.

The agricultural sector is an important employer in Western Australia, directly employing nearly 50,000 people, and more than 100,00 peoplein associated industries. Agriculture is a major contributor to WA's export earnings, accounting for 30 per cent of the State's overseas earnings.

The Department of Agriculture's corporate mission is "to maintain and improve productivity, profitability and competitiveness of the rural sector of Western Australia, consistent with conservation of the State's natural resources". It is a client-oriented organisation which provides services to producers and consumers of agricultural products through research, extension and regulatory functions.

Research solves problems and develops new technology, providing the information to increase productivity while conserving natural resources. Though local research is largely concerned with problems facing agriculture in this State it also makes a significant contribution to the world of knowledge.

Extension is the communication of the Department's knowledge, innovations and technology to the end user. Without extension the value of research is lost. It also encompasses communication from clients to the Department, providing integration of knowledge and better definition of problems needing solutions.

Regulation administers legislation regarding standards and procedures to maintain, supply, quantity and marketability of agricultural products. Regulation, authorized by legislation, is introduced in response to community needs.

The Department of Agriculture has about 1700 employees, of whom about half are based outside Perth. The total budget in 1987/88 was $82 million, and $16 million was raised in revenue. Of the total budget, $38 million was allocated to research, $24 million to extension, and $17 million to regulatory activities.

Australia is unique in the contribution made directly by farmers to rural research. Funds are generated by levies on most major

agricultural commodities, and distributed through bodies conducting agricultural research to priority areas. In 1987/88 the Department received almost $7 million of these industry funds in addition to direct funding from Government for research work.

Structure and Regional Operations of the Department of Agriculture

The organisational structure of the Department is indicated in Figure 1. This structure was adopted following a re-organisation in 1987, and the implementation of a stronger regional structure. Regional operations are conducted through Regional Managers in each of seven regions (five agricultural regions, the pastoral region, and the Kimberley). Regional Offices have been established in Albany, Bunbury, Katanning, Merredin, Geraldton, Carnarvon and Kununurra.

The Northern Agricultural region consists of the Geraldton, Three Springs and Moora advisory districts and includes all agricultural (cf. pastoral) land within the region. Wongan Hills, Badgingarra, and Chapman Research Stations are included. The region produces some $550 million of agricultural produce, including 35% of the State's wheat crop, 70% of the State's lupin crop, and 15% of the wool clip. Staff total approximately 120 people (about half at the Geraldton Regional Office), and the total annual budget is in excess of $5 million.

In the past, district and regional office staff have primarily filled an advisory and service role, with the Geraldton office also responsible for aspects of port quarantine. The Agriculture Protection Board (a separate body to the Department of Agriculture) has also performed a service and regulatory function. Initiatives associated with regionalisation of the Department of Agriculture have resulted in rapid increases in staff numbers at Geraldton, from 35 in 1987/88 to currently almost 60, and projected numbers of 70 by 1990/91, and 100 by 1993. This increase is almost completely in research staff (half professional, half technical), through a combination of permanent staff transfer from South Perth headquarters, and particularly through outstanding success in attracting industry funds over the last two years. In 1989/90 the region will receive almost $1 million in these funds, principally from wheat, lupin (grain legume) and wool levies, to conduct world class agricultural research into regional priority areas. These funds are in addition to $2.5 million of Government-sourced research funds.

Though difficult to estimate, the benefit from agricultural research and other activities for the region undoubtedly exceeds funds expended. A modest 1% increase in productivity per annum covers the Department's regional expenditure, in addition to the value of maintenance of existing levels of production and exports. One example of the success of research and extension is the lupin industry. Lupins have grown from a negligible industry in the early 1970's to be currently worth $100 million to the region in direct benefits from grain sales, and possibly a similar amount in resultant increases in wheat yields and sheep

feed. Lupin growing has also stabilised and maintained the viability of sandplain farmers in the region, who have limited enterprise flexibility.

Because the Department's clients are in rural areas, the closer liaison with the clients resulting from regionalisation has increased the effectiveness of the Department's activities. Though again difficult to quantify, closer liaison with the clients and with other research personnel, enabling the development of multi-disciplinary task forces to tackle complex production and resource management problems, has distinct benefits compared to centralised activities.

Current Projects

Research

Research priorities are listed in Attachment 2. Many of the priorities are currently being addressed. Examples of the types and funding of projects from industry funds are listed in Attachment 3.

Research is primarily concentrated on the major existing industries (cereals, lupins, sheep) and on the stability of farming systems to minimise land degradation. Efforts are currently being made to obtain funding for a horticultural and floricultural development project (jointly with GMWDA and TAFE). Research and development requirements in other "innovative" areas - e.g. deer, emu and rabbit farming, and leather production - is mainly serviced by a small South Perth-based group within the Department, though consideration is being given to local support. Funding for such industries is difficult, as no industry-funded support is available.

Extension

Major extension thrusts are developed each year, on various industry topics, and on conservation farming practices to reduce land degradation. Much extension is directly in response to farmer demand, but pro-active extension is important. Problem areas are tackled as they arise, and research requirements are identified. Current topics include farming techniques to combat wind and water erosion problems (in close collaboration with community based Land Conservation Districts which are forming and growing at a rapid rate in the region), lupin diseases, and sheep management. Each of these require both research (new information) and extension (of existing information).

Regulation

The Department is responsible for various regulatory activities, including quarantine control of grain exported from the Geraldton

port. From October, the Department will also be responsible for general quarantine in the port. Another aspect of regulation is the administration of the Soil and Water Conservation Act (1982) which ensures protection of natural resources against severe degradation.

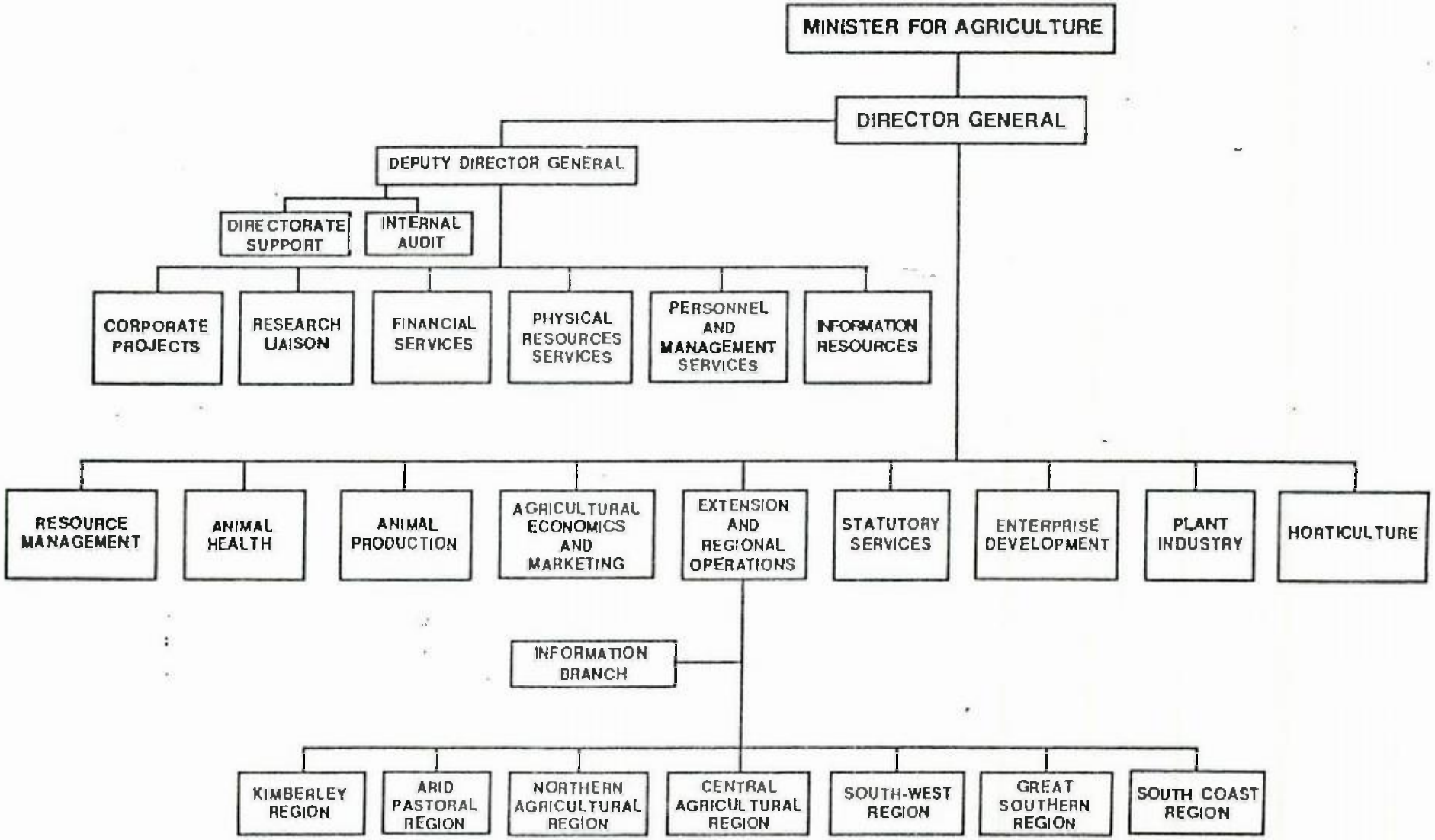
Other

To hold and continue to attract quality personnel to the region, the Department must provide top-class facilities in the region to support its activities, particularly in research. This is particularly important with the current shortage of trained professional agricultural scientists. Provision of these facilities is critical to the continuing successes and growth of operations in the region. Current facilities are inadequate, and grossly so for the projected 100 employees by 1992. Without new facilities, growth will be necessarily curtailed from 1990.

In 1988/89, $100,000 was allocated from the State budget for planning of the Northern Agricultural Research Institute in Geraldton, on a 20 hectare site previously purchased near the airport. A $6.25 million facility has been designed to cater for 100 employees, and includes adequate laboratory and other support facilities. This major project for the region will sufficiently cater for a high level of regional research and other activities, but no further funds have been provided in the 1989/90 budget.

Department of Agriculture - Organizational structure

July, 1989



ATTACHMENT 1

SOIL TYPE - SPECIFIC PRIORITIES

LAND CLASS	RESEARCH AREA	RESEARCH PRIORITY	CURRENT WADA RESEARCH STATUS (1 = high activity)
1. Good sandplain soils (Eradu Wongan)	Crop establishment	1	
	- tillage (early growth, wind erosion)		1
	- weeds (esp brome)		2
	- root diseases (wheat, lupins)		2
	- K, P nutrition (esp lupins)		2
	Role of tree windbreaks in the farming system.	1	2
2. Red loamy soils, eastern area	Crop establishment	1	
	- tillage methods		1
	- soil structure		1
	- early sowing techniques		1
	- weeds		2
	- crop species and types		
	(1) cereals		1
	(2) grain legumes		2
	Pasture species	1	1
	Salinity/water control	1	3
3. Sandy duplex soils medium-high rainfall	Crops establishment	1	
	- tillage		2
	- water erosion prevention		
	Pastures	1	
	- weeds (doublegees)		3
	Salinity and water logging	1	1-2
	Soil acidification	2	2
4. Poorer sandplain soils West Midlands, Allanooka	Stable rotations	1	
	- species		2
	- water repellance		1
	- wind erosion		1
	- nutrition		2
	- alternative uses		2
	Lupins	1	
	- establishment		1
	- diseases		2
5. Low rainfall acid sandy wodjil soils	Land use systems	1	
	- species		3
	- utilisation (tagasaste, saltbush)		2
	Acidity amelioration	1	2

ATTACHMENT 2

General Priorities	Priority	Current Research Status
1. Variety x-environment interactions - breeding and selection for matching genotype with environment (crop pasture species, animals).	1	1
2. Land capability studies of soils and landforms.	1	1 (part)
3. Landman / FMEI	1	2
4. Integrated catchment land/water use management.	1	3
5. Development of MIDAS models for each of regions 1-5	1	1
6. Animal feeding strategies		
- supplementary feeding	1	2
- sheep	1	2
- cattle	1	3
7. Animal diseases		
- lupinosis	1	2
- myopathy	3	2
8. Agricultural machinery		
- cultivation	1	2
- sowing	1	2
- harvesting	3	3
9. Entomological problems	1	2
10. Market research (extension)	2	2
11. Plant viral diseases	1	1
12. Horticulture / floriculture	1-2	3

NORTHERN AGRICULTURAL REGION

PERSONNEL

1. Geraldton Regional Office

NAME	DESIGNATION	OFFICE/DIVISION	EMPLOYED UNDER
C Thorn	Regional Manager	Regional Organisation	CRF
P Nelson	Officer in Charge	" "	CRF
A Haagensen	Adviser		CRF
B Sullivan	"	" "	CRF
C Peek	"	" "	CRF
I Jenkins	"	" "	CRF
M Douglas	Technical Officer		CRF
D Lisle	" "	" "	CRF
R Tanner	" "	" "	CRF
G Adam	" "	" "	CRF
B Winfield	Finance and Administration Officer	" "	CRF
R Walker	Senior Clerk	" "	CRF
M Brenkley	Typist	" "	CRF
B Peake	Temporary Clerk/Typist	" "	CRF
K Shanks	Clerk/Typist	" "	CRF
J Baker	Part time Clerk	" "	CRF
D Collopy	Regional Veterinary Officer	Animal Health	CRF
M Schipp	District Veterinary Officer	" "	CRF
E Crispin	Stock Inspector	" "	CRF
I Vigar	Stock Inspector	" "	CRF
M Stevens	Regional Economist	Marketing & Economics	CRF
A Abadi	Research Economist	" "	CRF
G Boyle	Technical Officer	Horticulture	CRF
P Zis	" "	"	CRF
C Bergerson	" "	"	CRF
P Norris	Technical Officer P/T	"	CRF
F DeMartini	" " "	"	CRF
J Walker	" " "	"	CRF
L Lynch	" " "	"	CRF
K Walden	Research Officer	"	CRF
P Blackwell	Research Officer	Resource Management	
D Nicholson	Technical Officer	" "	
G Morrow	Field Assistant	" "	
G Rogers	Research Officer	" "	
P Findlater	Research Officer	" "	
C Nash	Technical Officer	" "	
G Moore	Technical Officer	" "	CRF
R Upchurch			
K McCarthy	Research Officer	Plant Industry	
R Delane	" "	" "	
N Kerr	" "	" "	
C Schmidt	" "	" "	
N Edwards	" "	" "	
B Nutt	" "	" "	
J Wilson	" "	" "	
B McLeod	" "	" "	
A Doswell	Technical Officer	" "	
M Thomas	" "	" "	
Vacant	" "	" "	
R Thomas	" "	" "	
C McDonald	Research Officer	?	
G Rix	Technical Officer	?	
K Devenish	Field Assistant	?	

2. Moora District Office

Vacant	Officer in Charge	Regional Organisation	CRF
J Borge	Adviser	" "	CRF
S Bestow	"	" "	CRF
J Gumley	"	" "	CRF
W Proudlove	"	" "	CRF
S Joyce	Clerk / Typist	" "	CRF
K Murphy	Senior Clerk	" "	CRF
M Davies	District Veterinary Officer	Animal Health	CRF
B Wells	Stock Inspector	" "	CRF
K Carter	" "	" "	CRF
R Hendricks			
P Bellamy	Technical Officer	Resource Management	CRF
T Mitchell	" "	" "	CRF
J Berry	" "	" "	CRF
J Simons	" "		
C Cunningham	" "		
D Kelly	" "		
C Maughan	" "		
L Doornbusch	" "		
Vacant	Research Officer		
C DeKoning	Research Officer		

3. Three Springs District Office

D Kessell	Officer in Charge	Regional Organisation	CRF
R Quinlan	Adviser	" "	CRF
C Wilkins	"	" "	CRF
N Cox	Technical Officer	" "	CRF
Vacant	Technical Officer	" "	CRF
S Hunter	Clerk / Typist	" "	CRF

CHAPMAN RESEARCH STATION - TEL (099) 20 5021

Bob MURRAY	MANAGER
Murray BLYTHE	TECHNICAL OFFICER
Michael BEANLAND	TECHNICAL OFFICER
Margaret GILBERT	PART TIME CLERK

BADGINGARRA RESEARCH STATION - TEL (096) 529 010

Robyn RANDALL	MANAGER
Ken BURCHELL	TECHNICAL OFFICER
Tania CAMPBELL	TECHNICAL OFFICER
Peter FISHER	PLANT INDUSTRY TECHNICIAN
Jan RANDALL	CLERK
Mark BAILEY	GENERAL OPERATIVE
Ron MACONACHIE	GENERAL OPERATIVE
Frank WARK	GENERAL OPERATIVE
Steven GIBBONS	GENERAL OPERATIVE

WONGAN HILLS RESEARCH STATION - TEL (096) 711 322

John FERGUSON	MANAGER
John MILLIGAN	2IC / TECHNICAL OFFICER
Peter MOSS	TECHNICAL OFFICER
Tracey MOURITZEN	TECHICAL OFFICER
Michaek NAISBITT	TECHNICAL OFFICER PLANT INDUSTRIES
Syd DUNSTALL	SENIOR TECHNICAL OFFICER PLANT INDUSTRI
John MOURITZEN	TECHNICAL OFFICER PLANT INDUSTRIES
Frank RICKWOOD	TECHNICAL OFFICER PLANT INDUSTRIES
Andrew CUSS	TECHNICAL OFFICER PLANT INDUSTRIES
David WALD	TECHNICAL OFFICER PLANT INDUSTRIES
Shari HORNE	TECHNICAL OFFICER PLANT INDUSTRIES
Aileen JONES	CLERK

AGRICULTURE IN THE NORTHERN AGRICULTURAL (GERALDTON MID-WEST) REGION

Overview

Agriculture is the principal activity in the Northern Agricultural Region in terms of economic value and total employment. Wheat and lupin grain production and sheep raising are the main agricultural activities.

Relevant agricultural statistics are presented in Table 1.

TABLE 1 RURAL STATISTICS 1986/87

SHIRE	RURAL HOLDINGS	CEREALS (ha)	LUPINS (ha)	SHEEP	CATTLE
Carnamah	84	43 300	10 800	205 000	2 100
Chapman Valley	139	92 200	28 600	357 000	1 800
Chittering	217	6 400	700	125 000	9 900
Coorow	116	54 700	12 300	335 000	4 000
Dalwallinu	181	241 400	40 800	402 000	700
Dandaragan	202	46 200	9 800	757 000	24 300
Gingin	184	3 900	2 700	152 000	22 400
Greenough	148	30 400	10 800	326 000	6 100
Irwin	53	23 500	14 600	162 000	1 800
Perenjori	133	148 300	15 300	242 000	7 000
Mingenew	67	62 100	18 100	251 000	500
Moora	165	98 100	14 900	618 000	4 900
Morawa	135	119 300	9 100	181 000	-
Mullewa	148	193 500	45 100	315 000	600
Northampton	164	85 800	29 400	569 000	2 000
Three Springs	98	62 900	13 800	338 000	1 500
Victoria Plains	158	74 900	7 600	510 000	7 500
Wongan-Ballidu	157	152 000	37 100	556 000	900
TOTAL	2549	1 548 900	321 000	5 997 000	98 000
% Gross value WA	(15%)*	37%	70%		
* % of total number				Livestock products 14%	

The gross value of the agricultural production is over $520 million which exceeds the combined value of mining and fishing.

The Port of Geraldton is heavily dependent on the agricultural industry for over 50 per cent of its total trade with about 1 million tonnes of grain exported annually.

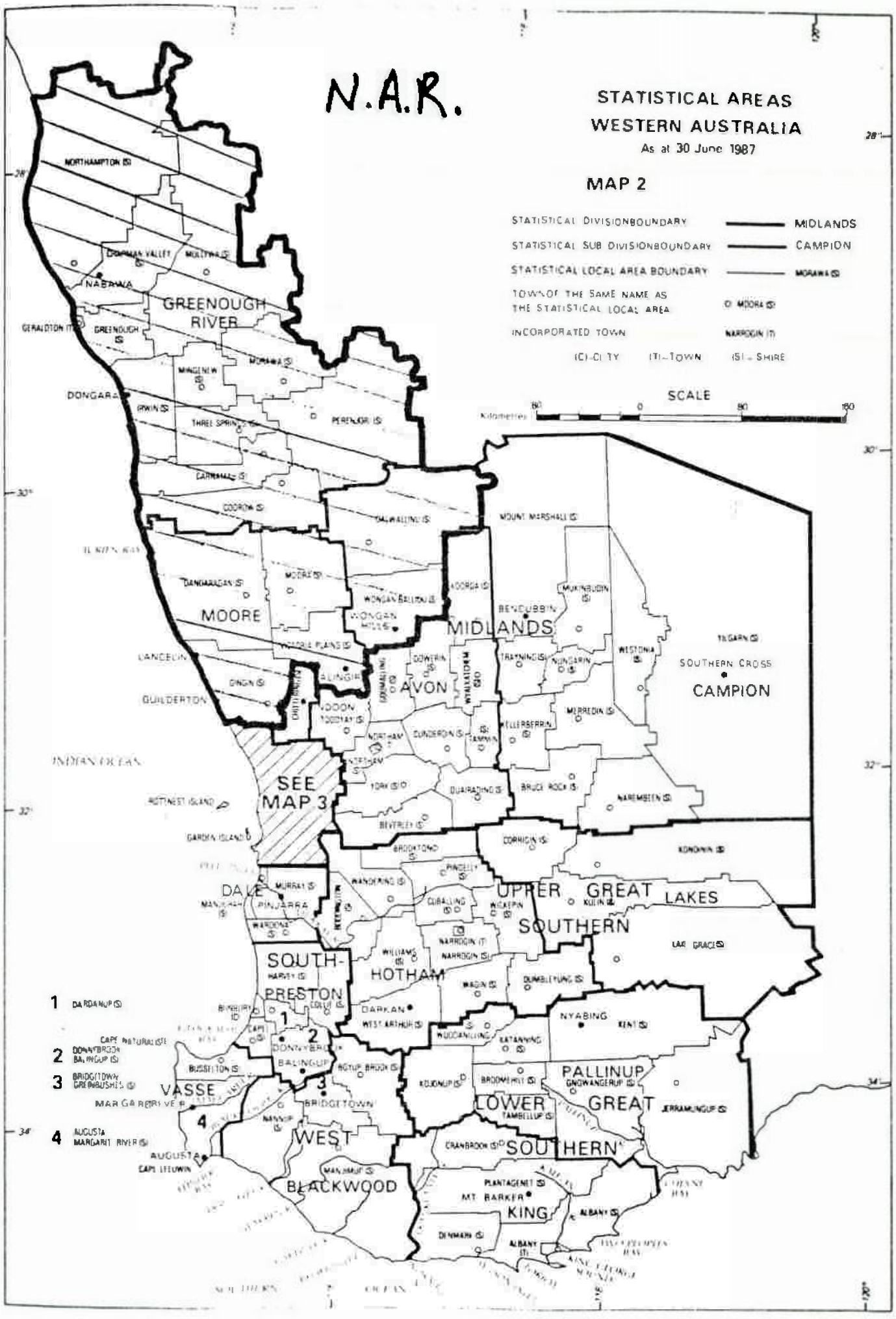
The region carries 6 million sheep and the recent increase in wool prices has provided a boost to the region.

There is a small vegetable industry centered in Geraldton with tomatoes as the principal crop, and a wildflower industry is becoming established in the west midlands area (Badgingarra -Eneabba).

In recent years there has been increased interest in alternative animal industries. There are now some twenty properties running goats, either angoras, cashmere or cashgoras. Several properties have commenced deer raising and two properties have entered into emu farming.

Over the past ten years the agricultural sector has suffered from a number of below average seasons and worsening commodity proces. The recent, very significant improvement in wool prices and the growth of the lupin grain industry, which now ranks third as an income earner for agriculture in the region, have, however improved current outlook.

N.A.R.


STATISTICAL AREAS
WESTERN AUSTRALIA
As at 30 June 1987
MAP 2
STATISTICAL DIVISIONBOUNDARY
MIDLANDS
STATISTICAL SUB DIVISIONBOUNDARY
CAMPION
STATISTICAL LOCAL AREA BOUNDARY
MORAWA (S)
TOWN OF THE SAME NAME AS THE STATISTICAL LOCAL AREA
O MOORA (S)
INCORPORATED TOWN
NARROGIN (T)
(C)-CITY (T)-TOWN (S)-SHIRE
SCALE
Kilometres
80 0 80 160
SEE MAP 3
GREENOUGH RIVER
MOORE
MIDLANDS
AVON
CAMPION
SOUTHERN CROSS
DALE
UPPER GREAT SOUTHERN
SOUTH-WEST
PRESTON
HOTHAM
VASSE
LOWER GREAT SOUTHERN
PALLINUP
WEST BLACKWOOD
KING
1 DARDANUP (S)
2 DONNYBROOK BALINGUP (S)
3 BRIDGETOWN GREENBUSHES (S)
4 AUGUSTA MARGARET RIVER (S)
INDIAN OCEAN

Local Agricultural Problems

PROBLEM

Water and wind erosion of soils in the Northern Agricultural Region.

BACKGROUND / CURRENT SITUATION

Because of the nature of soils in the region, and weather conditions often experienced, erosion of the soils occurs periodically despite the practice of good farming methods by the region's farmers.

PROPOSED ACTION / SITUATIONS

Farmers are forming Land Conservation Districts (LCD's) in the region to assist each other tackle the problems and to integrate planning. National Soil Conservation Programme (NSCP) funds have been obtained by the LCD's and by the WA Department of Agriculture (WADA) to assist in planning and developing farming methods to overcome the problems. The WADA Geraldton Regional Office has ongoing expenditure of more than $250,000 (partly obtained from Rural Industry Research Funds) on projects specifically to research modified farming methods and to overcome land degradation problems.

PROBLEM

Lupinosis (a potentially fatal disease of sheep caused by grazing stubble of susceptible lupin varieties infected with the fungus Phomopsis).

BACKGROUND / CURRENT SITUATION

Every year lupinosis causes some production loss and death of sheep grazing lupin crop stubbles. No economic treatment is available for either the lupin crops or affected sheep. Production losses vary between years. Average annual losses are estimated as $2-3 million, with losses as high as $6 million in 1989 (including 100,000 sheep deaths), due to loss of sheep and wool production. Despite this risk, lupin grain production in rotation with wheat is still profitable for farmers.

PROPOSED ACTION /SOLUTION

The WADA has for a number of years pursued the objective of breeding lupins resistant to the fungus causing lupinosis. Two resistant (not immune) varieties were released in 1988. These varieties greatly reduce the lupinosis risk, and yield as well as other lupinosis-susceptible varieties. Further varieties are being tested and are likely to be released in the next few years. It is likely that after the next few years most lupins grown will be of varieties of low susceptibility to the fungus, resulting in

extra profit from agriculture in the region of at least $2 million per annum.

PROBLEM

Cucumber Mosaic Virus (CMV) disease of lupin crops.

BACKGROUND / CURRENT SITUATION

CMV is a viral disease of lupins, transmitted by aphids. The disease causes sporadic yield losses in different years, and can cause almost total yield loss in some areas in some years. The disease constitutes a threat to farmers confidence in the lupin industry.

PROPOSED ACTIONS / SOLUTIONS

The WADA has two research officers working on the problems and will shortly employ a third officer on funds obtained from the Grain Legumes Research Council. Methods of control are being treated in farmers lupin crops this year.

PROBLEM

Horticultural and floricultural industry development in the region.

BACKGROUND / CURRENT SITUATION

Farmers and the WADA have demonstrated that the potential exists for the further development of the horticultural and floricultural industry in the region. Support in experimental work and other production areas, marketing studies and courses in horticulture run by TAFE in Geraldton is required.

The value of horticultural and floricultural production in the region is currently probably in excess of $1 million but has the potential to expand several fold.

PROPOSED ACTIONS / SOLUTIONS

A joint WADA/TAFE/Geraldton Mid-West Development Authority submission to employ a horticulturist is to be submitted for State Government CRF consideration. Total cost will be approximately $50,000 per annum.

PROBLEM

Regionalisation of the Department of Agriculture, and regional research. Provision of capital to fund the Northern Agricultural Research Institute (WADA) Geraldton.

BACKGROUND / CURRENT SITUATION

At the initiative of the WA State Government, the WADA has developed plans for regionalisation of research activities. The first stages of implementation have been completed with the development of a regionalised structure, the relocation of some research activities, and the attraction of industry funded research projects. Regionalisation is expected to result in increased effectiveness of applied agricultural research by the WADA, through better liaison with the farming community, and the development of interdisciplinary research teams.

PROPOSED ACTION / SOLUTION

In the 1988/89 state budget, $100,000 was allocated for initial planning of new facilities for the WADA in Geraldton (the Northern Agricultural Research Institute, on a 20 hectare site near the Geraldton airport). The Institute has been designed to house approximately 100 staff, with an emphasis on providing facilities to service research and advisory requirements for agricultural industries in the northern wheatbelt. A total of $6.25 million has been sought to complete the complex, but no further committment has been made by the State Government (no funds allocated in the 1989/90 state budget).

RURAL INDUSTRY RESEARCH FUNDING 1990/91

NORTHERN AGRICULTURAL REGION

WHEAT INDUSTRY RESEARCH COMMITTEE (W.A.)

1989/90 PROJECTS

MIDAS model use in regional research	$33,973	(A. Abadi)
Management of Rhizoctonia root and hypocotyl rot of lupins	$39,181	(B. McLeod)
Cereal production in the Northern Agricultural Region - extension publication to continue 90/91	$60,000	(Nelson/Thorn)
Stable cropping systems for sandplains - direct drilling	$46,637	(N. Kerr)
	$179,791	

NEW PROJECTS APPROVED 1990/91

Field equipment for the Northern Agricultural Region	$8,500	(R. Delane)
Truck and trailer transport support	$69,000	(R. Delane)
Pasture species evaluation	$56,028	(B. Nutt)
Systems for early sowing wheat	$25,264	(N. Kerr)
Tillage and stubble management	$42,288	(Schmidt/ Findlater)
Development and extension of wheat agronomy	$44,872	(C. Thorn)
Amelioration of water repellent soils	$31,300	(P. Blackwell)
Ecology and control of brome grass	$41,160	(C. Zaicou)
	$318,412	

NEW PROJECTS REJECTED

Grain Legume study tour	$3,100

GRAIN LEGUME RESEARCH COUNCIL

1989/90 PROJECTS

Lupin establishment problems - Northern Agricultural Region	$36,032	(K. McCarthy)
Early warning system for heliothis attack of lupins	$29,600	(K. Walden)
Management of CMV in lupins	$37,846	(J. Yeates)
	$103,478	

NEW PROJECTS APPROVED 1990/91

Chemicals to improve pod set	$13,900	(R. Delane)
	$13,900	

PROJECTS NOT APPROVED AND/OR PENDING

Study tour	$5,000	(P. Nelson)
Entomology conference	$2,221	(K. Walden)

WHEAT RESEARCH COUNCIL

1989/90 PROJECTS

Sustainable cropping systems for water repellent soils	$44,091	
Potential of low tillering		(R. Delane)
Systems for early sowing wheat	$44,389	(N. Kerr)

NEW PROJECTS

# Economic analysis of water repellency	$42,000	
APPROVED: Travel grant - chinese visitor	$8,200	

PROJECTS NOT APPROVED

Study tour	$5,000	(P.Nelson)
Effect of medic variety	$31,124	(B. Nutt)

WOOL RESEARCH & DEVELOPMENT CORPORATION

1989/90 PROJECTS

Potassium nutrition of pastures - sandplain	$30,345	(N. Edwards)
Optimising sheep and wool production from lupin stubble	$50,623	(C. McDonald/ B. Nutt)
Annual and perennial legume for development of stable land use	$64,531	(C. Dekoning)*
Evaluation of sheep and wool production on new medic varieties	$59,383	(C. McDonald/B.Nu
Grazing saltbush to overcome autumn/winter feed shortages	$42,720	(P. Morcombe)*
	$247,602	

* Moora District Office

PROJECTS NOT APPROVED

Control of doublegee in legume pastures	(J. Yeates/Gilby
Improving pasture production on heavy soils	(B. Nutt)

GRAIN RESEARCH COMMITTEE

1989/90 PROJECTS

Lupin establishment problems	$49,738	(R. Delane)
Potassium nutrition of lupins on sandplain soils	$8,050	(N. Edwards)

PROJECTS NOT APPROVED

Equipment for Geraldton	$9,000	(R. Delane)

BARLEY INDUSTRY RESEARCH COMMITTEE

NEW PROJECTS

Amelioration of water repellent soils	$16,374	(P. Blackwell)

GRAIN POOL OF W.A.

Lupin pathology support	$12,700	(Thorn/Trevenen)
Lupin extension officer	$73,103	
	$85,803	

TOTALS

	1989/90	1990/91
Continuing RIRF funding 1989/90		$646,171
New RIRF funding 1989/90		$426,315
		$1072,486

NSCP FUNDING

1989/90 -1990/91

PROJECT	PROPONENT*	FUNDS ALLOCATED
CONTINUING PROJECTS		
	Northern Region	
Technical support to Land Conservation Districts	Moora	$78,000
Cadoux-Manmanning Catchment project	Cadoux-Manmanning LCD	$20,000
Red Gully Catchment Project	Gingin LCD	$13,160
Kalannie Sub-Catchment Plan	Kalannie/Goodlands LCD	$20,000
East Three Springs Catchment Plan	Three Springs LCD	$20,000
Koodjee Swamp Catchment Survey and groundwater evaluation	West Koojan/ Gillingarra LCD	$11,450
Support for Land Conservation Districts in the Moora District	Lake Ninan LCD Miling LCD West Ballidu LCD Bibby Springs LCD WADA	$59,920
	TOTAL	$222,530

NATIONAL SOIL CONSERVATION PROGRAMME

COMMUNITY LANDCARE SUPPORT
PROPOSED NEW PROJECTS 1990/91

TITLE	PROPONENTS
Irwin River Catchment - Preliminary mapping study	Mingenew
Broad based grade banks and grassed waterway demonstration	Miling
Reclamation of hillside seep	Miling
Reclaiming an erosion gully by filling and stabilizing	Miling
Economics of saltland grazing of improved improved *Atriplex amnicola* cv. Rivermar	Miling
Purchase of Mallen Niche seeder	Waddi Forest
Perenjori townsite flooding prevention programme	Perenjori
Hydrologic investigation and reclamation	Miling
Preparation of drainage master plan	Miling
Stabilization of severely wind eroded hillside	Miling
Saline land revegetation	Buntine-West Wubin
Tagasaste on acid soil	Buntine-West Wubin
Stabilization of a wind eroded site to enhance agricultural protection	Pithara-Dalwallinu
Vehicle mounted laser surveying unit for use by Landcare assistants	Pithara-Dalwallinu Kalannie West Ballidu Buntine-West Wubin Burakin Bunketch East Ballidu Cadoux Lake Ninan Miling Bibby Springs
Goodlands District catchment plan	Kalannie-Goodlands
Piezometer Monitoring of demonstration catchment	Koolanooka-Bowgada

TITLE	PROPONENTS
Northern Region laser and technician	Koolanooka-Bowgada
Northern Agricultural Districts Regional Soil Conservation Conference	Koolanooka-Bowgada
Equipment to aid soil conservation on Koolanooka/Bowgada conservation group	Koolanooka-Bowgada
Kondinin Shire satellite image project	Kondinin
Cadoux-Manmanning LCD Catchment Planning Programme	Cadoux-Manmanning
Controlling surface run-off in the Upper Catchment using broad based banks	Pithara-Dalwallinu
Inering Sub Catchment Integrated Planning Project	Inering Sub Catchment Group
Gully erosion control	Chapman Valley
Technical support for Land Conservation Districts	Kessell (WADA) Cox (WADA)
	$250,000

NATIONAL SOIL CONSERVATION PROGRAMME

RESEARCH
PROPOSED NEW PROJECTS 1990/91

TITLE	PROPONENTS
Research into processes used by lime and clay to correct water repellent soil in Western Australia	Blackwell (WADA)

STATE ASSISTANCE TO SOIL CONSERVATION

1989/90

DISTRICT	PROJECT TITLE	TOTAL BUDGET	FUNDS REQUESTED
NORTHERN AGRICULTURAL REGION			
Buntine-West Wubin	Demonstration of control groundwater recharge in saline valley system	15,019	15,019
Buntine-West Wubin	Valley montoring schemes for LCD's	1,114	1,114
Burakin-Bunketch	Monthly newsletter	1,060	1,060
Carnamah	Land management problems in Inering Catchment	7,840	3,700
Carnamah/Waddi Forest	Tree Information Booklet for Northen Region	6,000	6,000
East Ballidu	Management of deep rooted perennials on wind blown yellow sands	12,055	10,440
East Ballidu	Saline seep and waterloggged areas requiring re-afforestation	15,190	8,060
Gingin	Tree Planter	6,105	3,053
Gingin	Establishment or arboreta or four separate sites of different soil types	4,564	4,564
Kalannie/Goodlands	Tagasaste row crop type perennial fodder and water recharge control demonstration	8,750	2,990
Kalannie/Goodlands	Communication: the essence of success	3,530	3,520
Miling	Demonstration of integrated landscape management programme to control salinity in valley system	15,814	11,414
Mingenew	Native vegetation regeneration demonstration plot	1,330	1,340
Mingenew	Irwin River Catchment	16,000	10,000

NORTHERN AGRICULTURAL REGION CONTD.

DISTRICT	PROJECT TITLE	TOTAL BUDGET	FUNDS REQUESTED
Morawa	Aerial photography to aid land management.		5,563
Morawa	Equipment and tools to aid self help land management		8,109
Morawa	Granite outcrop hilltop soil erosion control demonstration	10,000	10,000
South Mogumber	Preventing further water-logging, salinity and erosion of Murphy's Gully catchment and creekline	29,380	10,000
West Ballidu	Purchase of Mallen Niche seeder	9,800	9,800
West Ballidu	Demonstration of establishment and management of tagasaste on a recharge area	5,680	3,100
	TOTAL	169,231	128,846