



DEPARTMENT OF AGRICULTURE AND FISHERIES, SOUTH AUSTRALIA

Agronomy Branch Report

SEED PRODUCTION SECTION

REPORT FOR 1977

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Seed Production Adviser

Report No. 90.

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SEED PRODUCTION SECTION - REPORT FOR 1976-77

1. THE SEASON

1.1 Weather

A late and indefinite start to the season was followed by a dry winter. Good spring rains helped to achieve reasonable yields with most crops. Dry conditions during the summer aided the lucerne seed set and harvest in the mid and upper south east.

1.2 Production of certified seed

Total production to September 30th 1977 was 2 040 tonnes compared with 2 210 tonnes for the 1975-76 season.

Crops where increased yields were achieved included Hunter River lucerne, Clare, Mt. Barker and Trikkala subterranean clovers, Demeter fescue and Avon and Swan oats.

Down turns in production occurred with Jemalong barrel medic, Tornafield disc medic, Unicrop lupins and Yarloop subterranean clover.

Most other crops remained almost static with only small rises or falls in production. For full details see Table 1.

1.3 Yields

Excellent yields of irrigated lucerne seed crops in the mid south east were obtained. Several growers obtained over 700 kg/ha with the top yield at 875 kg/ha.

There were isolated high yields in a number of crops; for example, Clare subterranean clover 1 306 kg/ha, Avon oats 3 878 kg/ha, Unicrop lupins 1 350 kg/ha and Demeter fescue 1 165 kg/ha.

The dryland medic crops in the north were generally poor, due to the dry growing season, and loose soil conditions at harvest.

The lucerne crop in the north totalled around 100 tonnes compared to an average of 700 tonnes. This was due to the damage caused by the Plague locusts which moved through the area during December and January.

1.4 Sales

In line with recent years the bulk of the pasture seed crop has been exported again this season.

The main crops were:	Lucerne	678 tonnes
	Annual medics	393 tonnes
	Phalaris	37 tonnes
	Subterranean clover	180 tonnes
	Shaftal clover	261 tonnes

Countries to which large tonnages were shipped include Algeria, Italy, South Africa, Tunisia, France, U.S.A., West Germany, Argentina, New Zealand and Portugal.

2. SEED CERTIFICATION PROGRAMMES

2.1 Crops sown under supervision

There was a decrease of 384 hectares of crops sown under supervision. This was mainly in the lucerne area due to the uncertainty of the alfalfa aphid situation. There were increases in the sowings of oats and Trikkala subterranean clover. Full details are in Table 2.

2.2 Registration of perennial crops in non-harvest years

Total area inspected increased by 800 hectares, mainly in the Hunter River lucerne crop. There was a decrease in the Demeter fescue and Palestine strawberry clover areas registered. This inspection is required to keep fields eligible to produce certified seed in future years. Full details are in Table 3.

2.3 Certification of new crops

- 2.3.1 Certification of oats is progressing steadily with a total production of 53 tonnes being harvested. The South Australian Department of Agriculture and Fisheries is now responsible for the maintenance breeding of the varieties Avon, Cassia, Swan and West.
- 2.3.2 Cream gold onions were included for the first time during the year and good yields were obtained from this popular variety.
- 2.3.3 A maintenance breeding programme has been set up by the South Australian Department of Agriculture and Fisheries for the lupin varieties Unicrop, Marri and Ultra. Small areas have been sown to produce Basic seed next season.
- 2.3.4 Certification has commenced with Robinson snail medic. Two hectares have been sown to produce Pre-Basic seed.
- 2.3.5 Certification has commenced also for a small scheme to certify Glenelg linseed at Roseworthy Agricultural College. The cereal breeding staff will be responsible for the maintenance breeding of this cultivar.
- 2.3.6 A field of Cyprus barrel medic is being grown for certified seed using Western Australian certified seed as stock seed.
- 2.3.7 Luna lucerne - Seed production is expanding of this cultivar which is being grown for the export market. Over 5 tonnes of Basic seed was produced this season.
- 2.3.9 CUF 101 lucerne - This lucerne variety is to be grown in South Australia as a short term answer to the Spotted Alfalfa Aphid and Blue Alfalfa Aphid problem.

Two stages of development will take place. Initially 76 hectares will be sown with Foundation seed from California. This seed will be available to lucerne hay producers. These crops will be grown under strict quarantine.

In addition, 20 000 plants of CUF 101 are being grown at Northfield Research Centre. These will be planted in the field for the commencement of a certified seed programme

provided they pass the quarantine tests.

- 2.3.9 Rovar peas - A certification programme has been started for Rovar peas with maintenance breeding being carried out by the South Australian Department of Agriculture and Fisheries.

2.4 Plot testing

23 lines of seed were Pre-control tested of which 7 met the standard required for certification and 2 lines are still to be analysed, the remainder were rejected. A few lines were grown for observation only.

358 Annual Post-control plots were sown and analysed. Eight lines failed to meet the required standard.

58 lines of Hunter River lucerne are under observation for entry into the certification scheme. 31 lines of Hunter River lucerne, sown in 1975, were accepted into the certification scheme with one being rejected.

7 lines of Hunter River lucerne are being grown as spaced plants to check on winter growth behaviour of lines that have shown some inconsistency in the row plots.

All Paravivo lucerne generations are being grown as spaced plants to ascertain if any changes can be noted in the generations from Breeders seed through to second generation.

O'Connors and Palestine strawberry clover rows are being grown for observation as well as Haifa and Tamar white clovers.

All lines of perennial grasses grown for certification in 1975 are being grown for observation and identification.

All Basic seed lines of Swan and Avon oats, Unicrop and Uniharvest lupins were grown for identification and observation.

30 kilograms of Breeders Currie cocksfoot was harvested in January 1977. Of this, six kilograms have been sown in the south east to produce Basic seed.

2.5 "Truth in Labelling"

Use of self adhesive labels containing details of purity and germination has continued on a voluntary basis. From 1977-78 season all certified seed will be carrying these labels.

3. EXTENSION PROGRAMMES

3.1 Annual legume demonstrations

This programme was started in 1976 but did not get off to a good start because of the dry season and lack of man-power.

Mr. Brooks transferred to the section in March, 1977 and has been involved with the setting up and sowing of sixteen sites using annual medics and subterranean clovers.

The Seed Industry and the Departmental district agronomists have again been involved. Locality and site plans have been completed and on-site sign posting arranged.

The aim is to demonstrate whether a reasonable economic return is possible by sowing and using correct management techniques with annual legumes.

3.2 Seed Production meetings

Seed grower meetings were held on (a) latest developments in phalaris seed harvesting, (b) production of shaftal clover seed, (c) production of lupin seed, (d) production of vegetable seeds. In addition a seed cleaners school for south eastern cleaners was held in Adelaide.

3.3 Current projects

- 3.3.1 Sirosa phalaris promotion - A programme to promote the advantages of Sirosa phalaris has been initiated. The response to this cultivar has been rather poor in this state and more information is needed to put forward to the farming community.
- 3.3.2 The following Fact Sheets are being prepared by various members of the section.

Shaftal clover seed production
Carbon banding of grass seed crops
Lucerne seed production under irrigation
Demeter fescue seed production
Phalaris seed production
Annual medic seed production
Costs of seed production
Seed storage
Certification requirements for oat seed production.

4. PUBLICATIONS

- BIRRELL, J.G. (1976) - Individual Growers Performance, 1975-76. Seed Production Report.
- BIRRELL, J.G. (1976) - Certified Pasture Seed, Average Yield per Grower, per Property, per Year. 1966-1976. Agronomy Branch Report No. 75
- BOYCE, K.G. and COLEMAN, W.O. (1977) - Harvesting methods for Seedmaster phalaris seed crops. Agronomy Branch Report No. 86.
- BOYCE, K.G. and SCHUBERT, C.A. (1977) - Harvesting of medic seed. Agronomy Branch Report No. 85.
- BROOKS, N.M. (1977) - Annual pasture legume cultivar demonstration. Agronomy Branch Report No. 82.
- BROOKS, N.M. & CARROLL, P. (1977) - Tama ryegrass and Maral shaftal clover - An annual pasture mixture. S.A.D.A.F. Fact Sheet 138/10.
- COOPER, G.E. (1976) - Seed for certified crop establishment. S.A.D.A.F. Fact Sheet 140/43.
- HOGG, E.S. and SIMONS, I.H. (1976) - South East Seed Industry Weed Control Activities - 1976. Agronomy Branch Report No. 77.
- RAGLESS, D.C. (1976) - Seed Production Section Report - 1975-76. Agronomy Branch Report No. 78.

WILLIAMS, S.G. and BROOKS, N.M. (1977) - Spotted alfalfa aphid and lucerne management. S.A.D.A.F. Fact Sheet 121/622.

5. OTHER ACTIVITIES

5.1 Harvesting of annual legumes

A study of the harvesting efficiency of the Horwood Bagshaw clover harvester was made during the summer by Dr. Boyce and Mr. Schubert. Their findings have been published in Agronomy Branch Report No. 85. Further studies are to be made this coming season.

5.2 Seed Industry Newsletter

This newsletter is published bi-monthly as a joint venture between the South Australian Department of Agriculture and Fisheries, South Australian Seedgrowers Association and Seed Industry Association (Southern Division). A worthwhile exchange of views and comments are made and nearly 500 copies are distributed.

5.3 Seeds Legislation

Mr. E.D. Higgs and Dr. K. Boyce have been actively involved in the proposed new seeds legislation. This was widely circulated and commented on.

A summary of comments was presented to the Minister, who in turn has published a "white paper" detailing the principals of the new legislation. This is being circulated for comment by people involved in the seed industry.

6. STAFF CHANGES

There have been a number of staff changes during the year.

Mr. Ragless accepted a position in a joint Australian-Thailand seed multiplication/storage project for 18 months which commenced in January, 1977.

Mr. Higgs was appointed supervising officer until the lucerne aphid control programme became such that he became involved with the programme full time.

Dr. Boyce was then appointed supervising officer of the section.

Mr. Brooks transferred from the Murray Bridge office to Head office to set the annual legume demonstration programme on a sound footing.

7. STATISTICS7.1 Certified Seed Production - Hectares Accepted and Rejected

Crop Variety	Hectare Inspected		Kilograms of seed produced from areas accepted from 1/10/76 - 30/9/77	
	Accepted from 1/10/76 to 30/9/77	Rejected from 1/10/76 to 30/9/77	Released	Rejected
<u>Barrel medic:</u>				
Borung	8	-	-	339
Jemalong	2,605	12	392,713	8,223
<u>Cocksfoot:</u>				
Currie	171.5	-	47,080	2,148
<u>Disc medic:</u>				
Tornafield	125	-	55,300	12,514
<u>Gama medic:</u>				
Paragosa	38	-	13,931	-
<u>Kale:</u>				
Green angeliter	6	-	1,650	1,330
Maris kestrel	3.5	-	873	-
<u>Lucerne:</u>				
Du Puits	-	-	350	-
Luna	10	-	5,114	96
Hunter River	2,872	47	566,796	84,518
Paravivo	178	-	14,828	14,349
<u>Lupins:</u>				
Marri	1	-	329	-
Unicrop	201.5	45	56,239	7,000
Uniharvest	29	16	10,740	-
<u>Oats:</u>				
Avon	14	7	23,136	-
Cassia	0.5	-	136	-
Swan	55.5	-	33,185	5,320
<u>Onions:</u>				
Cream gold	1.5	-	587	-
Early lockyer	0.2	-	60	-
<u>Phalaris:</u>				
Seedmaster	298.5	18	94,300	-
Sirocco	49	-	4,411	-
Sirosa	7.5	-	2,108	-
<u>Rose clover:</u>				
Kondinin	15	-	1,294	-
<u>Strand medic:</u>				
Harbinger	704.5	8	101,263	9,472
<u>Strawberry clover:</u>				
O'Connors	63	84	5,709	-
Palestine	80	81.5	6,636	970
<u>Subterranean clover:</u>				
Bacchus Marsh	46	30	15,500	275
Clare	587	29	314,139	22,192
Mt. Barker	678	28	78,651	16,245
Trikkala	177	3	42,316	14,060
Woogenellup	241	20	18,138	-
Yarloop	411.5	-	13,416	-
<u>Tall fescue:</u>				
Demeter	332	-	117,586	29,942
<u>Tall wheat grass:</u>				
Largo	9	-	838	-
<u>White clover:</u>				
Tamar	5	-	1,500	-
TOTAL	10,024.2	428.5	2,040,852	228,993

7.2 Crops sown under supervision

Crop variety	1976-77		1975-76	
	No. fields	Hectares sown	No. fields	Hectares sown
<u>Barrel medic:</u>				
Borong	2	34	1	8
Cyprus	1	28	-	-
<u>Brome grass:</u>				
Deborah	-	-	1	32
<u>Cocksfoot:</u>				
Currie	1	3	3	5
<u>Fodder radish:</u>				
Silentina	3	10	-	-
<u>Gama medic:</u>				
Paragosa	4	55	4	40
<u>Kale:</u>				
Green angeliter	2	2	2	10
Green marrow stem	-	-	1	2
Maris kestrel	1	3.5	-	-
Midas	-	-	2	19
<u>Linseed:</u>				
Glenelg	2	22	-	-
<u>Lucerne:</u>				
Du Puits	-	-	1	4
Hunter River	34	532	58	933
Luna	6	67	2	10.5
Paravivo	20	275.5	37	775.5
<u>Lupins:</u>				
Marri	3	15	1	1
Unicrop	17	360.5	19	407.5
Uniharvest	3	104	1	38
72 A 14-1	1	.25	-	-
<u>Oats:</u>				
Avon	12	152	3	13.5
Cassia	1	3	-	-
Swan	9	97.5	3	14
West	1	0.1	-	-
<u>Onions:</u>				
Cream gold	1	0.5	2	1.5
Early lockyer	1	0.2	1	0.1
<u>Phalaris:</u>				
Seedmaster	-	-	2	13.5
Sirosa	2	17.5	1	3
<u>Rape:</u>				
Akela	1	15.5	1	16
Emerald	2	30	-	-
Giant emerald	1	13	-	-
<u>Ryegrass:</u>				
Terhoy	-	-	2	3
<u>Snail medic:</u>				
Robinson	1	2	-	-
<u>Strawberry clover:</u>				
O'Connors	1	13	1	8
Palestine	2	22	2	30
<u>Subterranean clover:</u>				
Trikkala	15	312	13	171.5
<u>Tall fescue:</u>				
Demeter	3	11.5	1	2
S 170	-	-	2	4
<u>Tall wheat grass:</u>				
Largo	-	-	1	10
TOTAL	153	2,201.55	168	2,585.6

7.3 Crops registered for 1976-77

Crop variety	Hectares Accepted	
	1976-77	1975-76
<u>Cocksfoot:</u>		
Currie	64	78
<u>Lucerne:</u>		
Cancreep	36	-
Du Puits	16	35
Hunter River	10,894	9,727
Paravivo	266	54
Siro Peruvian	-	291
<u>Phalaris:</u>		
Australian	1,665.5	1,681
Seedmaster	56	53
Sirocco	32	58
Tunisian	1.5	-
<u>Strawberry clover:</u>		
O'Connors	16	55
Palestine	534	631
<u>Tall fescue:</u>		
Demeter	287.5	354
<u>White clover:</u>		
Tamar	-	8
TOTAL	13,868.5	13,025