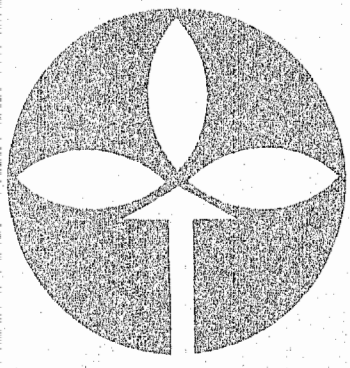
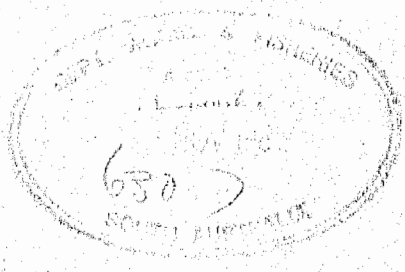


555 (om)



DEPARTMENT OF AGRICULTURE AND FISHERIES, SOUTH AUSTRALIA

# Agronomy Branch Report



MONITORING FIELD RESISTANCE TO LEGUME APHIDS  
OF SUBTERRANEAN CLOVER AND MEDICS  
&  
ANNUAL PASTURE LEGUME CULTIVAR DEMONSTRATIONS

N.M. Brooks,  
Plant Protection Agronomist

99  
Report No.

- CONTENTS -

MONITORING FIELD RESISTANCE TO  
LEGUME APHIDS OF SUBTERRANEAN CLOVERS & MEDICS

	<u>Page</u>
1. INTRODUCTION	1
2. A GUIDE TO THE BASIC SITE PLANS	2
3. INDEX OF MONITORING FIELD RESISTANCE SITES	3
4. INDEX OF MONITORING FIELD RESISTANCE PLANS	
4.1 Cleve	4
4.2 Coomandook	5
4.3 Kapunda	6
4.4 Keppoch	7
4.5 Lameroo	8
4.6 Loxton	9
4.7 Milang	10
4.8 Minlaton	11
4.9 Mt. Cooper	12
4.10 Palmer	13
4.11 Rudall	14
4.12 Wanilla	15
4.13 Yeelanna	16
4.14 Mt. Gambier (perennial clovers)	17

ANNUAL PASTURE LEGUME CULTIVAR DEMONSTRATIONS - 1978

5. INTRODUCTION	18
6. INDEX OF LEGUME DEMONSTRATION SITE PLANS	
6.1 Rudall           Year I	19
6.2 Minlaton       Year I	20
6.3 Maitland       Year II (crop)	21
6.4 Minlaton       Year II (crop)	22
6.5 Callington     Year II (pasture)	23
6.6 Milang         Year II (pasture)	24

PERENNIAL LEGUME PASTURE DEMONSTRATION - 1978

7. INTRODUCTION	25
8. INDEX OF SITE	
8.1 Monteith	26

1. INTRODUCTION

The objective is to monitor the effect of aphids (B.G.A. and S.A.A.) on popular current cultivars, older less popular cultivars and newer cultivars.

Annual medics

Cultivar

Medicago littoralis  
(strand medic)

Harbinger

Medicago rugosa  
(gama medic)

Paragosa  
Paraponto  
Sapo

Medicago scutellata  
(snail medic)

Robinson  
Sair  
Sava

Medicago tornata  
(disc medic)

Saleg

Medicago truncatula  
(barrel medic)

Cyprus  
Ghor  
Jemalong  
Sanza

Annual clovers

Cultivar

Trifolium hirtum  
(rose clover)

Hykon  
Kondinin

Trifolium subterraneum  
ssp. subterraneum  
(subterranean clover)

Bacchus Marsh  
Daliak  
Dwalganup  
Esperance  
Geraldton  
Howard  
Mt. Barker  
Northam  
Nungarin  
Seaton Park  
Tallarook  
Woogenellup  
Clare  
Larisa  
Trikkala

ssp. brachycalycinum  
ssp. yanninicum

Perennial clovers

Cultivar

Trifolium repens  
(white clover)

Haifa  
Ladino  
N.Z. white  
Siral  
Tamar

Trifolium pratense  
(red clover)

Montgomery red

2. BASIC SITE PLANS

The basic plot set up in a sown area of one square metre, with a one metre buffer all around (exceptions can be noted from plans).

Other information is as indicated.

Insecticide was used where necessary to protect the plots in early stages from Red-legged earthmite and Lucerne flea attacks.



FIELD RESISTANCE TO APHIDS OF SUBTERRANEAN CLOVER  
& MEDICS - 1978

SITE: Cleve - Hd. , SN

PROPERTY: Eyre Peninsula Field Day Site

DATE SOWN: 24-5-78

SOIL TYPE: Malley Loam

ANNUAL RAINFALL:

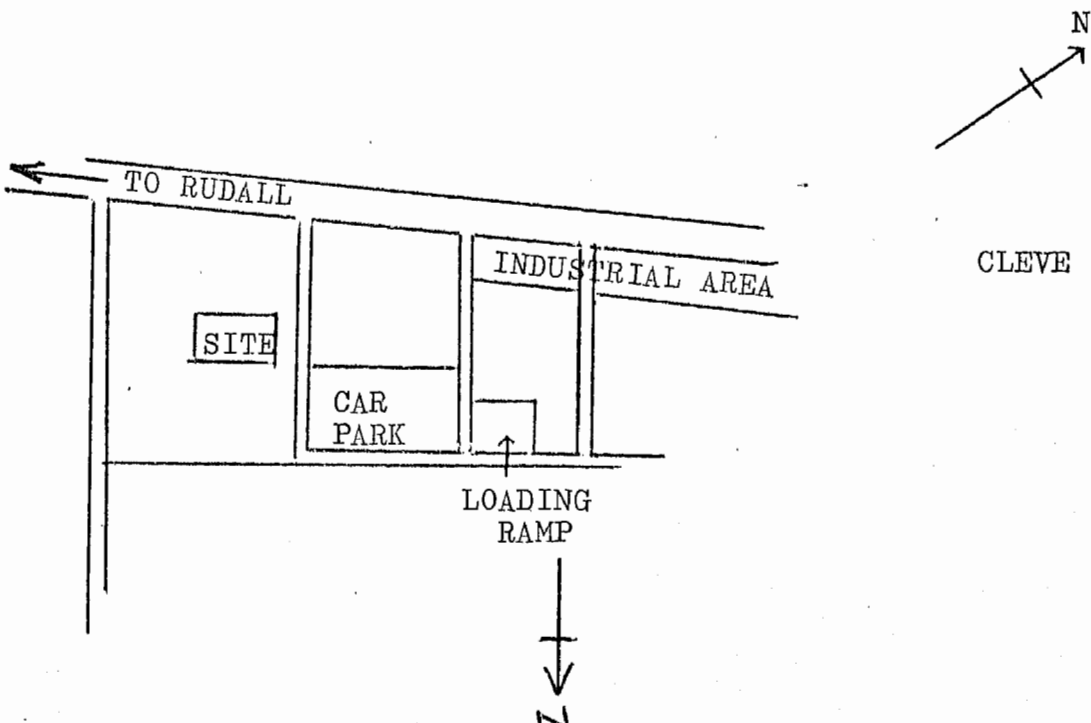
PADDOCK HISTORY: 1977 Ley (probably)  
1976 Cereal (probably)  
1975 Not known

FERTILIZER: Super at 100 kg/ha

SEEDING RATE & PLOT SIZE: Subterranean clover 1.5 g/M<sup>2</sup> - 15 kg/ha  
Medic 1.0 g/M<sup>2</sup> - 10 kg/ha

CULTIVARS:

	Jemalong	Sanza	Sapo	Robinson	Sava
	Sair	Hykon	Cyprus	Harbinger	Paraponto
	Paragosa	Nungarin	Northam	Geraldton	Dwalganup



FIELD RESISTANCE TO APHIDS OF SUBTERRANEAN CLOVER

& MEDICS - 1978

SITE: Coomandook - Hd. , SN

PROPERTY: M.F. & R.G. Ballard  
(Ross Ballard)

DATE SOWN: 1-6-78

SOIL TYPE: Sandy loam

ANNUAL RAINFALL: 425 mm

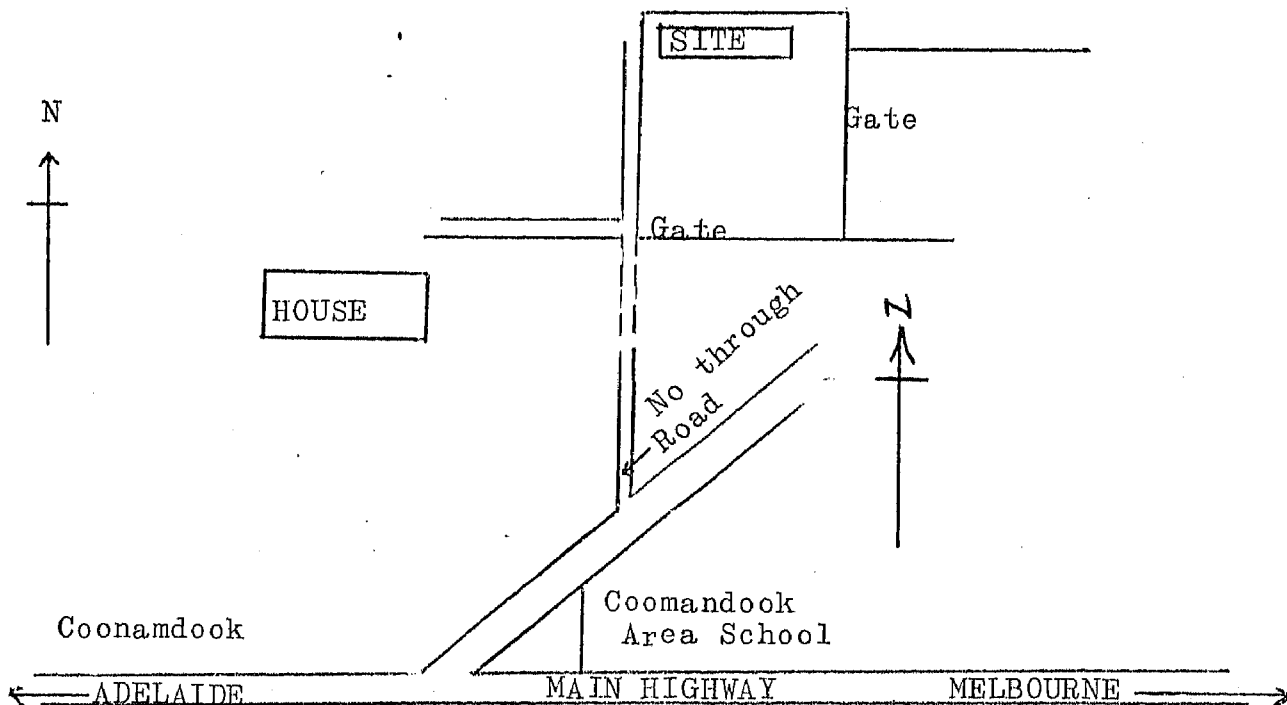
PADDOCK HISTORY: 1977  
1976  
1975

FERTILIZER: Super at 100 kg/ha

SEEDING RATE & PLOT SIZE: Subterranean clover 1.5 g/M<sup>2</sup> - 15 kg/ha  
Medic 1.0 g/M<sup>2</sup> - 10 kg/ha

CULTIVARS:

	Robinson	Sava	Sair	Saleg	Kondini
	Nungarin	Northam	Dwalganup	Geraldton	



FIELD RESISTANCE TO APHIDS OF SUBTERRANEAN CLOVER  
& MEDICS - 1978

SITE: Kapunda - Hd. Gibert, SN 508

PROPERTY: Sharefarmed by C. Huppatz, Riverton  
Phone: Riverton 89

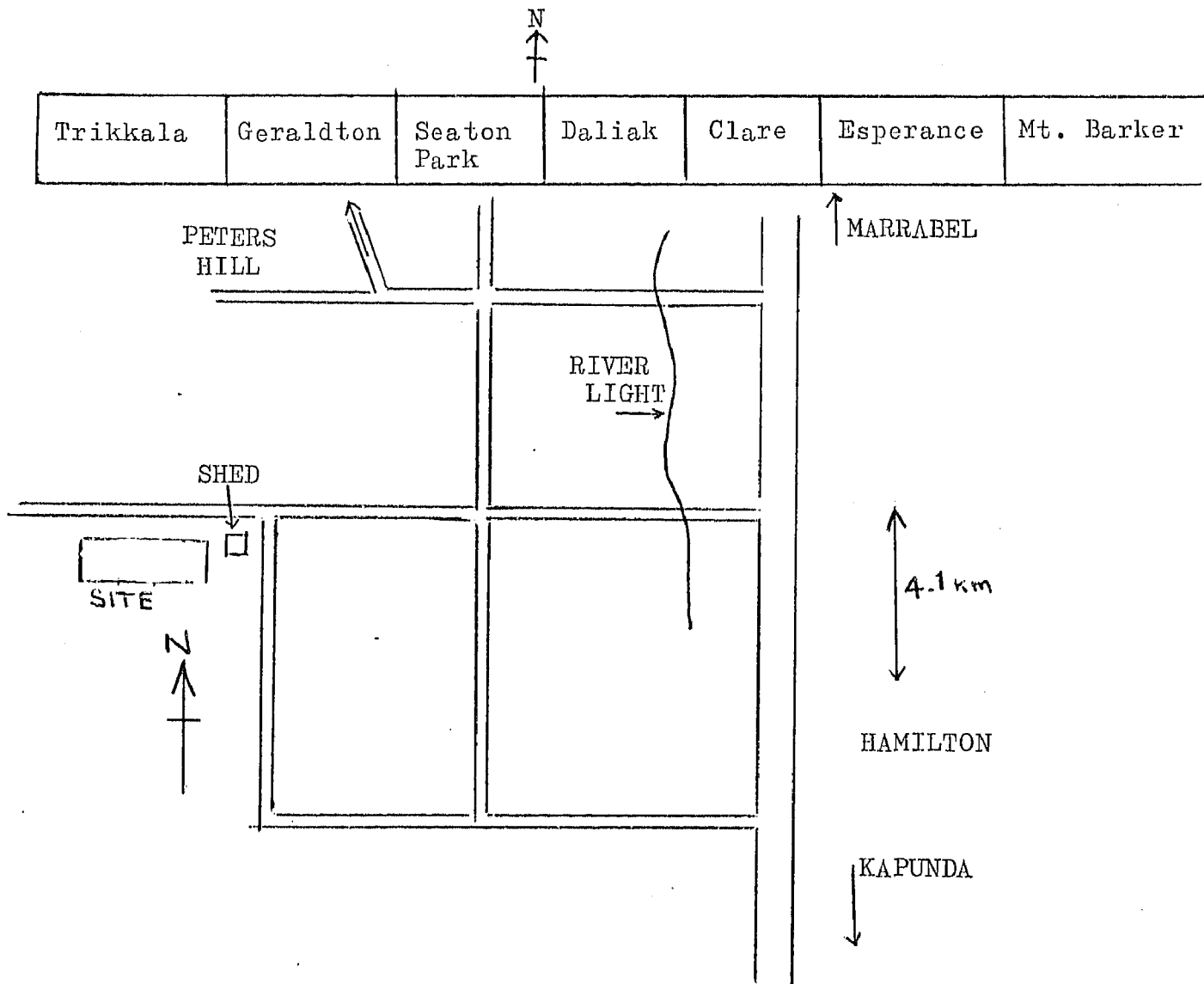
DATE SOWN: 6-6-78

SOIL TYPE: red brown earth

ANNUAL RAINFALL: 450 mm

SEEDING RATE & PLOT SIZE: subterranean clover 1.5 g/M<sup>2</sup> - 15 kg/ha  
medic 1.0 g/M<sup>2</sup> - 10 kg/ha

CULTIVARS:





FIELD RESISTANCE TO APHIDS OF SUBTERRANEAN

CLOVER & MEDICS - 1978

SITE: Keppoch - Hd. , SN

PROPERTY: D. Brown  
Phone (087) 656063

DATE SOWN: 23-5-78

SOIL TYPE: Sandy loam

ANNUAL RAINFALL: 500 mm

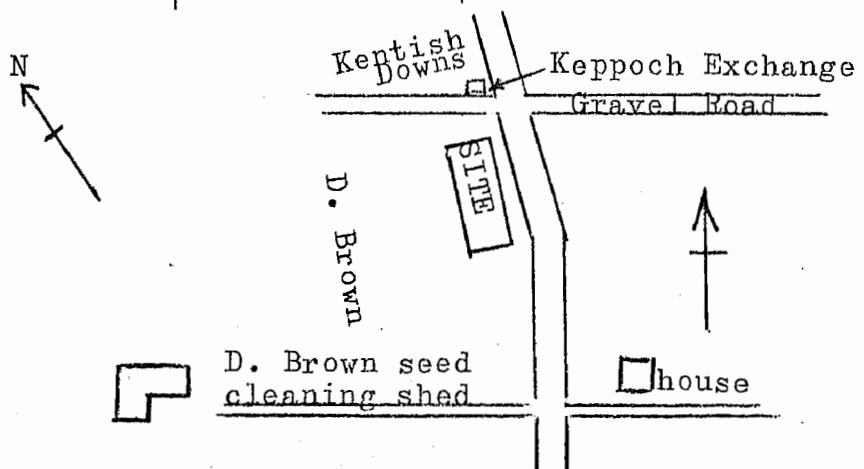
PADDOCK HISTORY: 1977 Pasture and lucerne - irrigated  
1976 Pasture and lucerne - irrigated  
1975 Pasture and lucerne - irrigated

FERTILIZER: Super at 100 kg/ha

SEEDING RATE & PLOT SIZE: Subterranean clover 1.5 g/M<sup>2</sup> - 15 kg/ha  
Medic 1.0 g/M<sup>2</sup> - 10 kg/ha

CULTIVARS:

	Jemalong	Sanza	Sapo	Paraponto	Robinson
	Sava	Sair	Dwalganup	Daliak	Seaton Pk.
	Trikkala	Esperance	Woogenellup	Howard	Clare
	Bacchus Marsh	Mt. Barker	Tallarook	Larisa	



FIELD RESISTANCE TO APHIDS OF SUBTERRANEAN CLOVER  
& MEDICS - 1978

SITE: Lameroo - Hd. Cotton, SN 83

PROPERTY: R.R. Liddell  
Phone: Lameroo 82

DATE SOWN: 6-6-78

SOIL TYPE: Sandy loam

ANNUAL RAINFALL: 375 mm

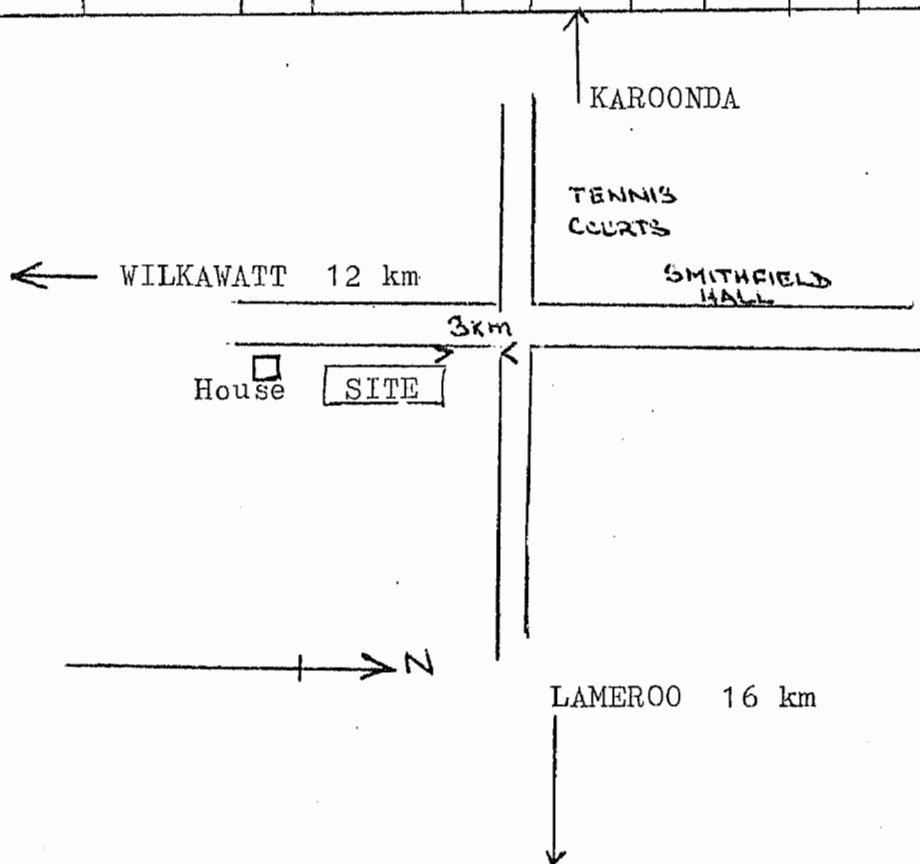
PADDOCK HISTORY: 1977 Pasture  
1976 Wheat  
1975 Pasture

FERTILIZER: Super at 200 kg/ha

SEEDING RATE & PLOT SIZE: Subterranean clover 1.5 g/M<sup>2</sup> - 15 kg/ha  
Medic 1.0 g/M<sup>2</sup> - 10 kg/ha

CULTIVARS:

N ←	Robinson	Jemalong	Sanza	Sava	Sair	Paragosa	Paraponto						

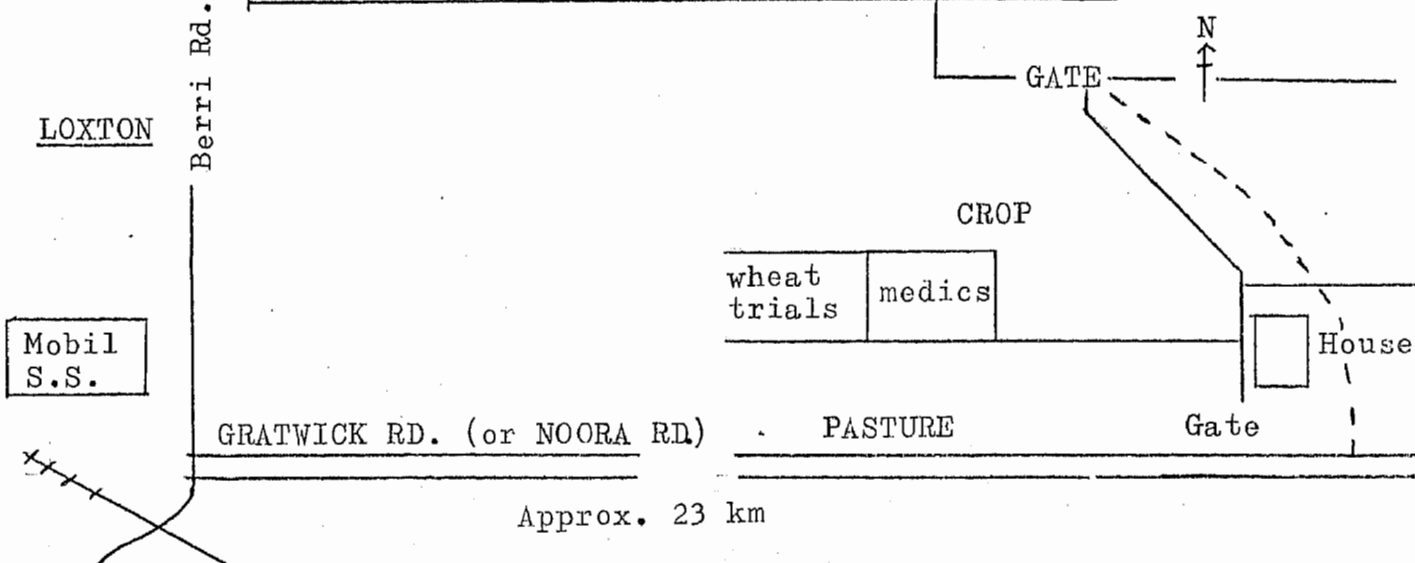


FIELD RESISTANCE TO APHIDS OF SUBTERRANEAN  
CLOVER AND MEDICS - 1978

SITE: Loxton (Nangari) - Hd. Gordon, SN 128  
PROPERTY: P. Fogden  
 Phone: (085) 872248  
DATE SOWN: 12-6-78  
SOIL TYPE:  
ANNUAL RAINFALL: 280 mm  
PADDOCK HISTORY: 1977 pasture  
 1976 pasture  
 1975 pasture  
FERTILIZER: Superphosphate at 125 kg/ha  
SEEDING RATE & PLOT SIZE: Subterranean clover 15 kg/ha  
 Medic 10 kg/ha  
 M<sup>2</sup> and 2M<sup>2</sup>

CULTIVARS:

Geraldton	Dwalganup
Nungarin	Northam
Harbinger	Cyprus
Jemalong	Sair
Sapo	Robinson
Sanza	SAO 1170
Sair	Sava
SAO 575	SAO 1090
SAO 3311	
SAO 1580	
Cyprus	
Jemalong	
SAO 1502	
Saleg	
Harbinger	
SAO 364	
SAO 364	
SAO 964	
Tornafield	



FIELD RESISTANCE TO APHIDS OF SUBTERRANEAN

CLOVER & MEDICS - 1978

SITE: Milang - Hd. Alexandrina

PROPERTY: B.C. Landseer  
Phone: Milang 120

DATE SOWN: 1-6-78

SOIL TYPE: Sandy loam

ANNUAL RAINFALL: 375 mm

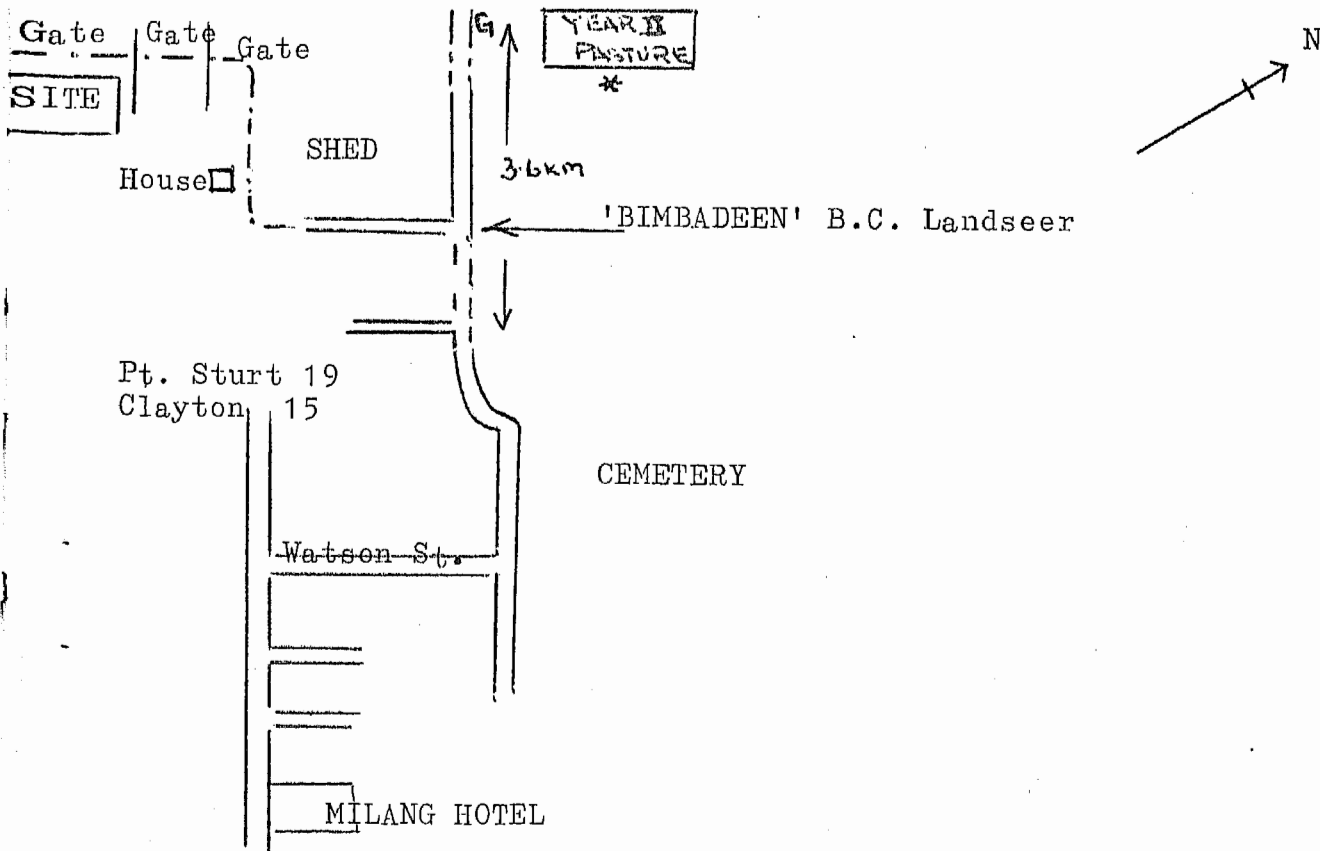
PADDOCK HISTORY: 1977 Pasture - 125 kg/ha of Super  
1976 Pasture  
1975 Pasture - 125 kg/ha of Super & Copper  
at 5 kg/tonne

FERTILIZER: Super at 200 kg/ha

SEEDING RATE & PLOT SIZE: Subterranean clover 1.5 g/M<sup>2</sup> - 15 kg/ha  
Medic 1.0 g/M<sup>2</sup> - 10 kg/ha

CULTIVARS: Treflan at 1.8 L/ha

	Jemalong	Sanza	Robinson	Dwalganup	Daliak			
	Sava	Sair	Northam	Geraldton				



FIELD RESISTANCE TO APHIDS OF SUBTERRANEAN CLOVER  
& MEDICS - 1978

SITE: Minlaton - Hd. Minlacowie, SN 44

PROPERTY: D. Flower, Brentwood  
Phone: Brentwood 261

DATE SOWN: 8-6-78

SOIL TYPE: Mallee loam

ANNUAL RAINFALL: 375 mm

PADDOCK HISTORY: 1977 Barley - 140 kg/ha superphosphate  
1976 Pasture - (barley grass)  
1975 Wheat - 150 kg/ha superphosphate

FERTILIZER: 150 kg/ha super

SEEDING RATE & PLOT SIZE: Subterranean clover 1.5 g/M<sup>2</sup> - 15 kg/ha  
Medic 1.0 g/M<sup>2</sup> - 10 kg/ha

CULTIVARS:

—————→ N

	Jemalong		Sanza		Robinson		Sava	
	Sair		Dwalganup		Northam			

SITE: See page 20 indicated thus\*

FIELD RESISTANCE TO APHIDS OF SUBTERRANEAN  
CLOVER AND MEDICS - 1978

SITE: Mt. Cooper - Hd.  
PROPERTY: E.F. Little  
Phone: Mt. Cooper 4-K  
SOIL TYPE:  
ANNUAL RAINFALL:  
PADDOCK HISTORY: 1977  
1976  
1975  
FERTILIZER: Superphosphate 200 kg/ha  
SEEDING RATE & PLOT SIZE: Subterranean clover at 1.5 g/2M<sup>2</sup> -  
7.5 kg/ha  
Medic 1.0 g/2M<sup>2</sup> -  
5.0 kg/ha  
CULTIVARS:

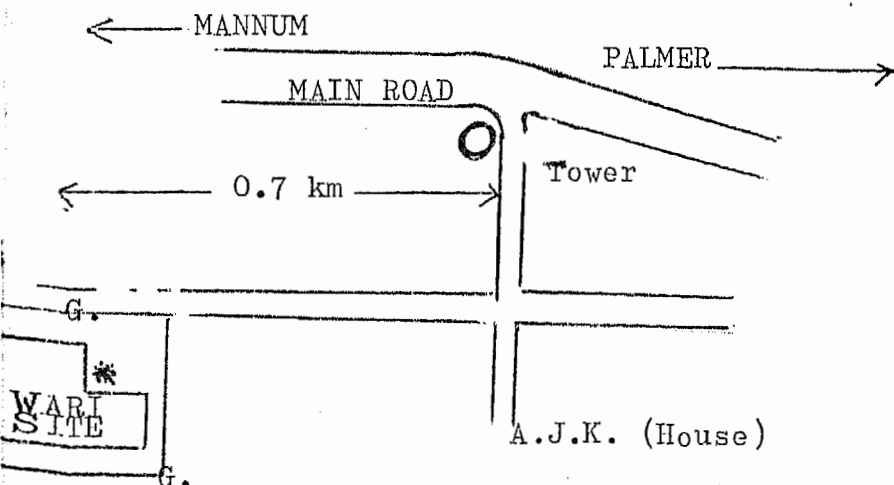
Nungarin	-
Ghor	Robinson
Sava	Harbinger
Sair	Northam

N  
↑

FIELD RESISTANCE TO APHIDS OF SUBTERRANEAN  
CLOVER & MEDICS - 1978

SITE: Palmer - Hd. Finnis, SN  
PROPERTY: A.J. Krause  
Phone: Palmer 223  
DATE SOWN: 22-5-78  
SOIL TYPE: Sandy Loam  
ANNUAL RAINFALL: 338mm  
PADDOCK HISTORY: 1977 Pasture  
1976 Oats  
1975 Oats  
FERTILIZER: Super at 200 kg/ha  
SEEDING RATE & PLOT SIZE: Subterranean clover 1.5 g/M<sup>2</sup> - 15 kg/h  
Medic 1.0 g/M<sup>2</sup> - 10 kg/h  
CULTIVARS:

Northam		Sair		Robinson	
Sava		Sanza		Jemalong	



FIELD RESISTANCE TO APHIDS OF SUBTERRANEAN  
CLOVER & MEDICS - 1978

SITE: Rudall - Hd. Rudall (paddock E2)  
PROPERTY: H.P.K. Dunn  
Phone: Tuckey 44030  
DATE SOWN: 19-5-78  
SOIL TYPE: Leamy mallee  
ANNUAL RAINFALL: 360 mm  
FERTILIZER: Superphosphate at 90 kg/ha  
SEEDING RATE & PLOT SIZE: Subterranean clovers 1.5 g/M<sup>2</sup> - 15 kg/ha  
Medics 1.0 g/M<sup>2</sup> - 10kg/ha  
CULTIVARS:

Nungarin	Northam	Sair and Sava	Sanza	Jemalong	Robinson
----------	---------	------------------	-------	----------	----------





FIELD RESISTANCE TO APHIDS OF SUBTERRANEAN CLOVERS  
& MEDICS - 1978

SITE: Wanilla - Hd. Mortlock, SN 80

PROPERTY: G.A. Giddings, "Beaumont Farm"  
Phone: 85 2271

DATE SOWN: 9-6-78

SOIL TYPE: Sandy loam

ANNUAL RAINFALL: 475 mm

PADDOCK HISTORY: 1977 Barley. Pre supered 80 kg/ha +  
200 kg/ha 3:1 at seeding  
1976 Pasture. 125 kg/ha  
1975 Barley

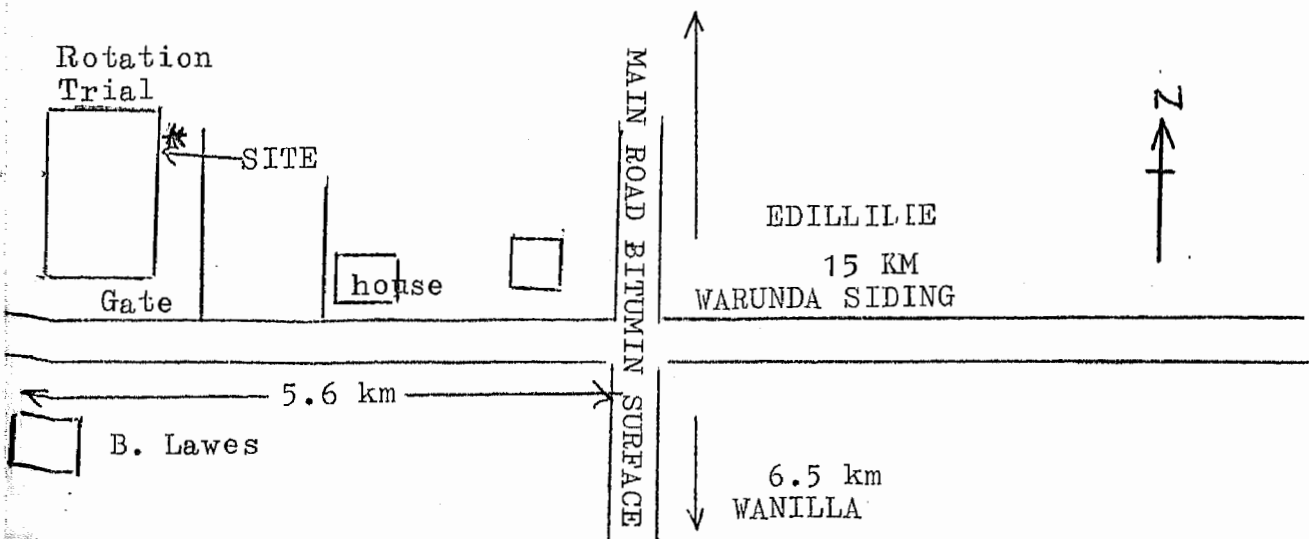
FERTILIZER: 100 kg/ha of super.  
Treflan (R) 1.4 L/ha

SEEDING RATE & PLOT SIZE: Subterranean clover 1.5 g/M<sup>2</sup> - 15 kg/h  
Medic 1.0 g/M<sup>2</sup> - 10 kg/h

CULTIVARS:

→

	Jemalong	Sanza		Robinson		Sava		Sair
	Daliak	Seaton Park		Trikkala		Esperance		Wooenellu



FIELD RESISTANCE TO APHIDS OF SUBTERRANEAN CLOVER  
& MEDICS - 1978

SITE: Yeelanna - Hd. Brooker, SN 15

PROPERTY: A.E. Glover  
Phone:

DATE SOWN: 13-6-78

SOIL TYPE: Sandy loam

ANNUAL LOAM: 400 mm

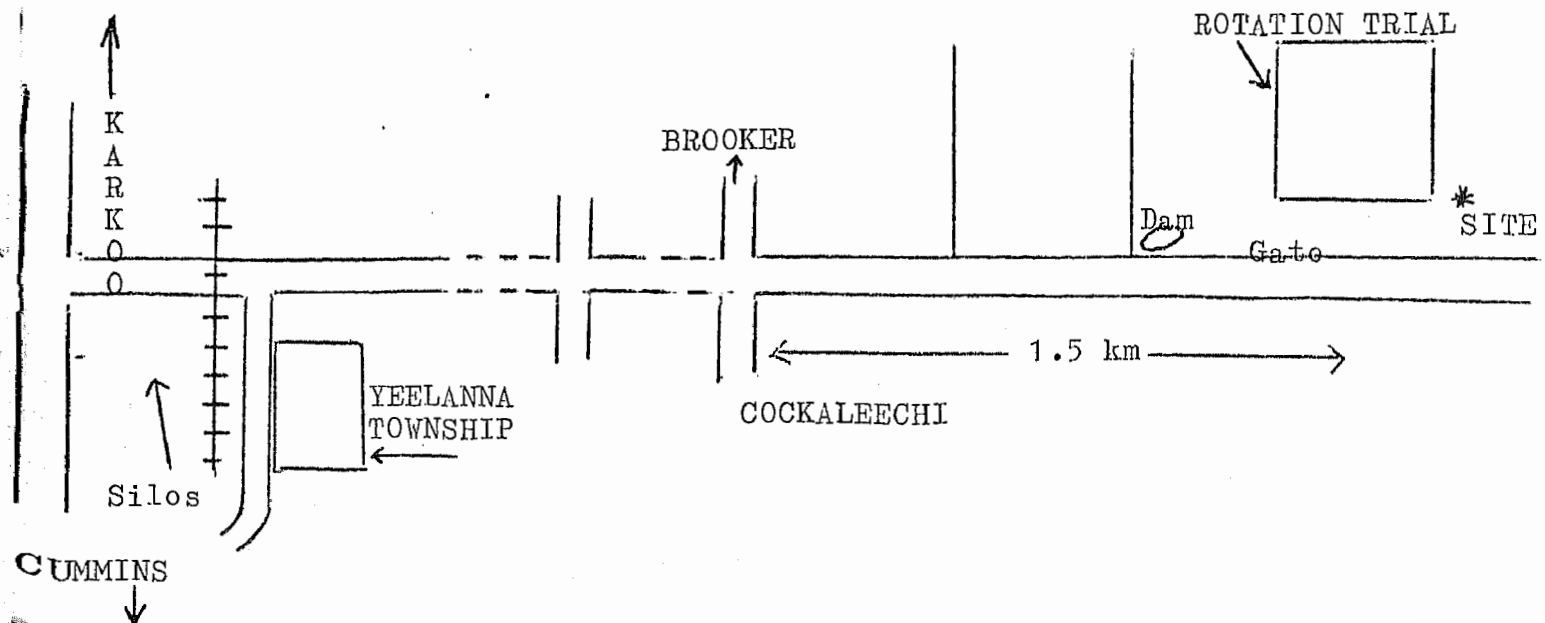
PADDOCK HISTORY: 1977 Barley, super @ 197 kg/ha,  
super ammonia 1:1 @ 165 kg/ha  
1976 Pasture, super @ 190 kg/ha  
1975 Barley, super at 190 kg/ha

FERTILIZER: Super at 100 kg/ha  
Treflan at 1.4 L/ha

SEEDING RATE & PLOT SIZE: Subterranean clover 1.5 g/M<sup>2</sup> - 15 kg/ha  
Medic 1.0 g/M<sup>2</sup> - 10 kg/ha

CULTIVARS:

	Jemalong	Sanza	Sapo		Paraponto	Robinson	
	Sava	Sair	Northam		Geraldton	Daliak	

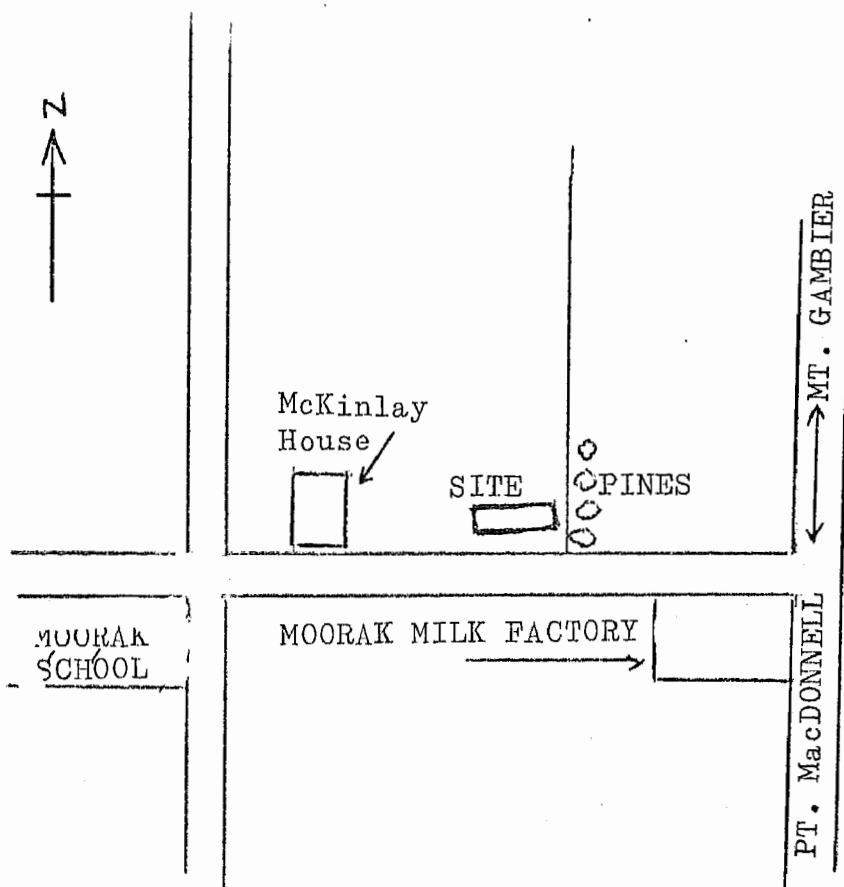


FIELD RESISTANCE TO APHIDS OF SUBTERRANEAN  
CLOVER & MEDICS - 1978 (perennial clovers)

SITE: Mt. Gambier (Moorak)  
PROPERTY: J. McKinlay  
DATE SOWN: 22-7-78  
ANNUAL RAINFALL: 768 mm  
SEEDING RATE AND PLOT SIZE: 1.0 g/M<sup>2</sup>  
CULTIVARS: 1.0 g/M<sup>2</sup>

Montgomery red	Ladine	N.Z. white	Tamar	Haifa	Siral
----------------	--------	------------	-------	-------	-------

N ←



INTRODUCTION:

Annual Legume Demonstration started 1977

Sites at Maitland, Minlaton, Callington and Milang were burr harvested at time of maturity 1977 and just prior to the "break" in 1978. The harvests taken will be evaluated for total yield and composition of cultivars presented.

Sites at Maitland and Minlaton were oversown with cereal in 1978, and received split dressings of nitrogenous fertilizer. Other information is as indicated on plans.

Sites at Callington and Milang are in a pasture phase (sown 1977).

Two sites at Rudall and Minlaton were sown with annual legume (1978), for a repeat of the YEAR I stage.

ANNUAL LEGUME DEMONSTRATION - 1978 - YEAR I

SITE: Rudall - Hd. Rudall (paddock E2)  
PROPERTY: H.P.K. Dunn  
Phone: Tuckey 44030  
DATE SOWN: 19-5-78  
SOIL TYPE: Loamy mallee  
ANNUAL RAINFALL: 360 mm  
FERTILIZER: Superphosphate at 90 kg/ha  
CULTIVARS & SEEDING RATE:

N  
↑

Nil seed + Nil super
Jemalong 5 kg/ha
Snail 6 kg/ha
Jemalong 1 kg/ha
Jemalong (insect) 5 kg/ha
Field resistance to Legume Aphids plots
* Snail 6 kg/ha + Swan oats 20 kg/ha

\* to demonstrate value of snail medic and swan oats as a hay crop and as a non host for cereal cyst nematode.

ANNUAL LEGUME DEMONSTRATION - 1978 - YEAR I

SITE: Minlaton - Hd. Minlacowie, SN 44

PROPERTY: D.P. Flower  
Phone: Brentwood 261

DATE SOWN: 4-5-78

SOIL TYPE: grey mallee

ANNUAL RAINFALL: 375 mm

PADDOCK HISTORY: 1977 Barley, super at 155 kg/ha  
1976 Pasture, (nil fertilizer and nil seed)  
1975 Wheat, super at 200 kg/ha

PADDOCK PREPARATION: nil workings

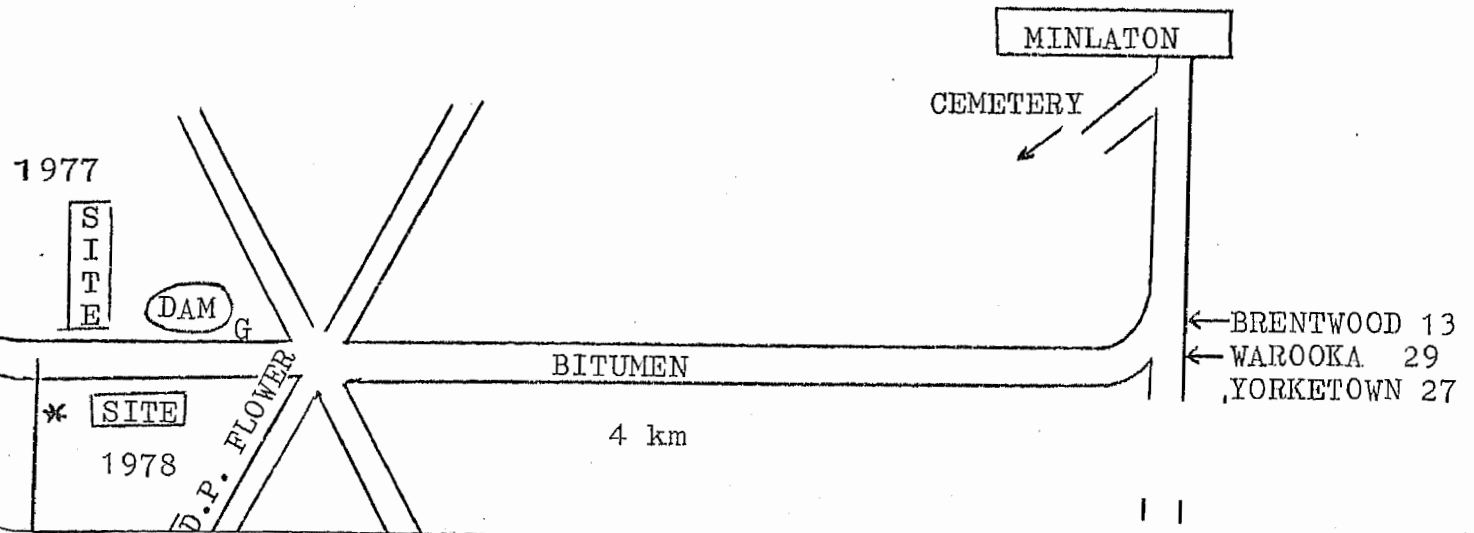
SOWING MACHINE & METHOD: International 62, 24 row combine fitted with lucerne points. Seed sown through small seeds box (International grass seeder - no hoses used), harrows dragged.

FERTILIZER: Superphosphate at 100 kg/ha

SEEDING CONDITIONS: dry sown

CULTIVARS & SEEDING RATE: Jemalong 5 kg/ha  
Jemalong 10 kg/ha  
Snail 20 kg/ha

Jemalong	10 kg/ha
Jemalong	10 kg/ha
Jemalong	5 kg/ha
Snail	20 kg/ha
nil seed + super	



ANNUAL LEGUME DEMONSTRATION 1978

YEAR II (in crop)

SITE: Maitland - Hd. Maitland, SN 227

PROPERTY: A. Brown, Box 221, Maitland  
Phone: Maitland 2504

DATE SOWN: 20-6-78 - Barley (Clipper)  
55 kg/ha

SOIL TYPE: self mulching red brown black

ANNUAL RAINFALL: 510 mm

PADDOCK HISTORY: 1976 barley, super at 78 kg/ha  
1975 barley, super at 78 kg/ha  
1974 pasture, nil fertilizer  
and nil seed

PADDOCK PREPARATION: Scarifier  
Harrowed and Treflan (R) applied  
at 1 L/ha

SOWING MACHINE & METHOD: Connor-Shea wideline seeder

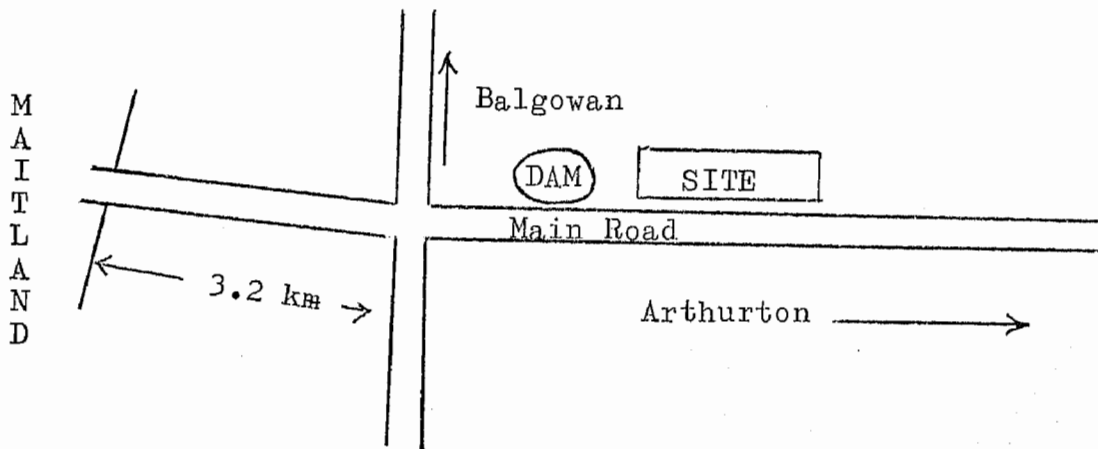
FERTILIZER: Superphosphate at 100 kg/ha  
Sulphate of ammonia at 20 kg/ha  
of Nitrogen - where indicated.

SEEDING CONDITIONS: wet

CULTIVARS & SEEDING RATES: N ←

*	nil seed + nil fertilizer	-----
*	Snail	22 kg/ha
*	Mixture 2/3 Borung + 1/3 Jemalong	12 kg/ha
*	Mixture 2/3 Borung + 1/3 Jemalong	10 kg/ha
*	nil seed + fertilizer	
*	Mixture 2/3 Borung + 1/3 Jemalong	3 kg/ha

\* Nitrogen applied to eastern half of all plots indicated with \*.



ANNUAL LEGUME DEMONSTRATION - 1978

YEAR II (in crop)

SITE: Minlaton - Hd. Minlacowie, SN 48S

PROPERTY: D.P. Flower  
Phone: Brentwood 261

DATE SOWN: 9-7-78 and 10-7-78 - Barley (clipper)  
55 kg/ha

SOIL TYPE: grey mallee

ANNUAL RAINFALL: 375 mm

PADDOCK HISTORY: 1976 wheat, super at 202 kg/ha  
1975 pasture, (nil fertilizer and nil seed)  
1974 barley, super at 202 kg/ha

PADDOCK PREPARATION: cultivator (field span)  
harrowed  
cultivator (field span)  
harrowed  
harrowed and Treflan (R) applied at  
1 L/ha

SOWING MACHINE & METHOD: International 62 - 24 row combine

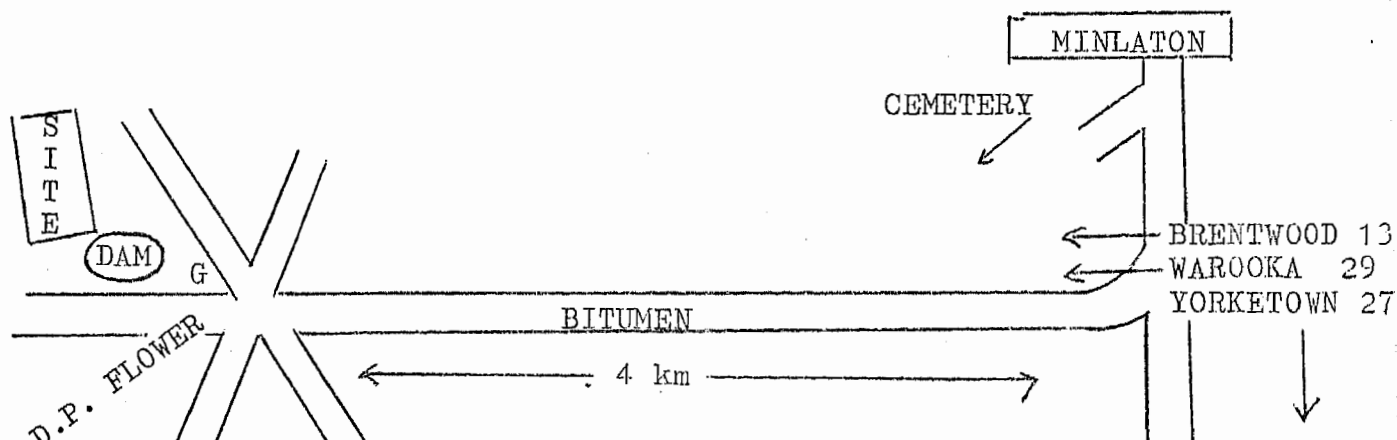
FERTILIZER: Superphosphate at 100 kg/ha  
Sulphate of ammonia at 15 kg/ha of  
Nitrogen where indicated.

SEEDING CONDITIONS: O.K.

CULTIVARS & SEEDING RATE:

	Jemalong (insect)	10 kg/ha
	Soursob control area	
*	Jemalong	5 kg/ha
*	Jemalong	10 kg/ha
*	Nil seed + super	
*	Nil seed + nil super	

\* Nitrogen applied to southern half of all plots indicated with\*.





ANNUAL LEGUME DEMONSTRATION - 1978 -

YEAR II (pasture)

SITE: Callington - HD Monarto SN 42 & 43 of 2001

PROPERTY: C.E. Wegener - Callington 5254 - Phone: (085) 385 017

DATE SOWN: 26-5-78

SOIL TYPE: Transitional loamy mallee

ANNUAL RAINFALL: 380 mm

Paddock HISTORY: 1976 Wheat, super at 123 kg/ha  
1975 Pasture, (nil fertilizer & nil seed)  
1974 Barley, super at 90 kg/ha

Paddock PREPARATION: fire harrowed  
scarifier (shallow)  
harrows (heavy)

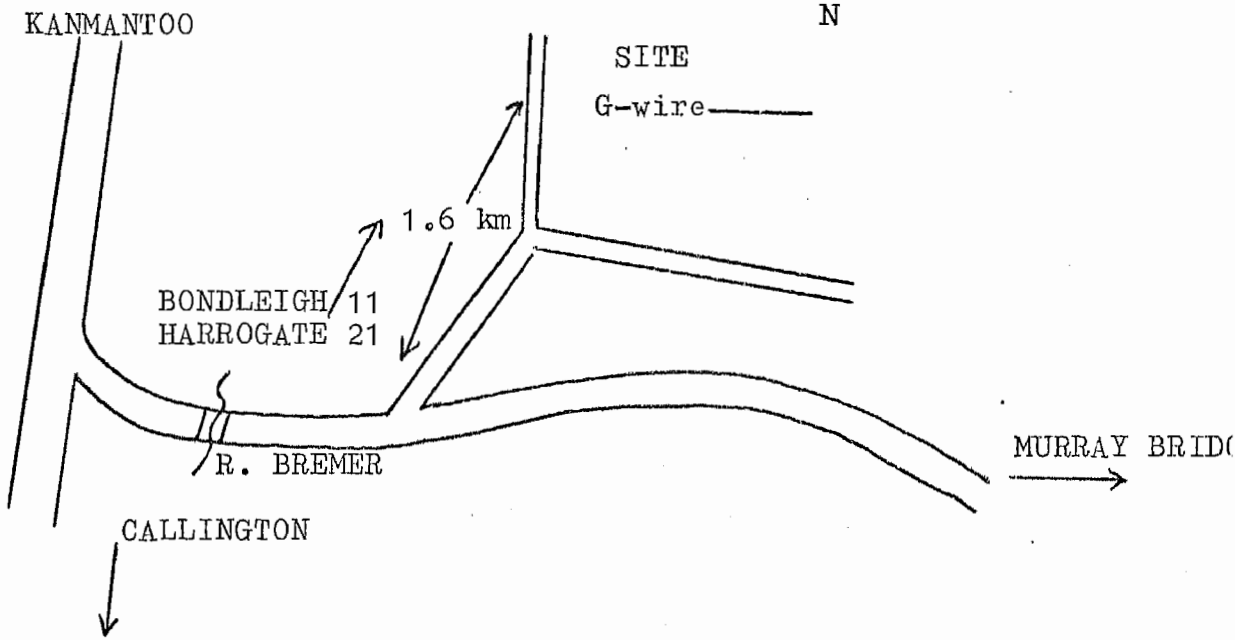
SOWING MACHINE & METHOD: MF 80, 28 row combine, seed sown through normal seed box - trailing harrows

FERTILIZER: Super at 54 kg/ha

CULTIVARS & SEEDING RATE: Jemalong - 10 kg/ha  
Geraldton - 15 kg/ha

SEEDING CONDITIONS: Moisture satisfactory, dust raised on surface

Nil seed + nil super	
Geraldton	15 kg/ha
Jemalong	10 kg/ha
Jemalong (insect)	10 kg/ha



ANNUAL LEGUME DEMONSTRATION - 1978 -  
YEAR II (pasture)

SITE: Milang - HD Alexandrina SN 153

PROPERTY: B.C. Landseer - phone Milang 120

DATE SOWN: 12-5-78

SOIL TYPE: Sandy loam

ANNUAL RAINFALL: 375 mm

PADDOCK HISTORY: 1976 Barley, super at 210 kg/ha  
1975 Pasture, (nil fertilizer & nil seed)  
1974 Oats, super at 110 kg/ha  
1973 Pasture

PADDOCK PREPARATION: Stubble disced in harrowed  
harrowed  
cultivator  
harrowed

SOWING MACHINE & METHOD: Sunshine disc drill, 20 row, seed sown through normal seed box - trailing harrows and rubber tyred roller.

FERTILIZER: Super at 134 kg/ha

CULTIVARS & SEEDING RATE: Jemalong 10 kg/ha  
Dwalganup 15 kg/ha  
Dwalganup & Geraldton 15 kg/ha (Insecticide)

SEEDING CONDITIONS: Ideal

	N
Nil Seed + Nil Super	
Jemalong - 10 kg/ha	
Dwalganup - 15 kg/ha	
Dwalganup & Geraldton (Insect)	
15 kg/ha	

SITE: See page 10 indicated thus \*

INTRODUCTION:

Perennial Legume Demonstration - 1978

A site at Murray Bridge (Monteith) was sown with five (5) clovers for a comparison. The different cultivars were included as the white clover component in a perennial grass based mixture, of a flood irrigated dairy pasture.

Perennial clovers

cultivar

Trifolium repens  
(white clover)

Haifa  
Ladino  
N.Z. white  
Siral  
Tamar

PERENNIAL LEGUME DEMONSTRATION - 1978

SITE: Monteith

PROPERTY: D.W. Llewellyn  
Phone: (085) 323937

DATE SOWN: 2-5-78

SOIL TYPE: Murray swamp

ANNUAL RAINFALL: 345 mm (Murray Bridge)

PADDOCK HISTORY: 1977 Millett

PADDOCK PREPARATION: Rotary Hoe (twice)  
Mole ploughed  
Graded  
Rotary hoed and levelled

SOWING MACHINE & METHOD: Connor-Shea Disc Sod Seeder, harrowed after

FERTILIZER: Superphosphate at 300 kg/ha

SEEDING CONDITIONS: Ideal - irrigated 3-5-78

GENERAL COMMENT: Plot size 0.1 ha

CULTIVARS & SEEDING RATE:

Haifa	)	White clovers 4.4 kg/ha
Tamar	)	Individual varieties replace
Siral	)	white clover component
N.Z. white	)	in irrigated perennial
Ladine	)	pasture mixture. Total
		rate sown at 24 kg/ha.

