

DEPARTMENT OF AGRICULTURE, SOUTH AUSTRALIA

## Agronomy Branch Report

EXTENSION REPORT

1971-72 SEASON



Compiled by: G.D. Webber.

Report No. 40

March, 1972.

SOUTH AUSTRALIAN DEPARTMENT OF AGRICULTURE

AGRONOMY BRANCH

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- FOREWORD -

This is the first extension report of its kind issued by the Agronomy Branch and as such can be regarded as a milestone in a major effort to re-organise and up-grade agronomy extension work in South Australia.

As this report shows, new emphasis is being achieved in this field of extension by advanced in-service training, the planned integration of social, economic and technical aspects of farmers' needs and the intensification of services by the appointment of more trained extension officers and the creation of smaller districts for their operation.

During the year one additional agricultural adviser's district was formed with headquarters at Lameroo in the Southern Mallee district to service approximately 900 farmers. This made the two other districts which have serviced the Mallee region from Loxton and Murray Bridge, much more effective. There are now twelve agricultural advisers' districts servicing South Australia.

The officers directly involved in the general agronomy advisory work covered by this report are listed below:-

J.D. McAuliffe, Acting Principal Agronomist

G.D. Webber, Assistant Senior Agricultural Adviser

F.C. Gross, Special Agricultural Adviser

K.G. Bicknell, District Agricultural Adviser (Murray Bridge)

P.L. Marrett, District Agricultural Adviser (Mt. Gambier)

K.J. Holden, District Agricultural Adviser (Pt. Lincoln)

P.M.S. Potter, Assistant District Agricultural Adviser  
(Pt. Lincoln)

P.J. Mowatt, District Agricultural Adviser (Jamestown)

D.M. Crawford, Assistant District Agricultural Adviser  
(Jamestown)

A.E. Hincks, District Agricultural Adviser (Loxton)

T.R. Davidson, District Agricultural Adviser (Minnipa)

P.D. Fairbrother, District Agricultural Adviser (Keith)

W.A. Michelmore, District Agricultural Adviser (Nuriootpa)

N.R. Matz, District Agricultural Adviser (Kadina)  
T.J. Dillon, District Agricultural Adviser (Lameroo)  
R.C. Hagerstrom, District Agricultural Adviser (Cleve)  
S.G. Williams, District Agricultural Adviser (Adelaide)  
M.A. Schwerdt, Field Assistant (Adelaide)

The Branch has other specialist functions involved with bushfire protection, weed and insect control and pure-seed production. It has not been possible to date to fully integrate these activities with the planned programmes of the district agronomy extension officers, but this is gradually being achieved and it is hoped that the next annual extension report of this Branch will include the activities of these groups as well.

The records in this report show that the district officers listed have serviced farmers with approximately 2,600 farm visits, 3,200 office visits and 10,000 telephone calls and more than 300 night meetings and field days.

The full extent of this rural extension work is often not realised and I therefore feel that it is most important that this report be presented to record the extension effort of the officers of this Branch.

(A.F. Tideman)

ACTING CHIEF AGRONOMIST.

AGRONOMY BRANCH

EXTENSION REPORT

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## AGRONOMY BRANCH EXTENSION REPORT

### 1971-72 SEASON

#### 1. SEASONAL FACTORS:

The 1971-72 season was long and wet with most centres throughout the agricultural areas recording above average rainfall. In general the cereal areas received around 3" above average rainfall during the growing season. The general seasonal "break" came during the third week in April with excellent soaking rains. This provided one of the best seasonal openings for a number of years.

Early growing conditions were excellent for crops, particularly in the early districts. Some of the later areas, e.g. the Lower South East, had over-wet conditions during winter but by September the season, State wide, looked like a record.

Dry, warm conditions during October were accompanied in some areas by drying winds which affected crops. However, November and December were cool, wet months and lifted overall prospects.

The prolonged cool, wet conditions during November, December and January, delayed harvesting operations to make it one of the longest drawn out harvests on record.

The unseasonal wet conditions caused many problems with light weight, sprung and shot grain in the later areas. The subsequent dockages as a result of these weather damaged problems meant quite a loss to farmers in these areas.

#### 1.1 Cereals

There was increased acreage of all cereals sown in 1971. The increased wheat acreage from 1.83 million acres in 1970 to an estimated 2.65 million acres in 1971, resulted because of increased quotas in 1971 and short falls on quotas brought about by dry weather and frost in 1970. The area sown to barley was an all time record at over 2 million acres.

The estimated production was as follows:-

	<u>Acres</u>	<u>Anticipated</u> <u>Yield</u> (bushels/acre)	<u>Estimated</u> <u>Production</u> (bushels)
Wheat	2.65 million	19-20	52 million
Barley	2.00 million	23-24	47 million
Oats	.430 million	23-24	10 million
		<u>Total</u>	<u>109 million</u>

The estimated grain production of all cereals at 109 million bushels would make 1971-72 season second only to the record year in 1968-69 (124.6 million bushels).

### 1.2 Pastures

Pasture growth was very good in all areas. The excellent early start resulted in a dense germination of pasture species and the subsequent rapid growth of bulky pasture produced an abundance of feed throughout the season. Over-wet conditions occurred in odd parts of the State and in the Lower South East there was some pasture flooding during this period.

With the big bulk of feed available, large quantities of hay were conserved. However, it was a difficult season for hay making and some losses occurred due to weather damage.

### 1.3 Problems

Pests and diseases of crops and pastures were very prevalent during the 1971 season.

- \* Kabatiella was widespread with severe damage on Kangaroo Island and variable damage in the Adelaide Hills and south eastern areas.
- \* Hay-die was particularly severe in wheat crops on Eyre Peninsula and in some other districts.
- \* Cereal eelworm showed up to some extent through the cereal areas.
- \* Sitona weevil continues to be a major problem, with severe infestations of adults during November to mid-December. Damage was particularly severe on annual medics and lucerne.



- \* Barley grub - heavy infestations caused damage to barley crops on southern Yorke Peninsula, southern Eyre Peninsula and in the south eastern districts.
- \* Other insect pests - Etiella was widespread and caused damage to pea and lucerne seed crops. Red legged earth mite, lucerne flea, pasture cockchafer, pink cutworm, aphids and wingless grasshoppers were also problems in some areas.

## 2. TRENDS IN PRODUCTION:

### 2.1 Diversification

There is a trend towards greater diversification in many areas. Such enterprises as cattle, pigs, fat lambs and barley production, are all increasing while there is increased interest in oats, peas and oil seed crops. In some cases the number of enterprises on farms is tending to increase.

#### 2.1.1 Increase in barley acreage

An estimated record acreage of over 2 million acres were sown in 1971. This surpassed the previous highest acreage of 1.83 million acres sown in 1970-71.

#### 2.1.2 More beef cattle and pigs

Beef cattle numbers continued to increase, particularly in cereal areas. There was also a build up in pig numbers and an increase in the number of intensive pig sheds being constructed.

#### 2.1.3 Interest in alternate crops

There is a developing interest in alternate crops, particularly oil seed rape and some interest in field peas, lupins and odd areas of sunflowers.

Quite a large number of trial sowings of oil seed rape were conducted in 1971.

An estimated 5,500 acres were sown which yielded an estimated 2,000 tons. Indications are that a significant increase in acreage could be sown in 1972. There is also a limited interest in specialised crops such as tic beans, blue boiler peas and canning peas in the Lower South East.

## 2.2 Fodder rolling

It is apparent that there has been more interest in fodder rolling in cereal areas in the last 2-3 years. This is no doubt due to increased cattle numbers and the fact that farmers are looking for a cheaper method of short term storage of large quantities of fodder to balance out seasonal fluctuations.

## 2.3 Sitona weevil

Sitona weevil continues to build up and pose major problems in maintaining pasture production in cereal areas. Medic pastures are of immense importance to productivity in cereal districts and the recent build up of sitona weevil is a great threat because of the effect both the adults and larvae have on medic plants. Lucerne pastures have also been severely affected in many areas.

## 2.4 Wheat varieties

There has been a big increase in the acreage sown to Halberd. This is certain to continue as Heron and Insignia are rapidly replaced by Halberd. There is fear that Halberd may also replace some of the hard wheat acreage because of its reliability and superior yield. Farmers are looking for a reliable and adaptable hard wheat variety - some of the present recommended varieties have not yielded well in some districts.

## 2.5 Less land clearing

There was a further reduction in the area of land being cleared and developed. Rolling of scrub on Eyre Peninsula was almost at a stand still, with main efforts being directed at cleaning up partially developed country cleared in previous years.

## 2.6 Spray seed techniques

There is increasing interest in minimum cultivation techniques for sowing cereals. The "spray seed" technique seems to be finding a place, particularly on southern Eyre Peninsula. A variation of the spray seed technique, cultivate-wait-spray-seed was also tried on 1,000 acres. The potential of this method appears quite good, particularly in the higher rainfall areas of Eyre Peninsula and on soil types where weed control is difficult.

## 2.7 Rural population trends

There is continuing evidence of the rural recession on employment in rural industries. Evidence can be seen of farmers selling farms and leaving the land, share-farmers and workmen are also leaving. Farmers' sons are going to the cities for employment and more farmers are taking part or full time jobs where these are available.

## 3. EXTENSION PROGRAMMES:

### 3.1 Extension planning

In order to plan and co-ordinate extension education activities better, a more formal system of extension planning was introduced by the Agronomy Branch in 1971.

Programme planning in agricultural extension is seen by this Branch as a system of organising work in advance in a formal written manner. It involves analysing the current situation, formulating objectives, constructing a work plan to achieve these objectives, and evaluating progress.

The extension planning system for this Branch was initiated at the 1971 Branch Conference. At this Conference developments in agricultural extension were discussed in detail.

The main factors which extension officers brought forward as being important needs in future extension work were:-

- \* A greater emphasis on planning our extension work and a more educational approach.
- \* A greater farm management bias.
- \* A more co-ordinated extension effort within the organisation.

An effort has been made by the Branch to meet these needs. In the 12 months since last Branch Conference, significant progress has been made in developing a more formally planned approach to extension work.

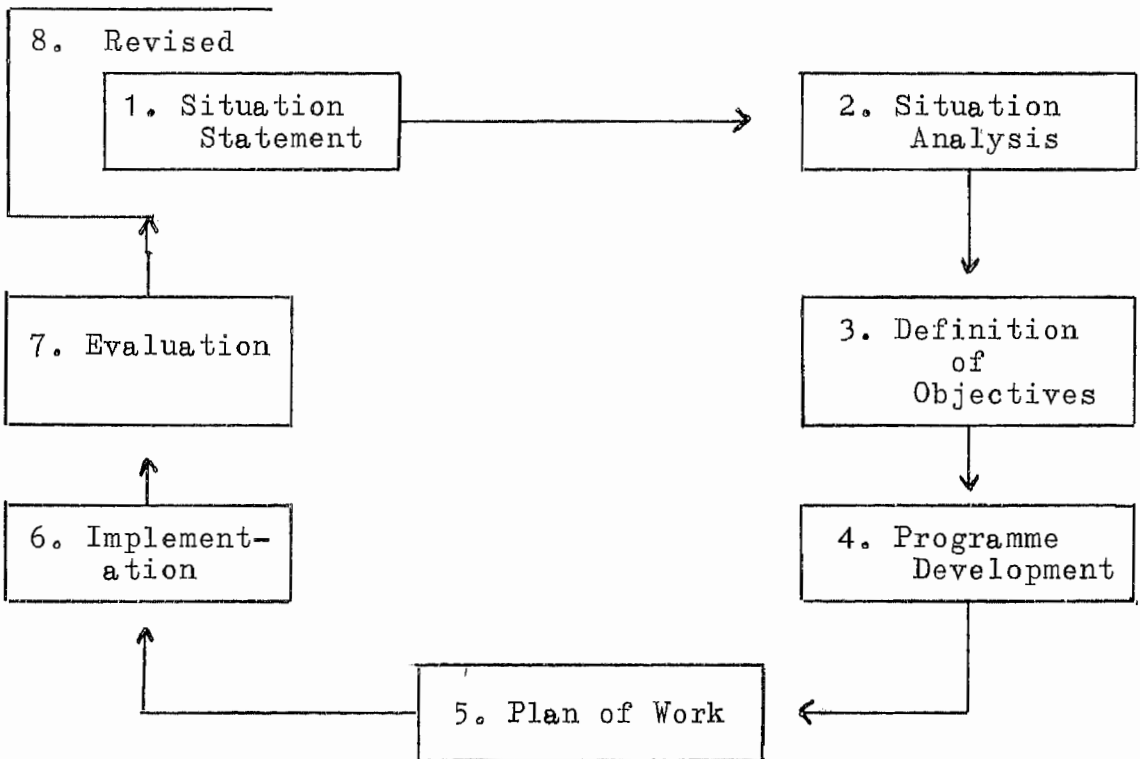
The planning approach has been developed at regional meetings of advisers during the year.

During this period two important workshops have also been held to discuss the broader aspects of extension planning.

- \* The National Workshop in Sydney in April, 1971.
- \* The S.A. Department of Agriculture Workshop in October, 1971.

Officers of this Branch have been kept informed of the recommendations of these workshops and these have been followed where possible.

As a result of these discussions, the accepted model of operation for the extension planning process is shown below.



The explanation of this model can perhaps best be clarified by the following table where the extension planning steps are related to the problem solving process.

Problem Solving Process	Programme Planning Steps
1. Significant problem recognised 2. Relevant information collated	1. Situation Statement
3. Problem defined 4. Alternative approaches identified, expected results predicted and compared 5. Areas requiring further information identified	2. Situation Analysis
6. Long term objectives established 7. Review resources available from outside work group 8. Review restrictions for intermediate and short term planning 9. Select intermediate term objectives 10. Select objectives for first action period	3. & 4. Definition of Objectives and Programme Development
11. Develop work plan for first action period	5. Work plan
12. Conduct programme	6. Implementation
13. Evaluate	7. Evaluation

The initial steps decided after discussions by district officers in September, 1971 were:-

### 3.1.1 District statements

Each officer should prepare a district statement over time and this would consist of three main sections:-

- \* Technical information section, i.e. the physical and technical details of the district. In most districts the main part of this information has already been prepared in the form of the Agriculture in S.A. series printed in the S.A. Journal of Agriculture.

- \* Relevant economic data - gross margins analysis for all agronomic crops in each district was seen as a basis to start this section. Other important economic data could be added later.
- \* Social and media information, i.e. information on farmer groups, communication channels, commercial and personal contacts, etc.

### 3.1.2 Extension objectives

The main aims or objectives should be listed together with a basic problem statement.

### 3.1.3 Plan of extension activities (work plans)

Where possible projected activities associated with extension objectives should be drawn up. Included in this plan should be plans for evaluation.

### 3.1.4 Evaluation reports

Programmes should be evaluated where possible by recording whatever information and feed-back that became available.

The introductory plans set up in September were reviewed at Regional meetings early in 1972. The main points of administration procedure from these meetings were:-

- \* Extension objectives and work plans should be compiled by the end of February each year. The number of objectives should be realistic in terms of time available.
- \* Reports of extension programmes - summary of extension projects should be included in the District Annual Report. Interim or final evaluation reports could be written up at any appropriate time. A format for these reports has been discussed by district officers.

## 3.2 Extension programmes

A wide range of planned extension education programmes were conducted at district level during 1971. With changing market outlooks for agricultural products, the Agronomy Branch has developed a policy of increasing production efficiency, promoting product quality and of investigat-

ing cultural requirements and the economic feasibility of growing alternate agronomic crops. The main programmes to achieve these ends were as follows:-

### 3.2.1 Improving product quality

- \* Wheat variety recommendations - the changed format for the recommendation of wheat varieties introduced for the 1971 season is seen as a move towards improving the quality and saleability of the South Australian wheat crop. Greater uniformity in both protein content and appearance is likely to be obtained by following the recommendations. The objective of this programme is to encourage farmers to grow recommended wheat varieties for their region, by informing growers of the market situation and the need to meet industry requirements. These points were stressed through all media at appropriate times throughout the year.
- \* Grain insect pest control programme - the objective of this programme is to improve grain insect pest control at farm level by increasing grower awareness of the problem and informing growers of techniques to control grain insects. The need for this programme arose because there is concern about weevil build up on farms. At least one marketing board has had a publicity campaign running for some years. It has been suggested that a more extensive educational campaign is required to improve the situation. This has been necessary because:-
  - Product quality is even more important now than in the past because buyers are demanding higher standards of freedom from insect infestation.
  - The problem of grain pest control is a continuing one and is costly.
  - Maintenance of freedom from infestation at present is largely dependent on the use of maldison. Maldison resistance is starting to show up throughout Australia. Other insecticides are generally not acceptable on grain.

- There is need to educate producers that the answer to weevil control must be hygiene, with only supplementary help from insecticides.
- It is thought that infestation of grain pests to a greater or lesser extent exists on all farms and that a considerable number of first deliveries of grain contain weevil.

The following work plan gives details of a district officer's work plan for this programme. Copies of a technical information bulletin and the extension programme were forwarded to grain handling authorities. The marketing boards stated that this programme fell in line with their publicity programmes on grain insect pest control. The Australian Barley Board distributed the programme and technical information bulletin to all its country officers.



WORK PLAN

District Programme on Grain Insect Pest Control

Objective	Information	Time	Method
<p>To improve insect pest control in grain at the farm level.</p> <p>By increasing awareness of the problem, and informing growers of techniques to control grain insect pests on the farm.</p>	<p>1. Grain quality is important. Buyers are demanding extremely high standards in relation to freedom from insect pests. Most infestations occur with first deliveries.</p> <p>Ensure machinery and equipment are clean.</p>	<p>September - October</p>	<p>Press, radio, T.V., group and person to person media</p>
	<p>2. Clean temporary storage areas. Precautions in storing grain.</p>	<p>October - December</p>	<p>" "</p>
	<p>3. Correct treatment of stored grain with insecticides.</p>	<p>October - December</p>	<p>" "</p>
	<p>4. End of harvest storage of equipment. Clean machinery and equipment to stop weevil build up on farms.</p>	<p>January - March</p>	<p>" "</p>

### 3.2.2 Alternate crops

Since the introduction of wheat quotas and the onset of low wool prices, growers have shown increased interest in alternate crops. Diversification has been necessary to offset the loss of income because of low wool prices and reduced wheat acreage due to quotas. The aim of the programme was to provide growers with technical, economic and marketing information relating to these crops. Eight district advisers gave this objective high priority and their work plans were successfully carried out during the year.

Observations were made on approximately 120 farmer trial and commercial areas throughout the State.

District officers have maintained contact with farmer committees associated with growing and marketing oil seed crops. In the northern districts, three leaflets were prepared for local growers on technical and economic aspects of oil seed rape production. Press and radio were used extensively to inform growers of all facets of production and harvesting of oil seed crops in all districts.

Information from all agricultural advisers was collated into a special Journal of Agriculture publication "Oil Seed Rape - A Promising Crop for S.A.". Observations on other alternate crops have been made and information extended to growers wherever possible.

### 3.2.3 Pasture improvement programmes

There were several important pasture improvement programmes in operation during 1971.

\* In the cereal areas these programmes were aimed to:-

- Step up the on-going medic programme, emphasising the need for good medic pastures to enable flexibility of production.
- Stress the importance of good medic pastures and high soil fertility in relation to cereal root eelworm control.

- \* In the higher rainfall areas programmes were associated with encouraging the sowing of perennial pastures in parts of the Lower South East area with a major programme on pasture renovation in the Adelaide Hills. This latter project involved the laying down of a number of demonstrations of the chemical ploughing-sod seeding technique of establishing perennial grasses. A technical report of this work was prepared for the S.A. Journal of Agriculture, May, 1971.

#### 3.2.4 Weed and pest control programmes

The main district programmes in this field were:-

- \* Skeleton weed awareness programme - Skeleton weed has continued to extend into new localities. New outbreaks in 1971 were recorded on Yorke Peninsula, Eyre Peninsula and in the Lower South East, where these programmes were primarily run. Well timed publicity alerted farmers to watch for possible infestations of the weed and close liaison was kept with district council authorities. Field days were held in the South East and Eyre Peninsula districts on newly located infestations. In the upper Eyre Peninsula district over 200 growers attended a field day designed to assist farmers recognise skeleton weed, and following this four inspections were held at which producers assisted with surveying surrounding areas with an average of 20 farmers attending each. It is felt that these activities have aided the eradication programmes.

Other weed control programmes, such as cape weed control in the South East, have been conducted.

- \* Pesticide residues - One of the more important programmes associated with pest control was designed to discourage farmers from using DDT for the control of barley grub in the South Eastern districts. A report from entomology officers that grain received at silos in both the Upper and Lower South East in the 1970-71 harvest was contaminated with DDT, strongly indicated that a programme should be run to discourage its use.

In this programme all types of media were used - T.V., radio and press. Resellers of chemicals were contacted by extension officers advising them of the recommendation. At group meetings and through personal contact, farmers were advised of the recommendations and the reasons for them. In evaluating this programme the agricultural advisers concerned report that information gathered from various sources indicates that very little DDT was used in spraying crops this year. Resellers advised that there was little enquiry for DDT for barley grub control in cereals and there were no complaints received about alternative chemicals.

### 3.2.5 Investigational programmes

In an extension officer's total programme, objectives may be developed which are mainly for defining and analysing problems or gathering information for future educational programmes.

A number of technical and economic projects to provide information for officers have been programmed, e.g. to survey the extent of certain technical problems in a district or to study the economics of the possible alternate agronomic crops for a district. In most cases this information when collated, will be built into the officer's district statement.

One special investigational project in the Lower North district is where the agricultural adviser is working closely with a farmer group, assisting them to investigate stock problems caused by grazing ryegrass in the Black Springs-Manoorra district. This is a programme involving a co-ordinated effort between farmers, research officers and extension officers.

### 3.2.6 Special group programmes

District agricultural advisers have always carried out a large programme of group extension work. Some special extension programmes are now being developed using a problem solving approach. This approach recognises the importance of social influence and sees social group definition and the promoting of group action as important extension strategies.

Farmers recognise themselves as belonging to particular community groups. These groups form naturally and are rarely formalised. Communication and/or social activity is the major cohesive force in such a group.

The definition of such groups, with the view to working with them, is seen as a means of further improving our group extension work.

Group problem solving projects are designed to assist farmers in a group setting, solve their problems. The steps seen as important in such a programme, whether working with an established group or a defined social or community group, are as follows:-

- \* Determine problems at a meeting of the group, possibly by conducting a problem census.
- \* Analyse the situation by consultation and survey.
- \* Generate possible solutions.
- \* Present solutions to farmers.
- \* Develop a work programme.
- \* Implement the programme.
- \* Evaluate the programme.

Agricultural advisers are involved in such problem solving projects with farmer groups in several districts.

#### 4. EXTENSION ACTIVITIES:

The extension staff of the Agronomy Branch has provided an extensive agricultural education and information service on all aspects of agronomy to the Government, primary producers, primary producer organisations, industry, to other Government department, local government authorities and members of the general public. In providing an extension service to producers, increasing use is being made of all available media, i.e. person-to-person contact, farmer group meetings and all channels of mass media.

##### 4.1 Personal service

The great bulk of the person-to-person work of the extension section was carried out by district agricultural advisers and assistant officers working with them.

This is the front line activity of the extension service and involves farm visits, office calls, telephone and postal enquiries. This extremely important personal service occupies a considerable amount of district officers' time and attention. At the farm level district agricultural advisers continue to have a very high level of farmer contact, as can be seen from some of the following composite statistics of the extension activities of the field extension officers of the Agronomy Branch during 1971.

#### 4.1.1 Farm visits

During 1971 Agronomy extension officers made over 2,600 farm visits throughout the State, to assist growers with specific enquiries about all aspects of crops and pasture production, farm management, and often to co-ordinate information into the whole farm operation.

#### 4.1.2 Technical enquiries

These are serviced mainly by phone, office calls, personal contact and postal enquiries. During 1971 officers serviced 10,000 phone enquiries and 3,200 office visits. A significant portion of these enquiries continued to be serviced after hours and this makes considerable demands on officers' private time.

#### 4.2 Group extension work

More and more emphasis is being placed on the role of group extension by many extension services. In the Agronomy extension work in South Australia, farmer meetings, mainly with Agricultural Bureaux, at night meetings, conferences, schools, field days and demonstrations, were again of great importance in the overall extension effort.

The high educational component of the extension service of this Branch is indicated by the fact that district officers provided lectures and/or discussion group leadership at over 300 night meetings and field days throughout South Australia in 1971. District officers attended a further 80 group activities, i.e. conferences, industry meetings and Rural Youth meetings, as speakers or resource personnel.

#### 4.3 Mass media

The mass media (press, radio and television) have been used extensively to inform producers of technical matters and the public of the current situation of agronomic matters of interest and importance. Extensive use is made of both the State and regional press, radio and to some extent television services.

##### 4.3.1 Press

253 news items were provided by field extension officers mainly to regional press outlets. Some officers have contributed to regular district columns. This high level of press service is aimed at keeping a wide range of producers informed of all important agronomic matters.

##### 4.3.2 Radio news and special programmes

123 radio items were used to bring to producers' attention, important agricultural matters of an urgent nature as well as news of new findings and techniques.

##### 4.3.3 Television

9 programmes were presented by district agricultural advisers during 1971. The regional T.V. coverage for agricultural programmes is limited, but where possible, officers have contributed to this media.

#### 4.4 Other activities

A number of other activities were carried out by district officers. These activities included:-

\* Liaison with:-

- research workers in relation to investigational work in their respective districts.
- industry representatives in trials and demonstrations
- other Government departments on agricultural matters.

\* Conducting a large number of agronomic demonstration trials associated with cereals, alternate crops, pasture production, weed and pest control. Demonstrations are seen as an important part of the Agronomy Branch extension work.

- \* Officers provided a monthly report service of agricultural conditions for all districts throughout the year. They prepared special reports on cereal crop estimates and serviced enquiries from the general public, as well as conducting surveys and furnishing reports on such matters as disease infestations and crop damage.
- \* Inspection of approximately 2,000 acres of registered seed crops grown under the South Australian Registered Seed Growers' Scheme. In 1971 this covered 18 growers of seed wheat and 23 growers of seed barley throughout the State. The provision of quality cereal seed to South Australian farmers is an important factor in maintaining marketable grain.
- \* Judging of competitions such as bulk wheat competitions for Bureau groups, and assisting with regional Rural Youth competitions in many parts of the State.
- \* Conducting tours for farmers, agricultural students and interstate and overseas visitors.
- \* Service to commerce and industry - The enquiry from and liaison with commerce and industry has continued to increase. Considerable contact was maintained with officers from these fields during 1971, and officers provided assistance and information to a wide range of commercial organisations, marketing boards, and other research organisations.

With the rapid changes occurring in agriculture today, it is important that a co-ordinated effort between extension services and these organisations be maintained.

## 5. SPECIAL DUTIES:

Extension officers of this Branch were required to undertake special duties from time to time at the request of the head of the Branch. These included investigations, assistance with quarantine inspections and special reports for other Government departments.



Extraordinary duties are continuing to occupy a considerable amount of some officers' time. One agricultural adviser in Head Office is involved in reports on applicants for finance under the Rural Advances Guarantee Act, 1963. He has also been involved in inspections and reports for the South Eastern Drainage Board. The Acting Principal Agronomist has been a member of the Primary Producers' Assistance Advisory Committee, Wheat Quota Advisory Committee, the Commonwealth Consultative Committee on Drought and the Bushfire Research Committee.

Other officers were involved in lectures to agricultural technology students, assistance with Departmental in-service training schools, and one officer acted as external examiner in practical agriculture at Roseworthy Agricultural College.

#### 6. TRENDS IN EXTENSION:

District officers report there has been a trend toward a greater farm management bias in their extension work, i.e. enquiries involving both the physical and financial planning of the whole farm operation.

The need to carefully consider alternative forms of production in many cases, has brought about this management type of enquiry. This has meant that often extension officers must now seek a wider understanding of the total farm situation, before offering recommendation or advice.

This has called for more liaison between officers of different disciplines at a district office and within a region.

District officers also report that there has been an increase in the strictly technical type of enquiry, requiring decisive information on practices, products, and costs and returns. No doubt this is due to the farmers' need to have precise technical information so as to study the cost-benefit of each input into his farm business. This is emphasised by farmers looking for more precise information on rates of fertiliser required for crop and pasture production.

There is also a need for officers to be better informed on market outlooks, market procedures and product quality standards, because so much decision making is today influenced by market factors.

Group extension activities with Agricultural Bureaux continues to be very important in most districts. However, in some areas attendances and interest at normal Bureau meetings has declined and there is increased interest in larger specialised schools and specialist meetings.

In many extension services there is increasing value being placed on working with community or friendship groups and this appears to offer opportunities to further extend group extension work in some districts.

## 7. TRAINING:

To meet new needs in agricultural extension, providing additional training continues to be an important objective of this Branch. During the year eight officers attended in-service training schools as follows:-

- \* 4 officers attended a one week advanced communications school
- \* 3 officers attended a teaching processes school
- \* 1 officer attended a technical induction school

One district agricultural adviser attended a 7 week farm management course in Western Australia conducted by the Western Australian Farm Management Foundation. District officers were given farm management training at regional adviser group meetings during the year. The aspects of training involved were in gross margin analyses and parametric budgeting. This type of farm management training is seen as important so that officers can efficiently meet increasing demands for this type of service by producers.

Two officers attended administration and supervision schools conducted by the State and Commonwealth Public Services. One officer attended the Commonwealth Sheep and Wool Refresher Course held in New South Wales in 1971.