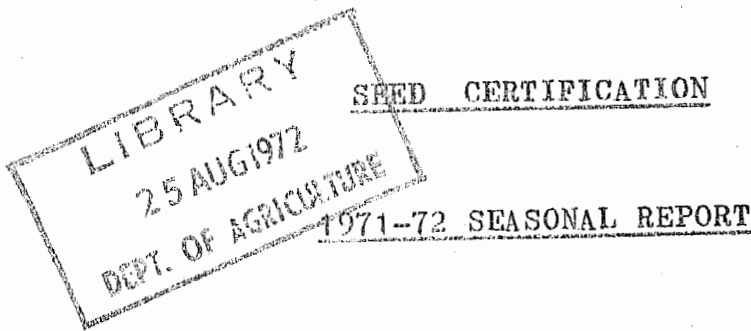


DEPARTMENT OF AGRICULTURE, SOUTH AUSTRALIA

## Agronomy Branch Report



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Report No. 41

July, 1972.

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## 1. SEASONAL CONDITIONS:

A wet winter, followed in most districts by good spring rains contributed to an above average growing season.

However, continued unusually cool and wet weather in the early part of summer caused a number of exceptional problems with almost all types of seed crops.

### 1.1 Demeter fescue

After windrowing, rain caused a delay in drying out and in a few cases where heating took place, adversely affected germination. In some crops Ibises walking about hunting for grubs in windrows caused heavy seed losses from shedding.

### 1.2 Shaftal clover

Rain at maturity caused complete loss of some crops due to seed "shooting" in the head.

### 1.3 Subterranean clover

Rains interrupted harvesting, and subsequently made it very difficult not to over-thrash seed and so cause a high percentage of abnormal seedlings.

### 1.4 Lucerne

The rain promoted a prolific flowering of lucerne seed crops but cool weather inhibited honey bee activity and resulted in poor pollination and pod setting. Exceptional activity of lucerne pod borer (Etiella), also severely reduced yields of early crops. However, sustained fine weather in late summer and autumn promoted good pollination and enabled some really excellent seed yields to be obtained from late crops.

## 2. PRODUCTION:

The total weight of seed certified for the 1971-72 season is less than was anticipated. The decrease is mainly due to climatic conditions. There have been increases in production of a few varieties, namely the Phalaris, Palestine strawberry clover, Tallarook and Yarloop subterranean clovers and Demeter fescue. Production of all other varieties has been, on average, slightly less than the previous season.

Table 2 gives details of all certified seeds released and rejected for the 1971-72 season.

### 3. UNCERTIFIED SEED PRODUCTION:

Monthly returns of uncertified seed production have been collected from all seed cleaners in South Australia. The addition of these individual figures has made up the published monthly totals. The Table 3 details annual production for 1971-72 season.

### 4. SEED YIELDS:

Unfavourable ripening and harvesting conditions and pests and diseases were favoured by the mild wet weather and reduced yields of crops and only a very few exceptionally high yields were achieved. One crop however deserves special mention, a Tallarook subterranean clover crop near Naracoorte which yielded 1,565 lbs. of certified seed per acre (1753 kilograms/hectare).

### 5. SEED QUALITY:

Due to summer rains the germination quality of all seed was of poorer quality than normal. There was a tendency to over-thrash seed. Many late lucerne seed crops showed a high percentage of hard seed.

### 6. PESTS & DISEASES:

6.1 Sitona weevil caused widespread damage to medic seed crops during the growing season but probably due to good growing conditions in medic districts, crops yielded well.

6.2 Etiella damage was the most widespread ever in early and mid-season lucerne crops. Damage to later crops was not serious.

6.3 Kabatiella, a fungus disease of subterranean clover, was the worst for about ten years. Many crops of the more susceptible varieties, such as Yarloop, were completely eliminated by this disease.

### 7. SOWINGS UNDER SUPERVISION:

The total acreage sown under supervision for 1971-72 of crops certified by pedigree has decreased, mainly due to very much lower acreages of Demeter fescue, Sirocco phalaris and Hunter River lucerne. Acreages of Shaftal clover, Medea perennial ryegrass and Paragosa Gama medic, have shown significant increases.

Details of all crops are given in Table 4.

## 8. PLOT WORK:

### 8.1 "Grow on" Testing

"Grow on" testing was completed on seventeen lines of seed from paddocks provisionally accepted, because the inspecting officer considered varietal purity to be borderline. Three of these lots were rejected because of excess impurity and the rest, upon proving to be satisfactory, were released.

### 8.2 "Post-control" Testing

"Post-control" testing to check on the effective operation of the seed certification scheme was carried out on all lines of seed of annual and perennial crops from the 1970-71 season. Annual legumes and perennial grasses from the 1971-72 season have recently been sown and perennial legumes will be sown in the spring of 1972.

During the year tests involving 676 perennial lines from 1969-70 season and 210 lines of annuals from the 1970-71 season were completed, while 720 perennial lots from the 1970-71 season are nearing completion.

Completed results indicate that the scheme is operating most satisfactorily.

### 8.3 Spaced Plant Pre-control Tests

Spaced plant pre-control tests are nearing completion on 18 basic seed lots.

## 9. RULES CONTROLLING PRODUCTION OF CERTIFIED SEEDS:

A revised edition of our rules was issued during the season. While no major changes have been made, the addition of a vegetable and fodder seed certification scheme and a more objective means of determining excess weed contamination of fields, have been formally introduced. The method of assessing weed seriousness is the culmination of a six year study involving field reports, uncleaned sample analyses and cleaning results throughout South Australia.

## 10. O.E.C.D.:

Following Australia's acceptance to participate in the O.E.C.D. Herbage Seed Certification Scheme for seed moving in international trade, five crops have been sown for O.E.C.D. certification and negotiations are in hand for establishment of a further five crops.

#### 11. SEED HARVESTING & SEED CLEANING:

Once again quite a number of final analytical reports have shown isolated crop seeds which had come from the previous crop that was harvested or cleaned. Detailed examination of analyses of both uncleaned and cleaned samples indicates that neither the operators of harvesting or cleaning machinery can afford to relax in cleaning out thoroughly when changing from one crop to another.

Routine check sampling has been carried out on virtually every line of seed certified. Results of these tests have indicated that one cleaner had not been taking fully representative samples. This was brought to his attention and no further trouble has occurred.

Two new seed cleaning plants commenced operation during the season.

#### 12. SCARIFICATION OF LUCERNE:

Many lines of lucerne seed, following the prolonged ripening period, contained large percentages of hard seed and did not meet Seed Act minimum germination requirements. The majority of these seed lots had sufficient "breakdown" of hardseededness after six weeks or two months to comply with requirements. Many, however, were scarified to reduce hardseededness. Some cleaners again found that inadequate scarifier design, haphazard or over-scarification did not improve germination percentage but converted hard seeds into those producing abnormal seedlings.

Some years ago this Department designed and built an advanced seed scarifier using new principles. This machine has since been used for experimental seed lots. More recently, a larger scarifier of the same design has been constructed. This has now operated most satisfactorily in a large South Australian seed cleaner's shed for two seasons without problems of seed damage.

#### 13. FURTHER OUTLOOK:

With the exception of Hunter River lucerne, sales have virtually exhausted carry-over seed stocks of all major crops. Hence it is not expected that problems of over-supply will occur next season. In fact, due to the poor autumn and early winter rains, production of annual medics and subterranean clovers is more likely to be insufficient to meet market demands if substantial export orders materialise.

14. STATISTICS:

Table 1: Crops Certified by Pedigree

Acreages for which supervision of sowing has been carried out

Crop Variety	1970-71		1971-72	
	No. of Paddocks	Acreage	No. of Paddocks	Acreage
<u>Barrel Medic</u>				
Borung	-	-	1	20
<u>Cocksfoot</u>				
Chewings fescue, Koket	-	-	1	6
Currie	7	223	-	-
<u>Gama medic</u>				
Paragosa	3	51	3	135
<u>Kale</u>				
Marrow stem				
var. Green angeliter	-	-	4	50
var. midas	3	43	1	47
var. stabil	4	59	-	-
var. Green	2	50	1	5
var. green ring	-	-	2	36
Thousand head	1	10	4	91
Thousand head	-	-	-	-
var. dwarf	2	38	-	-
var. cavalier rouge	1	50	-	-
<u>Lucerne</u>				
African	2	90	-	-
Cancreep	4	189	-	-
Du Puits	18	315	2	31
Hunter River	137	8,968	74	4,615
Paravivo	1	1	1	9
Siro Peruvian	18	980	13	1,067
ECRSI	1	1	-	-
ESI	1	1	-	-
BDSI	1	1	-	-
Combined	1	1	-	-
<u>Onions</u>				
Early lockyer	1	1	1	1

Table 1: Crops certified by pedigree (Contd.)

Crop Variety	1970-71		1971-72	
	No. of Paddocks	Acreage	No. of Paddocks	Acreage
<u>Phalaris</u>				
Seedmaster	2	28	3	72
Sirocco	8	280	1	39
<u>Ryegrass</u>				
Lamora perennial	-	-	1	5
Stadion perennial	-	-	1	5
Medea	1	45	7	381
<u>Rape</u>				
Giant Emerald	-	-	4	65
<u>Red clover</u>				
Aberystwyth S123	-	-	1	1
<u>Sand medic</u>				
Tornafield	-	-	1	12
<u>Shaftal clover</u>				
Maral	13	269	18	479
<u>Strawberry clover</u>				
Palestine	3	48	1	40
O'Connors	1	75	-	-
<u>Trefoil, birdsfoot</u>				
Odenwalder	-	-	2	5
Bosnalotus	-	-	3	21
<u>Tall fescue</u>				
Demeter	15	1,146	5	52
<u>White clover</u>				
Aberystwyth S100	-	-	1	1
Ladino tillman	-	-	1	1
Milka	-	-	4	30
<u>Woolly pod vetch</u>				
Namoi	2	60	-	-
Total	253	13,023	162	7,322



Table 2: Production

Crop Variety	Acreages Inspected from 1/7/71 - 30/6/72		Lbs. Seed Produced from 1/7/71 - 30/6/72	
	Accepted	Rejected	Released	Rejected
<u>Barrel medic</u>				
Borong	20	-	2,754	-
Jemalong	2,256	270	363,125	44,252
<u>Cocksfoot</u>				
Currie	771	65	227,460	45,997
<u>Gama medic</u>				
Paragosa	120	-	9,363	7,729
<u>Kale</u>				
Midas marrow stem	43	-	4,339	-
Stabil marrow stem	37	-	12,702	-
Green marrow stem	16	-	4,070	-
Canson dwarf 100 head	7	-	-	383
1000 head	10	-	-	-
<u>Lucerne</u>				
African	177	-	4,668	-
Cancreep	250	-	-	-
Du Puits	395	15	24,565	179
Hunter River	12,617	169	1,053,848	29,450
Siro Peruvian	812	-	25,740	4,300
Paravivo	1	-	188	-
C.S.I.R.O.	1	-	-	-
<u>Phalaris</u>				
Australian	125	25	12,978	17,515
Seedmaster	390	-	131,383	-
Sirocco	183	30	23,993	9,436
<u>Rose clover</u>				
Kondinin	18	-	-	10,981
<u>Onions</u>				
Early lockyer	1	-	110	-
<u>Ryegrass</u>				
Medea	82	12	13,668	9,360

Table 2: Production (Contd.)

Crop Variety	Acreages Inspected from 1/7/71 - 30/6/72		Lbs. Seed Produced from 1/7/71 - 30/6/72	
	Accepted	Rejected	Released	Rejected
<u>Sand medic</u>				
Tornafield	55	-	28,784	-
<u>Shaftal clover</u>				
Maral	622	105	-	-
<u>Strand medic</u>				
Harbinger	1,813	162	290,427	26,000
<u>Strawberry clover</u>				
O'Connors	130	105	15,650	4,050
Palestine	777	367	78,314	9,273
<u>Subterranean clover</u>				
Bacchus Marsh	317	-	44,848	9,200
Clare	1,867	75	521,749	17,050
Dwalganup	90	-	-	-
Geraldton	144	-	10,800	4,586
Howard	50	-	77,655	-
Mt. Barker	975	62	105,900	2,200
Seaton Park	-	15	-	-
Tallarook	25	-	34,430	-
Woogenellup	243	12	26,290	22,546
Yarloop	291	130	17,420	24,965
<u>Tall fescue</u>				
Demeter	928	128	325,485	44,538
<u>Veldt grass</u>				
Mission	24	-	2,849	2,849
<u>Woolly pod vetch</u>				
Namoi	20	-	-	-
<u>White clover</u>				
Milka	11	-	-	-
<b>Total</b>	<b>26,714</b>	<b>1,747</b>	<b>3,495,555</b>	<b>346,839</b>

Table 3: Uncertified Seeds in South Australia -  
1971-72 Season

Crop Variety	Lbs. of Uncertified Seed Cleaned from 1/1/72 - 30/6/72
<u>Barrel medic</u>	
Cyprus	-
Hannaford	60,440
Jemalong	29,113
<u>Burr medic</u>	889
<u>Cocksfoot</u>	
Berber	-
Brignoles	-
Currie	598
Kasbah	-
<u>Gama medic</u>	
Paragosa	75,111
<u>Kale</u>	
Chou moellier	12,696
Marrow stem - midas	-
- stabil	-
1000 head - cavalier rouge	27,434
<u>Lucerne</u>	
African	220
Cancreep	-
Du Puits	1,812
Hunter River	3,245,446
Rhizoma	1,478
Siro Peruvian	-
<u>Phalaris</u>	
Australian	72,127
Canary grass	6,810
Seedmaster	346
Sirocco	69,300
<u>Rape</u>	
Giant Emerald	5,653

Table 3: Uncertified Seeds in South Australia -  
1971-72 Season (Contd.)

Crop Variety	Lbs. of Uncertified Seed Cleaned from 1/1/72 - 30/6/72
<u>Ryegrass</u>	
Annual Wimmera	127,076
Medea perennial	2,329
Tamar	2,229
Merredin	5,225
Mt. Alma	2,158
Others	320
<u>Sand medic</u>	
Tornafield	1,390
<u>Shaftal clover</u>	
Snail medic	47,249
<u>Strand medic</u>	
Harbinger	39,147
<u>Strawberry clover</u>	
O'Connors	5,914
Palestine	96,947
<u>Subterranean clover</u>	
Bacchus Marsh	-
Clare	18,317
Daliak	-
Dwalganup	-
Geraldton	-
Howard	-
Mt. Barker	27,679
Seaton Park	330
Tallarook	-
Uniwager	-
Woogenellup	19,265
Yarloop	70,950
(Yarloop - Mt. Barker)	17,540
<u>Tall fescue</u>	
Demeter	19,480

Table 3: Uncertified Seeds in South Australia -  
1971-72 (Contd.)

Crop Variety	Lbs. of Uncertified Seed Cleaned from 1/1/72 - 30/6/72
<u>Veldt grass</u>	
Mission	30,805
Unarlee	-
<u>Vetch</u>	
Namoi woolly pod	-
<u>Uniwhite lupins</u>	9,590
<u>Tall wheat grass</u>	2,515
Total	4,259,131

Table 4: Summary of Registration Inspections for  
1971-72\*

Crop	Acres Applied For	Acres Cancelled	Acres Accepted	Acres Rejected
<u>Cocksfoot</u>				
Berber	5	5	-	-
Currie	980	10	945	25
<u>Lucerne</u>				
African	70	-	70	-
Cancreep	77	-	77	-
Du Puits	130	-	130	-
Hunter River	32,122	1,406	30,387	329
Siro Peruvian	491	-	491	-
C.S.I.R.O.	3	-	3	-
<u>Phalaris</u>				
Australian	5,052	-	5,052	-
Seedmaster	178	2	176	-
Sirocco	53	-	53	-
<u>Ryegrass</u>				
Medea	165	-	165	-
<u>Strawberry clover</u>				
O'Connors	369	-	369	-
Palestine	2,476	79	2,332	65
<u>Tall fescue</u>				
Demeter	458	1	457	-
Total	42,629	1,503	40,707	419

\* Registration inspections are made on perennial crops in non-harvest years to maintain certification eligibility.