



DEPARTMENT OF AGRICULTURE AND FISHERIES, SOUTH AUSTRALIA

## Agronomy Branch Report

SEED PRODUCTION SECTION

REPORT FOR 1975-76

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## SEED PRODUCTION SECTION - REPORT FOR 1975-76

### 1. THE SEASON:

#### 1.1 Weather

A late and indefinite opening to the growing season was followed by a dry winter, good spring rains and resulted in high yields of most crops.

In later districts, hot weather at the end of November seriously reduced yields of subterranean clovers and non-irrigated grass seed crops.

A particularly dry summer aided pollination of lucerne crops and was ideal for harvesting annual medics.

#### 1.2 Production of Certified Seeds

Total certified seed production is similar to the last two seasons. Highlights were that production of Jemalong and Paragosa medics and Clare subterranean clover increased while grass seeds and Mt. Barker subterranean clovers decreased, and most lucernes and other clovers were similar to the previous year. For full details see Table 1.

#### 1.3 Yields

Excellent yields of Jemalong barrel medic seed were obtained from un-irrigated crops in northern districts, the highest being 752 kg/ha. In the Upper South East yields as high as 930 kg/ha were obtained. Irrigated lucerne seed crops in the South East were the best for many years with yields approaching 1000 kg/ha. South eastern and northern non-irrigated lucerne yields were better than expected, but with only a few crops exceeding 300 kg/ha.

Overall yields from irrigated grass seed crops were only average with only a few top yielding crops. Most Shaftal clover crops were poor, but the best paddock exceeded 1200 kg/ha.

### 2. SEED CERTIFICATION PROGRAMMES:

#### 2.1 Crops Sown Under Supervision

Despite a modest increase in the total area of crops sown under supervision, the areas sown to Currie cocksfoot, Demeter fescue, Paragosa gama medic and Hunter River lucerne decreased. The only significant increase in interest was with Paravivo lucerne, but with some renewed interest in kales and Deborah brome grass for export. For full details see Table 2.

#### 2.2 Registration of Perennial Crops in Non-harvest Years

The total area of crops not harvested for seed but inspected to maintain eligibility for future years is almost identical to last year. However, there were changes, namely, that there was a significant increase in the area of Demeter fescue not reapt, but relatively minor changes for the other species. For full details see Table 3.

#### 2.3 Oat Certification

Small quantities of certified basic seed of Avon and Swan oats were produced for the first time this season. Substantial quantities of certified 1st generation seed should be available next season.

#### 2.4 Plot Testing

The plot testing programme under the care of Mr. Cyril Schubert has been fully implemented this year. Samples of all seeds certified have been planted to monitor genetic quality. Results are not yet all available but the indications are that all schemes are operating satisfactorily. Twenty-three "grow-on" tests were completed before some lots of seed of subterranean clover was released for sale and thirty-one plot tests were carried out to establish identity of uncertified seed of annual medics and subterranean clover.

#### 2.5 Vegetable Seeds

Production of vegetable seeds under contract is developing, particularly in the South East. Most of this production has been for the local market for which certification is not required. Some has been for export for which certification is often essential, resulting in a small increase in participation in our vegetable certification schemes.

#### 2.6 "Automatic Sampler"

Testing of the automatic sampler developed in conjunction with Heathville Pty. Ltd. has continued and indications are that the method is accurate and virtually fool-proof.

#### 2.7 "Truth in Labelling"

Truth in labelling was made available for all certified seeds two seasons ago. Use was voluntary. Usage has continued to grow and it is now intended to use this method for all certified seeds as from 1977-78 as an integral part of a new labelling system.

### 3. EXTENSION PROGRAMMES:

The following planned programmes have been carried out this year.

#### 3.1 Seed for Certified Crop Establishment

Aimed at creating a greater awareness of the need to plant true to type seeds of annual legumes intended for certified seed production.

#### 3.2 Production of Certified Seed

To provide information of certified seed production trends and demand to private industry, seed producers, Departmental extension and research officers to assist them in decision making.

#### 3.3 Seed Cleaning Costs

Many growers have established cleaning plants and others are considering doing so. This project has provided seed growers with the basic costing information so that they can decide this question.

#### 3.4 Dock Control in Lucerne

In recent years more and more dock seeds have been appearing in lucerne seed samples. This programme aims to achieve better control of dock plants in crops.

### 3.5 Dock Control in Perennial Grasses

To encourage seed growers to eradicate dock from perennial grass seed crops. Both the above two projects were initiated because of marketing problems and because many batches of seed contained a trace of dock seed.

### 3.6 Grass Weed Control in Annual Herbage Legume Seed Crops

Aimed at demonstrating the usefulness of three herbicides for the post-emergent control of grass weeds in legume seed crops.

### 3.7 Pasture Seed Production Costs

The current bulletin "Small Seeds - What is a Reasonable Return?", was written to assist the existing specialist seed growers. It is being revised and expanded to also provide information on the likely comparable profitability of alternative farm enterprises.

### 3.8 Annual Medic Seed Production

Annual medic seed production has been encouraged by publicising to farmers the costs and possible returns, the potential market and the best production methods.

### 3.9 Seed Storage

Because high moisture content of some stored pasture seed has led to rapid loss of germination, safe seed moisture limits have been defined for South Australian conditions and merchants encouraged to monitor moisture levels.

### 3.10 Certified Seeds

An explanation of the differences between certified and non-certified seeds, especially those referred to as Government tested, registered and first grade, and the protection for growers, processors, merchants and buyers, has been given publicity.

## 4. MARKETING ACTIVITIES:

### 4.1 Paravivo Lucerne

The aim of the work carried out has been to increase production, to improve availability, to lower the price and to promote its usage by publicity and demonstration. Production has increased from five tonnes last year to over 14 tonnes this year. Production is expanding. In 1974-75, 48 hectares of new Paravivo seed crops were planted, while 320 hectares were planted in 1975-76.

While there is still a lack of seed at prices approaching those of Hunter River, some seed has for the first time been retailing for as low as around \$2.00 per kilogramme and has all sold.

It is estimated that in 1974-75, only three tonnes of Paravivo lucerne seed was planted in South Australia. In 1975-76, it is estimated that this figure is around 10 tonnes.

#### 4.2 Annual Legumes

In conjunction with district agronomists, the Seed Producers' Association and the Seed Industry Association, a programme to promote the use of annual medic and subterranean clover usage, has been commenced. Public meetings, radio and press publicity and fact sheets are being supported with demonstration plantings over a wide area of the northern farming districts.

The reports from some seed sales outlets indicate encouraging results.

#### 4.3 Demeter fescue

The South Australian Seedgrowers' Co-operative has made application to the European Common Market countries and to South Africa for the testing of Demeter fescue to enable its inclusion on national lists, which may enable development of a potentially large export market. The Seed Production Section, in co-operation with the Department's plant breeding group and C.S.I.R.O., has helped this application.

#### 4.4 Trikkala Subterranean Clover

Promotional publicity, demonstration plantings and field days to encourage production have been commenced, in conjunction with Parndana Research Centre and other Departmental officers. A policy has been recommended which is aimed at encouraging Trikkala to sell at prices acceptable to growers, merchants and users.

### 5. PUBLICATIONS:

#### 5.1 Seed Industry Newsletter

This bi-monthly publication, with a circulation of over 500, commenced April, 1976 and is aimed at improving communication between the Department of Agriculture & Fisheries and all sections of the seed industry and aiding communication between sections of the seed industry. The Seed Producers' Association and the Department were the initial joint publishers, but the Seed Industry Association (Southern Group), has also pledged its support for the publication.

#### 5.2 Other Publications

Coleman, W.O., et al - Interstate Study Tour Report on Pasture Seed Production and Certification. Agronomy Branch Report No. 70.

Coleman, W.O. - Certification of Lupins. Agronomy Fact Sheet.

Cooper, G.E. - Herbage Seed Production, 1974-75 Season. Agronomy Branch Report.

Cooper, G.E. - Seed for Certified Crop Establishment. Agronomy Fact Sheet.

Dodson, C.M. - Individual Grower Production, 1974-75. Agronomy Bulletin.

Hogg, E.S. - Seed Cleaning Costs. Agronomy Fact Sheet.

Hogg, E.S. - Moisture Limits for Safe Seed Storage. Agronomy Fact Sheet.

Ragless, D.C. - How to Get the Best Value for Money When Buying Pasture Seeds. Agronomy Fact Sheet.

Ragless, D.C. - Harvesting of Lucerne Seed. Agronomy Fact Sheet.

Schubert, C.A. - Certification Plot Work. Agronomy Fact Sheet.

Simons, I.H. - Subterranean Clover Seed Production. Agronomy Fact Sheet.

6. OTHER ACTIVITIES:

6.1 Harvesting of Seed of Annual Legumes

The major limiting factor of annual medic and clover seeds is slow harvesting. In conjunction with the Department of Defence at Weapons Research Establishment, an investigational and development programme has been commenced. This will consider all conceivable methods of seed gathering (some new ones, such as the use of the electrostatic properties of seed have possibilities), then select the most promising and develop it to the stage where it could be commercialised.

6.2 Training in Seed Technology

At the invitation of the Australian Development Assistance Agency, Mr. Ragless presented lectures in Brisbane and Melbourne to members of the International Training Course on Seed Improvement and Certification. Two members of the Course worked in the Seed Production Section, at both Head Office and Struan, for practical field training for a period of one month.

6.3 Currie Cocksfoot - Pre-basic Seed Production

When the Waite Agricultural Research Institute relinquished responsibility for maintenance breeding of Currie cocksfoot the Seed Production Section took over this responsibility. High quality breeder seed was produced this year and is available to the seed industry throughout Australia for the first time for several years.

6.4 Production of Pre-basic Basic Snail Medic & Hannaford Barrel Medic Seeds

A very small quantity of authentic seed of Hannaford barrel medic and Snail medic has been multiplied at Northfield and for the first time supplies of pre-basic seed are now available to make possible (if needed), certification of these cultivars.

7. STATISTICS:

Table 1: Certified Seed Production - Hectares Accepted & Rejected

Crop Variety	Hectares Inspected		Kilogrammes of Seed Produced from Areas Accepted from	
	Accepted from 1/7/75 to 30/6/76	Rejected from 1/7/75 to 30/6/76	1/1/75 to 30/6/76	
			Released	Rejected
<u>Barrel medic:</u>				
Jemalong	2,760	101	632,192	38,588
<u>Bromè grass:</u>				
Deborah	50	-	14,138	-
<u>Cocksfoot:</u>				
Currie	180	12	37,576	4,354
<u>Disc medic:</u>				
Tornafield	135	-	77,586	3,738
<u>Gama medic:</u>				
Paragosa	22	16	7,247	-
<u>Lucerne:</u>				
Cancreep	36	-	420	-
Du Puits	31	-	531	-
Hunter River	3,236	9	388,272	214
Luna	5	-	-	10
Paravivo	103	-	14,779	-
<u>Lupins:</u>				
Unicrop	133	-	80,192	-
Uniharvest	5	-	3,845	-
<u>Oats:</u>				
Avon	1	-	766	-
Swan	1.5	-	575	-
<u>Phalaris:</u>				
Australian	32	-	1,221	-
Seedmaster	287	-	76,171	1,050
Sirocco	16	-	1,471	-
Sirosa	12	-	-	-
Tunisian	4.5	-	638	-
<u>Rose clover:</u>				
Kondinin	14	-	4,094	-
<u>Shaftal clover:</u>	23	-	11,017	75
<u>Strand medic:</u>				
Harbinger	913	70	128,707	4,795
<u>Strawberry clover:</u>				
Palestine	83	85	9,595	-
O <sup>o</sup> Connors	65	54	8,174	-



Table 1 (Contd.)

Crop Variety	Hectares Inspected		Kilogrammes of Seed Produced from Areas Accepted from 1/1/75 to 30/6/76	
	Accepted from 1/7/75 to 30/6/76	Rejected from 1/7/75 to 30/6/76	Released	Rejected
<u>Subterranean clover:</u>				
Bacchus Marsh	-	-	1,978	-
Clare	872	24	250,783	6,300
Daliak	19	-	-	-
Howard	30	-	5,005	450
Mt. Barker	397	20	32,230	6,716
Trikkala	36	-	16,674	-
Woogenellup	192	4	33,317	1,200
Yarloop	371	-	78,050	1,465
<u>Tall fescue:</u>				
Demeter	239	-	82,194	7,363
<u>Tall wheat grass:</u>				
Largo	6	-	810	-
<u>White clover:</u>				
Tamar	6	-	-	688
Total	10,263	415	2,000,248	77,006

Table 2: Crops Sown Under Supervision

Crop Variety	1975-76		1974-75	
	No. Fields	Hectares Sown	No. Fields	Hectares Sown
<u>Brome grass:</u>				
Deborah	1	32	3	12
<u>Cocksfoot:</u>				
Currie	1	2	5	27.5
<u>Gama medic:</u>				
Paragosa	1	19	3	52
<u>Giant shaftal:</u>				
7432	-	-	5	20
7506	2	3	2	17
7509	-	-	1	3
<u>Kale:</u>				
Green marrow stem	1	2	-	-
Midas	2	19	-	-
<u>Love grass:</u>				
Renner	-	-	-	-
<u>Lucerne:</u>				
Cancreep II	-	-	1	0.5
Hunter River	16	484	42	816
Luna	1	5	-	-
Paravivo	8	321	5	48
<u>Lupins:</u>				
Unicrop	4	63	3	70
<u>Onions:</u>				
Early lockyer	-	-	1	0.2
<u>Peas:</u>				
All round	-	-	1	11
<u>Phalaris:</u>				
Seedmaster	-	-	3	26
<u>Rape:</u>				
Giant emerald	-	-	2	25
<u>Ryegrass:</u>				
Terhoy	2	3	-	-
<u>Strawberry clover:</u>				
O'Connor	-	-	1	5
Palestine	-	-	10	158
<u>Subterranean clover:</u>				
Trikkala	1	7	1	7
<u>Tall fescue:</u>				
Demeter	-	-	15	254
<u>Tall wheat grass:</u>				
Largo	-	-	1	8
Total	38	957	105	810

Table 3: Crops Registered for 1975-76

Crop Variety	Hectares Accepted	
	1975-76	1974-75
<u>Cocksfoot:</u>		
Currie	78	74
<u>Lucerne:</u>		
African	-	16
Cancreep	-	13
Du Puits	35	33
Hunter River	9,727	9,684
Paravivo	54	-
Siro Peruvian	291	280
<u>Phalaris:</u>		
Australian	1,681	1,806
Seedmaster	53	33
Sirocco	58	60
<u>Ryegrass:</u>		
Hora perennial	-	10
<u>Strawberry clover:</u>		
O'Connor	55	31
Palestine	631	780
<u>Tall fescue:</u>		
Demeter	354	169
<u>White clover:</u>		
Tamar	8	-
Milka	-	4
Total	13,025	12,993