Farmers' use of agricultural information 1983

P W. Fry
Department of Agriculture and Food, Western Australia

K F. Goss
Department of Agriculture and Food, Western Australia

Follow this and additional works at: https://researchlibrary.agric.wa.gov.au/pubns

Part of the Agricultural Education Commons

Recommended Citation
The authors: P.W. Fry, Extension Research Officer, and K.F. Goss, Principal Adviser, Information Branch, Department of Agriculture, Western Australia
FARMERS' USE OF AGRICULTURAL INFORMATION

By: P.W. Fry and K.F. Goss

SUMMARY

The Western Australian Department of Agriculture produces information for farmers which is disseminated through various mass media. The Australian Broadcasting Commission and commercial media outlets provide further agricultural information. In 1983 a telephone survey of cereal-sheep farmers was undertaken to determine what information sources were used by farmers, and how farmers used that information.

A number of information processing factors were taken from communication research literature. These were accessibility and availability; surveillance and exposure; selection; storage and retrieval. From within this theoretical framework, information sources such as farming magazines, radio and television programmes were examined.

Special attention was given to evaluating the performance of the following Department of Agriculture media: Farmnotes, Bulletins, Journal of Agriculture, Direct Mail Service, Agricultural Memos, Farming Today and radio broadcasts. There was considerable activity by farmers in surveillance, selection, storing and retrieving of information.

It was found that the availability and exposure of Departmental media to farmers was high, except for the Journal of Agriculture. It is recommended that the form and content of the Journal be reviewed, and the circulation of this and other information sources be further increased. Revision of the little used Agdex filing system is also necessary.

Other recommendations include: greater recognition of the role of the farm family in information processing, the provision of 'entertaining' agricultural television programmes for rural communities, and the need for farmer awareness of information storage and retrieval systems.

Because the functions of the Direct Mail Service and Agricultural Memos were found to overlap, it is suggested that the use of these information sources could be studied further to test for redundancies in Departmental effort. It is also proposed that the Department should not commit itself to disseminating technical information through audio and video-tapes unless the effectiveness of these media can be demonstrated.

Research Report
December, 1983

Department of Agriculture
Jarrah Road
SOUTH PERTH 6151
Western Australia
ISSN 0157-6259
1.0 INTRODUCTION

The most recent comprehensive survey of farmers information use was done by the Western Australian Department of Agriculture in 1970. Since then changes have been made to the Department's methods of information dissemination, particularly for the printed media. The purpose of this study was to describe what information sources farmers were using, and whether the information was being used in a manner consistent with its production. To do this it was necessary to describe the process of information acquisition and use, with particular reference to the Department of Agriculture. Unlike the Trotman and Lawson (1977) study (outlined below), this research concentrates on farmers' media behaviour rather than media effectiveness. Also, the data was collected from sheep-cereal producers (the most important agricultural sector as regards value of production) rather than dairy farmers.

In 1970 Trotman and Lawson surveyed 900 dairy farmers to determine the effectiveness of electronic and print media used as information channels by the Western Australian Department of Agriculture. An experiment (placing a story in all media and assessing recall) was used to compare the dissemination efficiency of various information channels. Other methods of measuring media effectiveness were; a) a topic recognition checklist and b) the farmers opinion of his exposure to, and use of, various Departmental, public and commercial agricultural media outlets. It was found that the media generally had a low educational effectiveness. The print media was most used by farmers. One recommendation was that attention be given to developing an information storage system, since more than half of the respondents agreed with the statements: a) that they did not make as much use of agricultural information as they should, and b) that they would like to store information for later referral. The study also drew attention to the need for local, enterprise oriented, direct mail publications. Since the time the above survey was carried out the following changes to the mass media output of the Department have eventuated:

The Journal of Agriculture became quarterly rather than monthly in 1972; In 1978 each issue was made chargeable ($3.00), rather than issued free.

Farmnotes, leaflets on individual farming topics, were introduced in 1974.

Bulletins, previously reprints of Journal articles, were modified to become booklets more comprehensive than Farmnotes in content and generally covering a broader topic.

Dairy Notes was discontinued in 1982.

The Agricultural Memo district office publications (not addressed by Trotman and Lawson) are now disseminated by district offices to farmers within their particular advisory district. This extension medium was started in Esperance in 1964 and the last office (except Albany) adopted its own Memo by 1981.

The Direct Mail Service was introduced in 1976. Farmers now pay $20.00 to receive four copies of the Journal of Agriculture and about ten deliveries of Farmnotes per year. Subscribers also
receive the Weed Control in Cereals Bulletin and the Weed Spraying Chart each year.

Press articles issued by the Department are published by the relevant State and local rural press.

The ABC radio programmes Country Breakfast Session and Country Hour continue to be used by the Department of Agriculture, with the Breakfast session carrying items of more immediate and local significance.

Farming Today, a television programme on the Golden West Network (GWN), has been screened through south-west farming areas since 1968 and now is transmitted to about half the agricultural area.

Agdex is a classifying, indexing, filing and retrieval system for agricultural publications (a modified version of the U.S. system) and was first introduced in Western Australia for general use as Wagdex in 1974. The system was later developed for Australia wide use and released as Agdex in 1976. A further revision occurred in 1980 (WADA, 1980). Farmnotes continue to be issued under colour coded letterheads and index numbers.

It is assumed that farmers are using these information sources in a manner consistent with their production. However, can we assume Farmnotes and Bulletins are being filed and retrieved effectively using the Agdex system? Alternatively, should we assume that Agricultural Memos are immediately read or also put away for later retrieval? An evaluation was warranted not only on what information sources are presently used by farmers, but on how farmers process that information.

2.0 REVIEW OF THE LITERATURE

The 'gaining' of knowledge by the farm community is one aspect of technological change in agriculture. It has been conceptualized that in the process of adopting a new practice the farmer goes through a process consisting of four steps - knowledge, persuasion, decision and confirmation (Rogers with Shoemaker, 1971, p25-26). The knowledge step occurs when the farmer is exposed to an idea or practice, and gains some understanding of how a new innovation functions. Persuasion involves influence by extension officers and other proponents of change, and formation of a favourable or unfavourable attitude by the farmer. The farmer decides whether to adopt or reject the innovation. Confirmation refers to reinforcement of that decision, which may be reversed if the farmer is exposed to conflicting messages about the innovation.

Most diffusion research has demonstrated that the print and electronic media can play an important role in the gaining of knowledge about farm innovations (Rogers with Shoemaker, 1971, p108, 348). While it has become conventional wisdom that the role of the media is for 'awareness', the knowledge step can be a quite complex act of information processing (Rogers with Shoemaker, 1971, p105).

To use an item of information available in the media a number of stages of information processing have been isolated: accessibility and availability, surveillance and exposure, selection, storage and retrieval.
Berelson and Steiner (1964) noted that accessibility is a major factor in controlling what people see and hear in the mass media. While specific knowledge may be available for those who actively search for it, it could be assumed that few farmers adopt an 'information searching' method of knowledge acquisition. Coleman and others (1971, p104) found that doctors seldom became aware of a new drug through channels they had to seek out themselves. Farmers, too, might be expected to display the same 'holding still' mode of information gathering. Under these circumstances information must be readily accessible to its potential users.

Surveillance and exposure describe alternative approaches to information acquisition. No-one can be master of his or her information environment but they can be an active or a passive consumer of such information. Exposure is akin to a more passive style, monitoring the media. Accessibility is obviously important here, and so exposure can vary due to factors outside the immediate control of the consumer. Surveillance describes a more active orientation and implies a greater selectivity of exposure.

Because we are surrounded by more messages than we can attend to, people give selective attention to a limited number of messages. Strategies or habits are developed by the individual to cope with the information environment, thus controlling the probability of selecting one type of message rather than another (Schramm, 1972, p38). The television producer's aim is to influence the viewer's selecting process by immersing him or her in a televised environment. Discrimination between individual programmes and between programmes and advertising is not encouraged. Control of the selection process is achieved by making messages readily available and accessible. Unlike printed media where the reader turns the pages at leisure, television images and sound must be 'read' sequentially and at length.

The selection of messages for utilitarian purposes can be distinguished from non-instrumental considerations. From the work of Katz, Gurevitch and Hass (1983) we can predict that printed material would be most closely relied upon for useful information, radio would also be fairly popular and television would be least important. In non-instrumental behaviour, the receiver selects messages (or information channels) for pleasure of use such as personal interest and entertainment value. There is evidence from the 'Farming Today' evaluation (Appendix 3:4:2.1) that some farmers turn on the television for entertainment; the educational benefit is coincidental. In the absence of a demonstrable utilitarian need for a particular message a large readership or audience might be explained by non-instrumental factors.

Atkin (1973) suggests that the attention an instrumental message is given is related to its reward value, net of the effort expended. Reward value has components such as monitoring threats and seizing profitable opportunities. For example, a farmer will give attention to an article on market prices if the information will help him avoid future low prices for his product, or allow him to maximise the price he can presently receive. Most messages have some value, but the time and effort spent decoding the message is sometimes not worthwhile. Communicators therefore strive to reduce the cost and length of the message and increase its comprehensibility, signal clarity and prominence.
Headings, (colour) photographs, captions, placement of articles and length of articles all help the reader to 'monitor' and select items for attention from printed media. With radio, identifiable music, announcers and verbal clues signal to the listener that close attention is required. Tannenbaum (1971, p. 314) says that to scan the communication environment people look for clues or 'indexing devices'.

Indexes are stimulus elements or complexes within messages which attract attention to the message or its subset.

No literature was located on information storage that might provide a theoretical insight into on-farm information storage. Information on financial and statistical data storage and computation does exist but this is not pertinent to information of a qualitative nature.

However the following points on information storage are put forward:

1. The time spent on information storage must be justified. Maintaining an information system should be more profitable than investing an equal amount of time in any other farming activity.
2. Stored information should have some likelihood of being used at a later date. Information has no value in itself, but only in its utility in meeting the short and long term aims of the farmer.
3. All knowledge depreciates over time. Hence it is necessary to file only information that will not be out of date before it is needed.
4. The likelihood of the data being a complete record of the topic or issue must be considered. Incomplete records may be only partially useful - or misinformative.
5. Individual units of information must be collected on an ongoing basis once a system is set up.
6. Storage of bulky printed items will be limited because of storage problems. Storage of electronic media messages will be limited as a result of retrieval problems.
7. Classification of information to be stored becomes more necessary as the amount of data increases.
8. Classification systems ideally need to be structured along commonsense lines and be time-effective.
9. Information storage and retrieval systems sometimes need to be accessed by more than one person.

3.0 METHOD

The survey population was all farmers owning or managing holdings (a) within an area classed as having its highest estimated derived value from sheep-cereal production (Australian Bureau of Statistics 1976-77 figures) and (b) within the Golden West Network viewing area. These restrictions in the scope of the survey were to ensure that a relatively homogeneous group having similar information needs as regards agricultural enterprise were surveyed.
The sampling frame was the Division of Animal Health's 1983 sheep brands directory for the following shires:

<table>
<thead>
<tr>
<th>Shire</th>
<th>District Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kojonup</td>
<td>Katanning</td>
</tr>
<tr>
<td>Tambellup</td>
<td></td>
</tr>
<tr>
<td>Broomehill</td>
<td></td>
</tr>
<tr>
<td>Katanning</td>
<td></td>
</tr>
<tr>
<td>Woodanilling</td>
<td></td>
</tr>
<tr>
<td>Wagin</td>
<td></td>
</tr>
<tr>
<td>Dumbleyung</td>
<td></td>
</tr>
<tr>
<td>Kent (western half)</td>
<td></td>
</tr>
<tr>
<td>Gnowangerup (western half)</td>
<td></td>
</tr>
<tr>
<td>West Arthur</td>
<td>Narrogin</td>
</tr>
<tr>
<td>Williams</td>
<td></td>
</tr>
<tr>
<td>Wandering</td>
<td></td>
</tr>
<tr>
<td>Brookton</td>
<td></td>
</tr>
<tr>
<td>Pingelly</td>
<td></td>
</tr>
<tr>
<td>Cuballing</td>
<td></td>
</tr>
<tr>
<td>Narrogin</td>
<td></td>
</tr>
<tr>
<td>Wickepin</td>
<td></td>
</tr>
<tr>
<td>Northam</td>
<td>Northam</td>
</tr>
<tr>
<td>York</td>
<td></td>
</tr>
<tr>
<td>Beverley</td>
<td></td>
</tr>
<tr>
<td>Cunderdin</td>
<td></td>
</tr>
<tr>
<td>Quairading</td>
<td></td>
</tr>
<tr>
<td>Cranbrook</td>
<td>Albany</td>
</tr>
<tr>
<td>Plantagenet</td>
<td></td>
</tr>
<tr>
<td>Boyup Brook</td>
<td>Bridgetown</td>
</tr>
</tbody>
</table>

One hundred and fifty farmers were selected at random from the register. Although the sheep brands register is assumed to list nearly all farmers having a sizeable interest in sheep farming, people with a small interest in sheep are also listed. In the survey, therefore, filter questions were asked to select only persons having a major say on farms of 324 hectares or more, and who usually ran more than 400 sheep. The farm size requirement was to ensure that largely viable farms were included.

The questionnaire was developed to some extent from the results of previous studies. The Trotman and Lawson (1977) survey, the 'Farming Today' evaluation (Appendix 3) and face-to-face interviews with farmers in the Pingelly Shire (Appendix 1) - all provided useful preliminary information for this study. The questionnaire used for the main survey is shown in Appendix 2. The telephone interviews were conducted during the day and evenings on week days from 18.7.83 to 3.8.83.

4.0 RESULTS

Of the 150 farmers selected, 15 had less than 324 hectares of land and three respondents had ceased farming. Three farmers had already been interviewed in the pilot survey and were not contacted. Another three farmers were not contacted because they were not thought to be in the GWN viewing area. Only one farmer declined to be interviewed. Twenty-eight selected persons were either not at home during the survey
period or unable to be contacted after four or more phonings. Ninety-seven interviews were successfully completed.

4.1 Farm and Farmer Details

Sheep and grain production was the main enterprise, although 15% of farmers kept pigs and 29% kept cattle. One farmer kept poultry on a large scale. The median farm size was 1179 hectares. The mean number of persons that helped the main decision-maker on the farm was 1.5. In most cases the farmer's wife was involved in either farm management (or finance) and/or farm work. Eighty-nine per cent of farmers were 30 to 60 years old.

4.2 District Offices

The nearest district office to the farmer's usual residence is shown on Table 4.2.1

<table>
<thead>
<tr>
<th>District office</th>
<th>Per cent of farmers (N=97)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northam</td>
<td>28.9</td>
</tr>
<tr>
<td>Narrogin</td>
<td>25.8</td>
</tr>
<tr>
<td>Katanning</td>
<td>22.7</td>
</tr>
<tr>
<td>Albany</td>
<td>10.3</td>
</tr>
<tr>
<td>Bridgetown</td>
<td>5.2</td>
</tr>
<tr>
<td>Manjimup</td>
<td>2.1</td>
</tr>
<tr>
<td>Merramungup</td>
<td>2.1</td>
</tr>
<tr>
<td>Lake Grace</td>
<td>2.1</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Thirty per cent of farmers visited a district office once every few months or more frequently. Forty-three per cent visited about once a year, while 27% visited less frequently than once a year or never. Actual contact with an officer from the Department was more frequent, with 50% of the farmers making contact every few months or more frequently. While the amount of contact between farmers and the Department of Agriculture has been rarely measured in Western Australia, it has been conventional wisdom that frequency is much higher in recently developed farm areas. Yet in the Great Southern, which contains no recently settled farm land, we find a surprisingly high figure for Departmental contact.

Fifty-five per cent of farmers nominated a town other than a 'Department of Agriculture town' as being a regular service centre. These farmers contacted Departmental officers as frequently as farmers who used 'Department of Agriculture towns' as their regular service centres, presumably by telephone or farm visit. However, a strong association existed between use of 'Department of Agriculture towns' for regular services, and visits to district offices ($X^2=10.05, df=2, P=0.007$). Only 11% of the 'Department of Agriculture town' user group had visited the office less frequently than once every year, compared with 40% of the 'non-Department of Agriculture town' user group.
A statistically significant difference was found between age and office visiting frequency, but not with officer contact. Only 12% of farmers under 39 years of age were frequent visitors, compared with 39% of older farmers ($\chi^2 = 6.3, df = 1, P = 0.012$). Thus both age and service centre were associated with office visiting. It was suspected that a spurious variable problem existed here, because a higher proportion of older farmers rather than younger farmers used 'Department of Agriculture towns', and hence would be more likely to visit district offices more frequently. But older farmers who did not visit 'Department of Agriculture towns' were also more likely to be high frequency users of district offices. Therefore age in itself was a determinant of office visiting frequency. Thus we find that officer contact, which was not related to age, offsets an age bias that prevails with district office contact.

4.3 Commercial Printed Information

Two ways of being exposed to commercial print messages were identified: buying publications from newsagencies and receiving papers and magazines in the mail. Twenty-one per cent of farmers never visited a newsagency and were thus thought less likely to be exposed to new farming publications. Thirty-six per cent visited a newsagency once every week and 27% about once every month. The remaining 16% of farmers visited a newsagency once every few months to once every year.

Forty-one per cent of the farmers who visited a newsagency looked through the farming publications on display, and 70% of those bought farming publications off the shelf. Hence 22% of the sampled farmers sometimes bought displayed farming publications from newsagencies. It was not ascertained whether secondary or subsequent decision-makers (including farmers' wives) bought farming publications. This figure compares poorly with subscriptions to media publications, and indicates newsagents are not a potent force in circulation of rural press, journals and newsletters, etc.

Regular subscriptions to farming publications were as set out in Table 4.3.1. Farmers were also asked which publications they read relatively closely. Most subscribed to Elder's Weekly, and according to farmers, it was frequently bought for its advertising. The Western Farmer was the most closely read paper. Many farmers used the Western Farmer (or the Countryman) for news and complemented this with advertising information from Elder's Weekly. It was also said that the paper read first was the paper read closely, the others often repeating the same news stories.

Although 80% of farmers read the most popular weekly paper, only 40% read the quarterly Journal of Agriculture. On this basis, 26 copies of Elder's Weekly are being read by farmers in the surveyed area for every copy of the Journal of Agriculture. Although these publications have obvious differences, availability of Departmental messages through the Journal medium is quite limited on a frequency basis. The limited subscription to National Farmer should be cause for concern to its publishers. It was formerly (like the Journal) free to all farms in Australia, but since subscriptions have been demanded its performance has dropped.
Table 4.3.1. Selection and use of farming publications

<table>
<thead>
<tr>
<th>Publication</th>
<th>Per cent of farmers (N=97)</th>
<th>Subscribing %</th>
<th>Reading most closely %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elder's Weekly</td>
<td>80.4</td>
<td></td>
<td>51.3</td>
</tr>
<tr>
<td>Western Farmer</td>
<td>77.3</td>
<td></td>
<td>76.0</td>
</tr>
<tr>
<td>Farmer's Weekly</td>
<td>71.1</td>
<td></td>
<td>21.7</td>
</tr>
<tr>
<td>National Farmer</td>
<td>63.9</td>
<td></td>
<td>16.1</td>
</tr>
<tr>
<td>Countryman</td>
<td>60.8</td>
<td></td>
<td>49.2</td>
</tr>
<tr>
<td>Journal of Agriculture</td>
<td>43.3</td>
<td></td>
<td>26.2</td>
</tr>
</tbody>
</table>

Some farmers also received specialist management (e.g. Cornerstone), finance (e.g. Agribusiness Monthly) or technical (e.g. Crop Protection) publications. Other publications were concerned with enterprises such as pig farming (e.g. The Pig Farmer), whilst unsolicited commercial publications were also received (e.g. Our Land). The number of these 'additional' publications read regularly averaged only 0.6 for the sampled farmers. Eleven per cent of farmers received two or more 'additional' publications regularly.

Fifty-seven per cent of farmers had cut out farming articles from papers or magazines either for personal use or showing to others. About half of these farmers had filed away such items for later reference.

4.4 Agricultural Memo and Farmnotes

Eighty-three per cent of farmers received the Agricultural Memo (or katag Comment) from their local district office. Ten per cent of all farmers interviewed were in the Albany advisory district where a Memo is not printed. Thus, in the other advisory districts all using the 'householder' system of Memo distribution, about seven per cent of farmers did not receive it; a finding similar to Palmer for the Busselton and Harvey advisory districts (1972, 1976 respectively). This is probably attributable to some town post office boxes not known to Australia Post as farmers. Sixty-three per cent received Farmnotes. Of these 61 farmers receiving Farmnotes, 13 got their copy from the district office and 46 from the Direct Mail Service. The finding that almost half the farmers in the Great Southern might subscribe to the Direct Mail Service is a surprisingly high proportion. Records for the Service currently show about 6,000 subscribers and extrapolating from a survey done in 1981 it was predicted about 35% of the State's full time, commercial farmers were subscribers.

Eighty per cent of the farmers who contacted a Departmental officer frequently read Farmnotes, whereas less than 50% of the farmers who had a lower contact frequency read Farmnotes ($X^2 = 9.8$, df=1, $P=0.0018$). While 26% of the low frequency visitors to district offices and 50% of the medium frequency visitors received Farmnotes, only 26% of the high frequency visitors did ($X^2 = 5.9$, df = 2, $P = 0.05$). But although high frequency visitors were less likely than the average farmer to receive Farmnotes, nearly half of the high frequency visitors who did, got their copies from district offices. Medium frequency visitors who
got Farmnotes usually subscribed to the Direct Mail Service. All of the low frequency visitors got their Farmnotes through this Service. The low frequency group also had a low frequency of contact with agricultural officers ($X^2 = 12.1, df = 3, P = 0.007$).

In sum, we found that acquisition and reading of Farmnotes was positively related to contact with the local Department of Agriculture, and this endorses the supporting role for these leaflets in extension activities. However, the proportions subscribing to the Direct Mail Service did not follow the same pattern, which indicates a complementary role for this Service (not merely a supplementary one).

Upon receiving the Agricultural Memo, farmers used one of three main reading strategies. About 48% of farmers read all or most of the Memo very closely when they first got it. Thirty-eight per cent read selectively, either looking at the contents page first and selecting items, or 'skipping' through and reading the relevant or interesting items. A minority of farmers (15%) proceeded quickly through the Memo and read a minor part of it. They used verbs such as 'flip', 'look' and 'scan' to describe how they monitored this publication. Few of these farmers returned to the Memo at a later date.

Past surveys would suggest that Agricultural Memo has been favoured by farmers for its local relevance and seasonal timeliness. It logically follows that the Memo should be for immediate consumption. It was gratifying to see that virtually all farmers examined the publication upon arrival and about half read most or all of it.

One main style of reading Farmnotes was discovered. Most farmers looked at all the Farmnotes they received and selected only the interesting, relevant or topical ones for closer reading. These were generally read at the time they were received. Only a minority of farmers either read all of the Farmnotes, or conversely, paid them scant attention.

Farmnotes cover a wide variety of topics in farming, pastoral, horticultural and home gardening fields. Subscribers have the option of nominating the enterprise topics they wish to receive, but only about 50% have elected to do this, so far. The others receive all Farmnotes. It is not surprising that most subscribers were so selective.

Fifty-six per cent of farmers always stored the Memo for later use, and a further 11% sometimes stored all or part of the Memo. The figures for Farmnotes were 74% (always) and 14% (sometimes). The Memo was actually filed away (rather than being stored on a pile) by 41% of the farmers who kept it. Farmnotes were filed away by 50% of the farmers who kept them.

Eighty per cent of the farmers who kept either of these Departmental publications had gone back to them at some stage for specific information. Both Memos and Farmnotes had been used to an equal degree for looking up information on the following topics (the total number of reported 'consultations' is shown in brackets): herbicides, pesticides, chemicals (25), lupin growing, wheat varieties, peas and clover seed, (16), animal husbandry and feeding (14), soil conservation (10), fertiliser requirements for crops (6), webworm and cutworm (4).

While district office policy, supported by previous surveys, has generally favoured production of Agricultural Memo for 'immediate -9-
consumption', the Farmnote format is designed to encourage the storage and retrieval of these leaflets. They are single topic in nature, colour and Agdex coded by topic, and especially designed storage binders are available. Yet, farmers of the Great Southern seemed to discriminate little between the two when it came to storage behaviour.

About two-thirds of the farmers who stored Agricultural Memos or Farmnotes were satisfied with their present system of storing and retrieving items of information. No relationship was found between type of storage (file or pile) and satisfaction. Most Memo users who were dissatisfied with their present system said that it was difficult to find specific items amongst the many Memos they had stored. Some suggested that an indexing and/or a folder system might make retrieval easier. Other farmers blamed their own office procedures for their information retrieval problems. Few Farmnote subscribers (eight farmers) used Agdex, and most were happy with the system. The Farmnote subscribers who did not use Agdex and were not satisfied with their storage systems suggested that the use of an index and/or folders would help them find material. Farmers often stated that they did not spend enough time on office procedures.

On the whole the storage/retrieval systems employed were rudimentary and yet most farmers were satisfied. The very small use of Agdex would indicate potential for an extension campaign on this matter, yet the number of disaffected filers was quite low. Perhaps Agdex is too sophisticated or precise an index for most farmers' needs.

Most farmers thought that the information within Memo and Farmnote items was adequate. Sometimes they sought extra information (usually from the district office) if this was needed. However, having to find out more about a topic was not seen as being a sign that the original item was inadequate. It was more likely the case that the item had stimulated the farmer to find out more.

4.5 Radio and Farming Programmes

Fifty-nine per cent of farmers were either always or mostly within earshot of a radio during the day. A further 31% were sometimes near a radio (often listening during lunch times), and 10% were seldom or never near a radio during the day. Thirty-one per cent listened to the radio for background noise, whereas 83% turned on the radio for specific programmes. A similar percentage regularly listened to farming programmes, the most important one being the ABC Country Hour. Sixty-nine per cent of farmers said that they usually listened to the ABC.

4.6 Television and Farming Today

Ninety-three per cent of farmers had a television set and could receive GWN. Eighty-five per cent of these farmers actually watched GWN, with 90% of GWN watchers being able to watch on Monday nights. In all, three-quarters of all sampled farmers were able to watch Farming Today on GWN. Thirty-five per cent of potential viewers watched Farming Today regularly, 37% sometimes and 28% never watched the programme. For all the sampled farmers, 57% watched the programme either regularly or occasionally; which is a high figure given competition from another television channel and alternative activities.
On Monday nights farmers 'happened to watch' the programme by several different means, the most common (37%) being to watch GWN and automatically watch Farming Today when it came on. A less common (28%) but more purposeful strategy was to watch ABC and turn to GWN especially for Farming Today. Still fewer farmers (17%) turned the television on especially to watch the programme. The remaining 18% of farmers had no regular viewing style, alternating from week to week.

These results were supported by the following data. Farmers were asked whether the household watched mainly ABC (25%), GWN (25%) or both (50%). Viewing frequency was affected by the regular channel(s) chosen, but only when the household was predominantly orientated toward the ABC. Both regular and occasional viewers of Farming Today were equally likely to be either GWN viewers or to watch both channels. Eighty per cent of farming households that either always or sometimes watched GWN were regular or occasional Farming Today viewers. Forty-seven per cent of farmers from mainly ABC viewing households watched Farming Today ($X^2=6.3, df=1, P=0.012$).

It was found that 60% of solely ABC and ABC-GWN viewers contacted a district officer on a high frequency basis, compared to only 20% of solely GWN viewers ($X^2=8.4, df=1, P=0.0038$). (Although only at the 10% level of statistical significance, a relationship was found between age and usual channels used. Older viewers tended to use ABC more).

One-third of all Farming Today viewers had chosen not to watch the programme on at least one occasion after seeing the introduction. Those who only occasionally watched Farming Today seemed to be more selective in what they did watch. Whereas only 15% of regular listeners had at one time chosen not to watch after seeing the introduction, 48% of occasional viewers had exercised this option.

4.7 Storage of Printed Information

About two-thirds of farmers said they had an office in which to store printed information. The other farmers usually used a room in the house but this room was not called the office. One farmer used the children's playroom and another put information in a shed on the farm. About 10% of all farmers had little or no information to store - everything was 'stored in the head'.

Of the most commonly used receptacles in which to store information, the filing cabinet was most frequently mentioned, being used by 33% of 'information storers'. Of the farmers who stored information, one-third used filing cabinets. Others used writing desks (28%), cupboards (11%), piles (11%), shelves (10%) and cartons (8%).

Information classifying and retrieval systems were few in number and generally not complex. As mentioned, a few farmers did not store information. One farmer said; 'The more I can burn the better'. A few farmers used Agdex - generally for storing Farmnotes. Two farmers used alphabetical indexes and one used a decimal/topic based system. However, the majority of farmers either put away literature as it came (39%), stored individual publications separately (23%), filed information away on a topic basis (20%), the others followed no system (18%). Frequently farmers used two or more of these strategies. For instance, individual publications were often stored separately, and no system sometimes meant publications were stored on piles as they came.
4.8 Storage of Electronic Information

About one-third of all farmers interviewed could remember writing down details or following up on an agricultural radio or television programme. The use of herbicides was the most commonly noted topic (mentioned by seven farmers); drought information was also mentioned.

Fifty-nine per cent of farmers had access to a tape recorder, and 14% had access to a video tape recorder. Four farmers had recorded programmes from the radio on sheep marketing, chemicals, cropping and parasites. Another four farmers had video-tape recorded television programmes on tree planting, goat farming and chemicals.

4.9 Family Involvement

Farmers were asked to what extent their families were involved in monitoring printed or electronic agricultural media. Family members of 55 per cent of farming households read articles in farming publications frequently. A further 20% of farming families read farming articles only sometimes, and 25% never read farming information.

Family members in 80% of farming households either listened to or watched farming programmes on radio or television. Fifty-five per cent of farming households had members who listened to farming programmes when the main decision-maker was not present, and in almost all cases brought interesting items of information to the farmer's attention.

5.0 DISCUSSION

The stages of information acquisition are useful in understanding some of the findings. The stages are availability and access, surveillance and exposure, selection, storage and retrieval. Expressed in this manner, information acquisition would appear to be a step-wise and mechanical process. However, neither the information environment, farming practices nor the individual farmer are organized in a manner which promotes a highly formalised information processing system. For instance, commercial farming papers give farmers an idea of what is going on, but farmers are not likely to store much of this information away. Instead, they commit it to memory. Many of the actual details of rural news stories are probably not remembered, but have various cognitive, affective or behavioural consequences at a later date. Hence it is not always possible to chart the progress of a 'piece' of information from distribution to use on the farm because the processes are often either random, hidden (they are mental processes) or obscured by time. Hence, the 'stages of information processing' should sometimes be seen as categories rather than progressive steps towards the use of a 'piece' of knowledge.

5.1 Availability and Access

If the information sources considered in this study are compared they can be divided into four categories according to availability.

Free access information comes to the farmer automatically. Radio, for instance, has traditionally been relied upon by rural people, and farming programmes occupy breakfast and lunch time-slots. Hence 90% of the sample were within earshot of a radio sometimes during the day and 83% tuned to specific farming programmes. A similar proportion of
farmers received the Agricultural Memo newsletter. Seventy-two per cent of farmers who were able to watch Farming Today actually watched the programme. Each of these information channels is pervasive in most agricultural areas and freely available to farmers.

Local access sources are the newsagent, district office and district officer. Sixty-three per cent of farmers visited a newsagency once every month or more frequently, although only 22% of sampled farmers sometimes bought displayed farming publications. Whilst 30% of farmers visited a district office once every few months or more frequently, 50% of farmers contacted a Departmental officer with the same frequency. Officer contact was probably more frequent because of officer mobility and telephone contact, whereas office visiting relies on the farmer's motivation and proximity in relation to the district office. Because older farmers were more likely to visit the district office, the dimension of having available time to spare has to be considered with this information source.

Access by membership covers printed media received by farmers because they belong to an organization or group. The Farmer's Weekly is received by Primary Industry Association members - 71% of the sample.

Access by subscription applies to the rural press and publication services from the Department of Agriculture's Head Office. Some rural press purchases may be over the newsagent's counter. Availability is conditional on cost: Western Farmer, $26 p.a.; Direct Mail Service, $20 p.a.; Countryman, $15.60 p.a.; Journal of Agriculture (alone), $15 p.a. Availability is also conditional on taking the trouble to renew the application annually; a more active role for the farmer is implicated. Nevertheless, the proportions who subscribed to the rural press were 60 per cent or more, not as high as availability of Agricultural Memos, but more than the Direct Mail Service or Journal of Agriculture.

It is unlikely that even useful information will be intercepted by farmers if it is not readily available to potential users. Consider, for example, the media availability from Albany Regional Office. The 'Albany Advertiser' is distributed to many farmers within the district. The paper contains a section (of about two-thirds of a page) called 'Country Life: For the Rural Community'. It consists of agricultural and agro-political news as well as about forty column centimetres of farming information from the Department of Agriculture called 'Farming Week'. The column is aimed to give locally relevant and seasonally timely information, similar to that for Agricultural Memo. Because 'Farming Week' is such a small item compared to the Memos from other district offices and because its circulation does not include all district farmers, it follows that Albany farmers have less available information. Very few would have access to Agricultural Memos from other district offices. It is presumed that Memo information, while not vital, is often useful. Thus we see a difference between advisory districts on the question of availability.

5.2 Surveillance and Exposure

Information receivers can be active or relatively passive consumers of information. Examples of active information use (surveillance) is when farmers change channels to watch Farming Today or choose among new farming publications at the newsagent. Passive use (exposure) of information is shown when farmers habitually look through subscribed
farming publications, or watch GWN and consequently watch Farming Today by default. Whereas availability is more a characteristic of the media, surveillance/exposure is a characteristic of the information receiver.

However, social and 'environmental' factors control or exert a large amount of influence on whether or not a farmer will be exposed to a specific 'piece' of information. The following situational factors predispose farmers toward information deficits:

- living a relatively long distance from a district office,
- living in a household which watches the 'wrong' television channel (e.g. ABC viewers often miss Farming Today),
- living alone, and hence missing items of information that could have been relayed by the family,
- being member of a group which has bestowed low credibility on the Department of Agriculture and its publications.

Consider the television example. In the weeks before the survey the competing programme on ABC was 'The Good Life', a British comedy about attempted self sufficiency in the backyard. From hearsay it appears to be a popular programme among farmers, perhaps because it is relevant yet offers 'escapism'. The switch to GWN's Farming Today is conditional on concessions from other members of the family and no engagements such as shire council meetings or Rotary.

However, information deficits due to social or environmental factors can still be rectified by the motivated farmer. This might be through persuasion or use of the video recorder in the above case. The situation is more difficult when social stratification is a factor. It has been found that knowledge acquisition from the print media is positively related to education, for instance (Tichenor and others, 1970). One role of the Department is to make information available to the population of farmers, even though many are passive consumers, rather than assume that competent farmers will seek out the information that is relevant to the operation of their farms.

5.3 Selection

Farmers often talk about information overload, so many items only receive a cursory glance. However, some factors increase the likelihood of a message receiving attention. These include the difficulty of avoiding the message, its instrumental and non-instrumental value, and its access through indexing devices.

Regular ABC viewers were more likely not to watch Farming Today compared to farmers who watched either both channels or only GWN. In households where GWN was selected occasionally or frequently the likelihood of viewers watching Farming Today by accident would be increased. However, the introductory section of Farming Today provided a means for farmers to assess the reward value of the programme. Hence some farmers had at one time or another chosen not to watch the programme after seeing the introduction.

Selection naturally depends upon perceived information needs. Messages which have a high probability of being attended to are often enterprise, situation, season and area specific. For this reason Agricultural Memo has proved to be highly successful. One significant feature of the Memo has been placement on a 'Contents' list and an editorial on the cover.
This facilitates selection. Two other 'free access' media -- ABC Country Hour and GWN Farming Today -- have an indexing device, through announcement of the programme's segments at the outset. Further, the ABC programme is structured into sections on weather, market prices, agro-political news, general news, technical information and current events announcements. This permits farmers to select by time rather than topic, an equally efficient selection device.

Farmnotes are a different situation. Their content is not as time or locality specific as Agricultural Memo, and they are more likely to be stored away for later referral. Farmers may be selective through ticking selected topics/enterprises on their application or renewal forms. They may also go by title or Agdex code. Earlier findings indicate a great deal of selectivity is exercised.

5.4 Storage and Retrieval

The mode and extent of information storage and retrieval depends on the intrinsic and extrinsic characteristics of the information, as well as the amount of information and other factors. Intrinsic characteristics include factors within the message (e.g. Is the message a single topic; does the content go out of date quickly; are there large amounts of data involved?). Extrinsic characteristics relate to the form of the information, such as the communication channel used (e.g. interpersonal or mass media). Therefore, simple and timely messages from interpersonal sources about the value of particular farm practices are usually committed to memory. Detailed technical printed information of a universal nature is generally stored for later reference. The discussion below suggests reasons why the mode and extent of information storage and retrieval is fairly limited.

Farmers evidently do not at present think that spending more than a minimal amount of time on information storage is justified. Just over half of the sample had invested in storage equipment such as filing cabinets and writing desks, although these receptacles would no doubt be used primarily for financial data. As already mentioned, the information classifying systems, although being 'time-effective', were few in number and generally not complex.

Simple information storage systems such as putting Agricultural Memos in a drawer were much more popular than systems which required time and/or money. Messages on the electronic media are more difficult to collect than the printed media, and these messages are costly to store. Although most farmers have audio-tape recorders only a few have video-tape recorders. Audio and video-tapes are expensive. Also, it is difficult to find 'specific pieces' of taped information unless these items are painstakingly indexed.

Printed media also have storage problems. Farming papers and magazines are bulky and contain much unwanted information - periodic culling is often unavoidable. Most of this news becomes out of date in a few days. Therefore, it is not necessary for farmers to file a large proportion of the information that they are exposed to. In contrast, educational farm management information could continue to be relevant for decades.

Classification systems such as Agdex, which are able to handle virtually any agricultural topic, can be too complicated for people who are
unwilling or unable to learn the structure. Such a system might also be overly sophisticated for an individual's needs. Where various topics are 'embedded' within a single publication (e.g. Agricultural Memo) it is not practical to incorporate individual items into a topic-based information system and still keep the Memo intact for chronological searching.

On some farms there is more than one decision-maker. Often one person has been given the role of information surveillance, storage and retrieval. Many of the information systems remarked upon (e.g. the deep litter/biblical system - 'seek and ye shall find') could not cope with input from more than one person. Alternatively, adopting more sophisticated information storage techniques might encourage all decision-makers on farms to become involved.

Alternative sources of information such as Department of Agriculture officers are expected to provide technical and managerial information to farmers. Some of the information that is sought is available through other (interpersonal and mass media) channels, and it would seem unnecessary for farmers to contact district officers in many cases. This survey provides no data on the extent to which Departmental personnel are contacted unnecessarily. It may, in fact, be found that seemingly unnecessary consultations achieve for the farmer more information than he could glean from printed sources. If this is not generally true, the Department might alleviate the pressure on district office staff by circulating more comprehensive, regularly updated, and 'user-friendly' literature on major aspects of the farming enterprise.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The object of this study was to describe the information processing behaviour of a defined group of farmers for Department of Agriculture media:

- Farmnotes, Bulletins, Journal of Agriculture and the Direct Mail Service,
- Agricultural Memos,
- Radio broadcasts (ABC Country Hour),
- Farming Today (GWN television)

This included consideration of storage and retrieval of information and use of the Agdex system.

6.1 Farmnotes and Direct Mail Service

The total exposure to Farmnotes was 63% and exposure through subscription to the Direct Mail Service was 47%, which is excellent audience penetration in seven years since the service started. Farmers 'processing behaviour' was consistent with the intent of this service. Surveillance of leaflets was highly selective; nearly all farmers kept them for later use and nearly half filed them away, and many retrieved them. However, very few used the Agdex system and there wasn't a strong dissatisfaction with other systems.

There is little from the study to suggest the Direct Mail Service and Farmnotes need improvement. Their production should obviously continue. Farmnotes at the district office are a useful back-up to other extension activities. The Direct Mail Service does not entirely
coincide with district office users, and complements the role of advisory services.

Recruiting of farmers to the Direct Mail Service should continue through displays at Departmental localities and exhibits, and other cost effective means.

The computerised service records should be programmed to periodically report numbers of new enrolments and of non-renewals for purposes of internal evaluation.

Currently, the Direct Mail Service is a chargeable service ($20 per annum) whereas Farmnotes are available free of charge. Given that Farmnotes are useful, as indicated by the proportion of farmers who 'process' them, and almost 40% of the sample do not receive them, what should be done to improve accessibility? One option is to make the Service free; another is to end the Direct Mail Service and issue all Farmnotes through attachment to Agricultural Memos. There are arguments against both options on grounds of policy and logistics. For instance, making the Service free or non-existent to recruit new farmers, may adversely affect the perceived value of Farmnotes or remove a favoured service for existing clients, thus causing discontinuance. A cost-benefit approach to evaluation could resolve these issues. Most district offices issue six Agricultural Memos per year whereas Farmnote production is 150 to 180 titles per year. In mixed farming areas up to 30 Farmnotes might have to be attached to a Memo, which is obviously impractical.

Reconsideration of indexing for storage and retrieval is needed. Currently there is a precise (44 categories) indexing device on the subscription form which is only used by half the subscribers, and the extremely precise Agdex system which is used by a minority. Less complicated systems are warranted in both cases, but accompanied by an 'education' programme to promote their use.

The subscription form for the Direct Mail Service should be modified to fewer subject categories and each representing an enterprise.

The Agdex binders and associated coding should be modified to use the broad number categories and colour codes, and instructional sheets sent to subscribers.

A current publications checklist, indexed by enterprise, could be sent annually to all subscribers as a check on the titles which should be present and their filing sequence.

6.2 Agricultural Memos

There is little doubt this is a useful and highly used publication with free access and associated with a high degree of surveillance.

Albany Regional Office should publish Agricultural Memo as a district newsletter.

However, seven per cent of farmers did not get the Memos on the 'householder' service, and it is likely that these farmers have post office boxes in town.
District Offices should check with Australia Post regarding distribution.

Eighty five per cent of farmers who received the Agricultural Memo read it either comprehensively or selectively upon first getting it. Two-thirds of the Memo recipients kept them for later use and also half of these filed it away. It seems Agricultural Memo must cater for two types of information behaviour: immediate consumption, and later retrieval. In the first instance there could be some competition between the Memo and the rural press, radio etc. In the second there is overlap with Farmnotes and the Direct Mail Service. Agricultural Memo is more available and more subject to surveillance than its competitors in either case.

Past evaluation and experience with Agricultural Memo indicate it is widely sponsored by readers because the content is locally relevant, seasonally appropriate and written concisely. These attributes facilitate immediate reading. About 40% of the ‘immediate readers’, however, did so selectively. This endorses the wisdom of placing a ‘contents’ list and an editorial on the front page.

All Agricultural Memos should place a list of contents or an editorial on the front page to assist selectivity of readership.

That farmers also file Memos and use them later would seem inconsistent with their purpose. This behaviour might reflect the perceived value of the publication; farmers may not want to throw away something useful. Storage and later use might also be a necessity when the interval between Memos is two or three months. The list of contents again is useful here.

The important question, not addressed in this study, is whether more comprehensive and longer term advice has a place in Agricultural Memo? These articles would offer more for the farmer who seeks detailed discussion from this source rather than others, but they might detract from immediate readership. Longer term storage and retrieval suggests an opportunity for production of Agricultural Memo binders, which have been offered in the past, but if the Memo becomes easy to file will it be immediately read? We know that only a small minority used the Agdex system for filing Farmnotes.

Until there is evidence to the contrary it seems best to produce Agricultural Memos on the basis that they will be later used for topics ‘within season’, but don’t assume that articles or issues are retrieved from season to season. The latter is the case for Farmnotes and the Direct Mail Service where a topic and leaflet may not be revised and reissued for up to five years.

Further study on the relationship between Agricultural Memo and Farmnotes in the use of their agricultural information is warranted, but personal interview would be more appropriate than telephone survey to validly make the appropriate observations.

6.3 Journal of Agriculture

The quarterly Journal of Agriculture had neither the readership nor the frequency of other farming (press) publications. Nearly all subscriptions are via the Direct Mail Service. Its price per quantity of information, when offered as a separate publication compares poorly.
with weekly farming magazines. And, sales through newsagents would be limited.

No assessment was made of information processing from the Journal. However, its role and price need further evaluation. It should be considered more than an 'early awareness' or 'public relations' magazine.

The form and content of the Journal of Agriculture should be reviewed, with possibilities to include editorials on developments in farm enterprises, regional or enterprise reviews, and articles on agricultural issues.

The price should not rise with the next subscription increase for the Direct Mail Service.

6.4 Radio

Most farmers had access to a radio during the day. Usually the radio was turned on for specific programmes such as the Country Hour (a very popular programme). The ABC is the preferred station. With an audience of 83% of the farmers surveyed, radio farming programmes are as important as farming magazines.

6.5 Farming Today

Farming Today is a successful programme. Fifty-seven per cent of sampled farmers watched the programme either occasionally or on a regular basis. Three main viewing styles were found: watching the programme as it came on, changing the channel specifically to watch the programme, and turning on the television to watch. Farmers living in predominantly ABC households were less likely to watch Farming Today on GWN.

Previous studies show that television watching behaviour can provide the viewer with both instrumental information and non-instrumental rewards. From this evidence and the Farming Today evaluation it must be concluded that the programme should not only distribute agricultural information, but also serve an 'entertainment' function for rural people.

The Farming Today production team should be encouraged to develop a programme that increases the exposure of advisers, as well as providing an 'entertaining' social forum for the farming community.

6.6 Media Storage

Some farmers do not have a designated office in which to store information and 10% of farmers have little or no farming information to store. About one-third of farmers use a filing cabinet with the remainder using less formal receptacles. The main classifying systems are: putting away information in the order it comes, storing individual publications separate from each other, and storing information on a topic basis. Eighteen per cent of farmers do not have any regular system. Generally the information storage systems that farmers use are rudimentary; little time is spent on information storage.

Information on the importance of, and methods of storing agricultural material should be circulated to farmers. Where possible, information storage hardware and procedures could be demonstrated to farmers, and
details on what various commercial suppliers have to offer should be publicized.

About one-third of the sampled farmers had written down details or followed up on a radio or television programme on agriculture. More than half of the farmers had cut out farming articles from papers or magazines, and sometimes these were stored away for later reference. Although many farmers had tape recorders, few had tape recorded a radio programme on agriculture. Four of the fourteen farmers who had video tape recorders had recorded a television programme on rural or agricultural matters.

It should seem that information of a technical nature will not be stored if it has to be recorded from the electronic media. It would be premature for the Department to distribute information to individuals through the audio or video-tape format without first testing these methods. If this was to be done, indexing devices within the text would be necessary for farmers to quickly locate the relevant data.

The Department should not commit itself to disseminating technical information to farmers through audio and video-tapes unless the effectiveness of this media can be demonstrated.

Research into the distribution of taped information for farmers should be undertaken to ascertain demand and use.

6.7 Family Involvement in Information Processing

Information processing on farms is generally an informal joint enterprise engaged in by farmers, their wives, children and other equal or secondary decision-makers. The farmer's wife is probably the second most important 'gatekeeper' of information - discussing and collecting relevant farm management material.

While secondary decision-makers have equal, or perhaps greater, access to mass media messages, they are not in a position to receive the same amount of information from interpersonal sources as the main decision-makers get. In addition to this, most information storage systems are established and used by only one person. Because of this the value of the storable and stored information is lessened as it is less likely to be accessed, and thus less likely to be used.

Recognition must be given to the role of secondary decision-makers on farms as regards the role they play with information. The Department should examine its performance in regard to these decision-makers for each stage of the information processing act.

6.8 District Office Contact

Thirty per cent of farmers visited a district office once every few months or more frequently. For any type of contact with a Departmental officer the ratio was 50%. At least three-quarters of the farmers contacted the Department once a year or more often. While these would not have all been advisory contacts, the Department has the opportunity to be influential in the Great Southern.

Those farmers who visited district offices more frequently tended to be users of that same town as a service centre, and they tended to be
older. Neither relationship was true for contact with officers. These findings suggest caution against relying too much on farmer 'drop-ins'. Farm visits and telephone enquiries, as well as office visits, act to neutralise any such biases in Departmental contact with the farm community.

An analogous situation holds for Farmnotes and the Direct Mail Service. While the acquisition and reading of Farmnotes is correlated with visiting of district offices, this was not true for the Direct Mail Service, per se. The Service apparently catered for an audience which overlapped with district office clients, rather than being exclusively these farmers.

A similar pattern can be concluded for viewing of 'Farming Today'. While farmers in households which mainly watched ABC television were less likely to watch 'Farming Today', they were more likely to contact Departmental officers on a high frequency basis. Again we find a complementary relationship between the media and advisory services of the Department of Agriculture, rather than a supplementary one.

ACKNOWLEDGEMENTS

Thanks are due to the farmers who willingly gave their time to provide information, to the Division of Animal Health for help with the sampling frame, and to the Word Processing Centre for their continued perseverance with our many drafts. We also wish to thank the staff of Information Branch for their interest and assistance throughout the project.
REFERENCES


APPENDIX 1

INFORMATION SURVEY PRETEST RESULTS

The results of a pilot survey/questionnaire pretest for nine farmers from the Pingelly Shire are presented below.

Background

Farmers were aged from 27 to 60, the mean age being 44. Most were married and in all cases the wife was involved almost solely in home duties. Three of the farmers had sons that worked on the farm and one ran a farm jointly with his brother. Two farmers were educated at primary level only and the others had three years secondary schooling. Farm sizes ranged from 288 to 2,429 hectares, the main enterprise being wheat and sheep. Other sidelines were pigs, sheep breeding and cattle. The nearest Department of Agriculture office was Narrogin although Pingelly was the main service centre for six farmers.

Farming Publications

Only two farmers visited a newsagent more frequently than once a month; the others visited once a year or less.

Farmers were more likely than not to read the publications listed; they read these both quickly and at length. Six other publications were received. Managerial, followed by financial and then technical information was the order of preferred information.

Eight farmers received Agricultural Memo from Narrogin and most read it closely. About half the farmers sometimes stored it for later use and the others always put it away. The Memo was more likely to be put away on a pile rather than filed away. Most went back to the Memo for specific information. Whilst most farmers could remember reading at least some of the articles from a single issue of the Memo, only two farmers had discussed an item with another person. Four farmers had put an item of information into action.

The Memo usually had at least one or two items of information that was applicable to the Pingelly farmers. They seldom needed extra information on individual topics, and generally had faith in the utility of the advice. Farmers considered the information no better than that gained from other sources; it was an integral part of the system and had its own qualities. Less than half of the farmers said that the Memo actually increased their profits. Only four farmers read the Farmnotes; three received them from the district office and one through the Direct Mail Service.

Only half the farmers had an office or special place in the house to store information, the others generally using a desk in the bedroom. One half of farmers had at some time cut out farming publications from papers or magazines and stored them. Three farmers put farming information in a filing cabinet, one used a binder, two used the drawer of a desk and three put information in a heap or pile. Information was usually classified in the order it came, although one farmer used an alphabetical system and another used a 'good/bad' system. Most farmers had at some time gone back to the information they had stored.
Electronic Media

The farmers had radios in the car (9), tractor (8), utility (6), shed (4), truck (2) and the header (1). Most listened frequently to the ABC Country Breakfast Session and the Country Hour, some listening to the more interesting topics only and the other following the programme closely when it was on. None of the farmers had ever written down details of a programme, and although nearly all owned a tape recorder none had ever recorded a radio programme on agriculture. None could remember putting an item of information that was first heard on radio into practice on the farm, but two farmers said it was a possibility.

Eight farmers had a television set and received GWN. They all watched this channel sometimes and nearly all were able to watch on Monday nights. Five of these seven farmers watched Farming Today. The following viewing styles were recorded:

1. I watch the programme whenever possible, plan in advance to watch and sometimes watch the introduction only.
2. I generally watch ABC but watch Farming Today if I remember to.
3. I watch the channel right through and continue to watch Farming Today as it comes on.
4. I watch it all whenever I happen to see it come on.
5. I watch when nothing else is on, and also watch is by accident.

None of the farmers had written down or recorded agricultural television programme details, although two had video-tape recorders. Also, none could remember having put televised information into practice.

Family Participation

Family members listened to or watched farming programmes in more than half of the cases. For some of these cases the family would listen when the farmer was otherwise occupied, and this meant that these family members were able to bring interesting items to the respondent's attention. Most farmers said that their families read farming papers, magazine or other farming papers. Sometimes this was only the classified advertisements or the 'ladies page'. A variety of agricultural media topics were talked about by farming families.
APPENDIX 2

INFORMATION PROCESSING SURVEY QUESTIONNAIRE

Name: ____________________________  No: _______________________

Hello, my name is ....................... and I'm with the Department of
Agriculture. We're conducting a survey on people's use of farming
publications, radio and television. We would like to interview you if you
have the major say on a farm of 800 acres (324 ha) or more, and usually run
more than 400 sheep. Do you mind being interviewed?

Q.1 What is the size of your farm?
   hectares/ acres

Q.2 Apart from sheep and grain production, what farming enterprises are you
   involved in?

Q.3 Which towns are your regular service centres?

Q.4 How often do you personally visit a newsagent?
   Once a week: . . . . . . . . . ( )
   Once a month: . . . . . . . . . ( )
   Once every few months: . . . ( )
   Once every year: . . . . . . . ( )
   Never: . . . . . . . . . . . . . . . . . ( ) (Go to Q.7)

Q.5 While at the newsagency do you look through the farming publications on
display?
   Yes: . . . ( )
   No: . . . . ( ) (Go to Q.7)

Q.6 Do you ever buy farming publications off the shelf?
   Yes: . . . ( )
   No: . . . . ( )

Q.7 Where is your nearest Department of Agriculture office?
   . . . . . . . . . . . . . . . . . . . . . . .
Which of the following publications do you receive regularly?  

<table>
<thead>
<tr>
<th>Publication</th>
<th>Regularly Received</th>
<th>Read More Closely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journal of Agriculture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Countryman</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmer's Weekly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Farmer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elder's Weekly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western Farmer &amp; Grasier</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What other farming publications do you receive on a regular basis?

What publications do you read more closely? (READ THEM OUT)

Do you receive Agricultural Memo (or Katag Comment) from the district office of the Department of Agriculture?

Yes: ... ( )  
No: ... ( ) (Go to Q.11)

How closely do you read the Agricultural Memo when you first get it? (e.g. look at index only, read all of it) Do you read it again later?

How often do you store it for later use - always, never or sometimes?

Always: ... ( )  
Sometimes: ... ( )  
Never: ... ( ) (Go to Q.11)

How do you store it - on a pile or filed away?

On a pile: ... ( )  
Filed away: ... ( )

Have you ever gone back to Agricultural Memos for specific information?
f) Please describe the most recent occasion you did this (topic, situation).

   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................


g) Are you satisfied with your present system of storing and retrieving items of information from Agricultural Memos?

   Yes: . . . ( )
   No: . . . ( ) Why not?
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................


h) Are Agricultural Memo (or Katag Comment) items adequate, or have you ever needed extra information?

   Information is adequate: . . . . ( ) (Go to Q.11)
   Needed extra information: . . . . ( )

i) Please describe the most recent occasion when you sought extra information (topic, where information sought).

   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................

Q.11 a) Do you read Farmnotes produced by the Department of Agriculture?

   Yes: . . . ( )
   No: . . . ( ) (Go to Q.12)

b) Do you get them from your district office or through the Direct Mail Service?

   District Office: . . . ( ) (Go to d)
   Direct Mail Service: . ( )
   Other: ................................................................................................................................


c) How closely do you read the Farmnotes when you first get them in your mail? (e.g. don't read, skim through them, read closely)

   Do you read them again later?

   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................

d) How often do you store Farmnotes for later use - always, never or sometimes?

   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................
Always: . . . ( )
Sometimes: . . ( )
Never: . . . ( ) (Go to Q.12)

e) How do you store them - on a pile or filed away?
On a pile: . . . ( )
Filed away: . . ( )

f) Have you ever gone back to Farmnotes for specific information?
Yes: . . . ( )
No: . . . ( ) (Go to h)

g) Please describe the most recent occasion you did this (topic, situation).

h) Are you satisfied with your present system of storing and retrieving items of information from Farmnotes?
Yes: . . . ( )
No: . . . ( ) Why not?

i) Are the Farmnotes adequate, or have you ever needed extra information?
Information is adequate: . . . ( ) (Go to Q.12)
Needed extra information: . . ( )

j) Please describe the most recent occasion when you sought extra information (topic, where information sought).

Q.12 a) Do you have an office?
Yes: . . . ( )
No: . . . ( )
b) Where do you store agricultural information?

Q.13 a) Do you ever cut out farming articles from papers or magazines and store them?
b) How do you store this information - on a pile or filed away?

On a pile: 
Filed away: 

Q.14 a) What type of receptacle do you store agricultural information in? (e.g. in a pile, a filing cabinet, a binder)

b) What type of classifying system do you use? (e.g. no system, topic basis, Agdex, as they come)

Q.15 a) How often do you contact an officer of the Department of Agriculture?

Once a week: 
Once a month: 
Once every few months: 
Once every year: 
Never: 

b) How often do you visit an office of the Department of Agriculture?

Once a week: 
Once a month: 
Once every few months: 
Once every year: 
Never: 

Q.16 a) Are you usually within earshot of a radio during the day?

Always: 
Mostly: 
Sometimes: 
Seldom: 
Never: 

b) Do you:

. mainly leave the radio on for background noise? 
. mainly turn the radio on for specific programs? 
. usually listen to the ABC? 
. regularly listen to farming programs?
0.17 a) Do you have a television set, and can you receive GWN - the commercial channel?
Yes: . . . ( )
No: . . . ( ) (Go to 0.18)
b) Do you ever watch GWN?
Yes: . . . ( )
No: . . . ( ) (Go to 0.18)
c) Are you able to watch GWN on Monday nights?
Yes: . . . ( )
No: . . . ( ) (Go to h)
d) How often do you watch Farming Today - not Countrywide - on GWN?
Regularly: . . . ( )
Sometimes: . . . ( )
Never: . . . . ( ) (Go to h)
e) How do you happen to watch Farming Today?
Do you usually watch GWN and automatically watch Farming Today when it comes on? ( )
Do you usually watch ABC and turn to GWN for Farming Today? ( )
Do you turn the TV on especially to watch Farming Today? ( )
Other: ( )
f) Have you ever decided not to watch after listening to the introduction?
Yes: . . . ( )
No: . . . ( )
g) Does the household usually watch ABC television or GWN?
ABC: . . . ( )
GWN: . . . ( )
Both: . . . ( )

0.18 a) Can you remember writing down details, or following up on an agricultural radio or T.V. program in some way?
Yes: . . . ( )
No: . . . ( )
b) Please describe the most recent occasion you did this (topic, situation, where information sought).


-30-
0.19  a) Do you have access to the following?

A tape recorder: . . . . . ( )
A video tape recorder: . . . ( )
Neither: . . . . . . . . . . ( ) (Go to Q.20)

b) Have you ever recorded a radio or T.V. program on agriculture?


0.20  a) Do other members of your household listen to or watch farming programs?

Yes: . . . . ( )
No: . . . . ( ) (Go to 0.21)

b) Do they ever listen to farming programs when you're not there?

Yes: . . . . ( )
No: . . . . ( ) (Go to 0.21)

c) Do they ever bring interesting items from radio or TV to your attention?

Yes: . . . . ( )
No: . . . . ( )

0.21  How often do other members of your family read farming articles in farming publications?

Frequently: . . . . ( )
Sometimes: . . . . ( )
Never: . . . . ( )

0.22  Do any of the adult members of your household help you with farm work or farm management? (Which - work, management or both?)

<table>
<thead>
<tr>
<th>Relationship to respondent</th>
<th>Work</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
0.23 What is your age?

___ years

Thank you for taking part in the survey. If you would like, we will send you a summary of the results.
APPENDIX 3

FARMING TODAY: GROUP MEETINGS, 1982

1.0 INTRODUCTION

Although plans and proposals to evaluate the Farming Today programme have been put forward in recent years, no comprehensive research projects have been carried out. In 1982 an attempt was made to gauge farmer opinion of the programme and to seek improvements for future series.

2.0 OBJECTIVES

The specific aims were to:

- select a group of Farming Today viewers;
- describe the group's involvement in agriculture;
- describe viewing behaviour and patterns;
- record reactions to past programmes;
- record any action initiated as a result of a programme;
- explore thoughts on details such as: the number, depth and length of stories, the location of filming, commentary vs interview, and the type of stories;
- suggest changes and record reactions; and
- ask for views on video-cassettes.

3.0 METHOD

Meetings with two active farmer groups were held shortly after the 1982 programmes had ended. A group at Tammin represented the newer viewing area while a Brunswick group were from the old established viewing area.

Each meeting was informal and semi-structured. Although specific questions were asked and set topics were dealt with, farmers were encouraged to talk at length on any aspects of Farming Today.

The Tammin meeting took place on November 16, 1982 and the Brunswick meeting was held on December 8, 1982. At each meeting a Farming Today programme was shown to the group for discussion.

4.0 RESULTS

4.1 The Selected Groups

<table>
<thead>
<tr>
<th>Tammin</th>
<th>Brunswick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance:</td>
<td>12</td>
</tr>
<tr>
<td>Composition:</td>
<td>8 farming men</td>
</tr>
<tr>
<td></td>
<td>2 farming women</td>
</tr>
<tr>
<td></td>
<td>1 chemical company representative</td>
</tr>
<tr>
<td></td>
<td>1 departmental adviser</td>
</tr>
<tr>
<td>Enterprise:</td>
<td>wheat and sheep (meat and wool)</td>
</tr>
<tr>
<td>Interviewers:</td>
<td>Mr. Brian Hillman</td>
</tr>
<tr>
<td></td>
<td>Mr. Kevin Goss</td>
</tr>
</tbody>
</table>
4.2 Viewing Behaviour and Patterns

4.2.1 Tammin

Only one person (who was not aware the programme existed) did not watch Farming Today. The other farmers watched at least one programme in four and missed out on the others because of meetings, fatigue and forgetting the programme was on. One farmer had not watched Farming Today recently because he felt there were not enough wheat and sheep topics. A regular weekly audience did not seem to exist. Farmers turned the TV on for entertainment - the educational benefit was coincidental.

4.2.2 Brunswick

All farmers and the CSBP representative tried to watch the show regularly. They only missed the programme because of Primary Industry Association and other similar meetings. This meant that at least half the shows were watched. One farmer, if he knew he was going to miss the show, got his wife to watch it and note who to contact afterwards about relevant segments. One adviser didn't have television and the other was new to the district and had only seen the show once. No one knew how long Farming Today had been running for, but it was treated almost as traditional family viewing.

4.3 Reactions to Programmes and Resulting Action

4.3.1 Tammin

Only a few specific programmes were remembered: the dung beetle, ryegrass toxicity, a dairy system and the handicapped (legless) farmer. The only disappointing show mentioned was the stubble mulching segment because there was not enough visual support.

Only the ryegrass toxicity story resulted in direct action; those that saw the programme checked sheep closely when droving. The other stories were classed as interesting.

The farmer who featured in the stubble mulching story received many queries from other people he met. Another farmer who had done a story in Farming Today (on the sheep handler) received phone calls as well.

4.3.2 Brunswick

The Brunswick group remembered more programmes than the Tammin group. They remembered and liked all the Ord river stories, the laser-grading segment (done with Mr. Steve Rogers in 1981), the evaporimeter (in deciding irrigation use) and the Cablevey feeding system.

While the programmes seen led to discussion with other farmers, some didn't contact the adviser involved or even the nearest office if they wanted further information. They didn't seem to connect with the idea of following up the story with the Department. This was probably because Farming Today is not presented as being a Department of Agriculture programme.
4.4 Thoughts on Programme and Programming Details

The Brunswick group preferred the programme to be shown earlier; at about 7.30 to 8.00 p.m.

Farmers thought that we were 'cramming' too many stories into the half hour and that we should deal with each story in greater depth.

It was generally thought that the front-man/announcer did not do justice to the topics shown. He needed to improve his reading and voice to create interest and hold people's attention. After viewing a video of one of the programmes there was strong criticism of the announcer. He didn't 'come across' as being relaxed and was seen to read badly with poor animation.

Apart from the announcer's performance, no-one could highlight any disappointing programmes. There was, however, one suggestion that if a story was investigating pasture experiments, differences between treatments may be shown better by doing pasture cuts off a square metre grid or such, putting the material in a plastic bag and filming those, side-by-side.

Brunswick farmers would have liked to see more dairying stories but realized that we catered for a wide, diverse audience (including city people) and that non-dairying stories were often interesting.

Tammin farmers liked the theme music to Farming Today but disliked the repetitive advertisements.

Programmes for women/householders were seen as appropriate.

Farming Roundup was well received by both groups.

It was strongly thought that if a topic was not relevant then presentation had to be good to provide interest and entertainment. This meant using plenty of visuals and script and changing styles.

Some of the captions were spelt wrongly. It was requested that graphics be used more - for example, in showing how the sheep moved through a new shed.

Although the idea of Garden Clinic was good, everyone from Tammin thought that Mr. Tim Enright was too hard to understand.

Few group members knew that the programme was produced by the Department of Agriculture.

All wanted the programme and its content to be advertised better.

4.5 Reactions to Suggested Changes

The content of a story was seen as the most important aspect. Style and presentation didn't create much discussion so it was stated that we should not try to cut every segment to 4 or 5 minutes, but let the story guide and length and style. Farmers liked the documentary style and like Mr. Gerry North's interviews, but realized that changes in presentation and interviewer would help maintain attention.
Other suggestions were:

- Investigate some of the issues facing agriculture and provide facts and figures as a background for every viewer to decide upon. Programme suggestions were: sheep from the Eastern States, marketing and plant variety rights;
- Show more human interest stories (such as the legless farmer);
- Provide follow-up stories; the 'what happened' aspect.

4.6 Views on Video-Cassettes

The Brunswick farmers felt that they would hire a cassette on a specific topic for showing at group meetings. Use of the same cassettes by individuals was not really seen as popular, although two or three farmers said that a video was easier to watch than a book or note was to read. However, there was some doubt expressed as to the value of such an individual cassette once the novelty had worn off.

Apart from a group hiring a video show for a special occasion, video cassettes for the individual were not seen by Tammin farmers as useful or desirable.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Advertising

- Outline, by radio and TV, what is in each programme. This could be done at meal-times during the weekend before the programme is shown.

5.2 Content

- Do fewer stories, but longer and in more depth. Be guided by the story content.
- Try presenting background facts and figures for some of the issues facing agriculture ('investigative journalism').
- Human interest/community stories are popular.
- Possibly examine stories within head-office.
- Ensure follow-up stories are done.
- Present a 'technical forum' to debate topical issues or techniques.
- Any story must be as entertaining as possible.
- Make more use of graphics and static visual aids.

5.3 Viewing Time

- Try to get the programme shown earlier during the evening; 7.30 p.m. or 8.00 p.m. would be better than 8.30 p.m. or 9.00 p.m.
5.4 Story Sources

Local groups, such as those interviewed, work in close contact with the Department and could be good sources for stories. Keep in touch with the adviser concerned.

5.5 Announcer

Without exception, the farmers were disappointed with the announcer; he reads poorly and does not create the atmosphere to attract people to the show.

Another announcer should be considered.

5.6 Video-cassettes

The farmers raised the question of availability of videos for hire, but much more so for a group or meeting to use than for an individual.

This issue warrants further study, as the market for educational videos within the farming community may not be large.