COMMUNICATION BETWEEN SCIENTISTS AND THE ANIMAL INDUSTRIES

A. J. ERNST* and M. R. E. DURAND*

In this technological age we still suffer shortages of energy, food and rain but rarely is there a shortage of information. In fact there appears to be a surplus of information. The problem with information is our inability to efficiently communicate the required information to the correct audience.

'There is nothing so useless as a discovery or piece of research, that other people do not know about or how to apply', (Cribb 1981). We believe that we as scientists have a responsibility to the end users of our work, our consumers, to communicate the results of our research. There are many channels by which this communication may take place. They include the mass media both electronic and printed and person to person contact. There are also newly developing technologies which will play an important role leading up to the twenty-first century.

In this contract we hope to give you some insights into present and future communications with the rural industries. Firstly we examine some of the theory of communication. Then our journalists consider their role and its problems and developments with both the printed and electronic mass media. Many government extension services have relied heavily on person to person contact to pass on new technology. While this may be desirable, effective resources to meet this demand have fallen well below the demands for information and there is little chance of this improving. A further paper puts forward ideas for group work using adult education principles and the changing roles of providing extension services. The latest technology available involving computer and satellite communications, videotex services and information centres with a self service selection of information will also be explained. The communications responsibilities of research have been discussed by several authors, (Carnegie and Crisp 1981).

Finally, with all these communication responsibilities what is the future role for the Australian Society of Animal Production in this area of communications?

COMMUNICATIONS THEORY

A. J. ERNST* and M. R. E. DURAND*

To understand the problems and developments of communications a knowledge of the theory of communications is desirable. There are numerous models of communication. Most have some relevance to our situation, as in extension we are dealing with information dissemination, problem solving, adult education and adoption diffusion strategies.

Most theories concentrate of on the communication of new information (Rogers and Shoemaker 1971), and the adoption of new technology. However, improved efficiency in animal production probably depends more on selection of optimum procedures for a given situation, rather than adopting new technology. Helping producers to sift and assess alternatives is much more difficult than promoting something new. For this an approach based on the adult education principles of Knowles (1970) is more appropriate. Adult education is based on the learners self-concept, his experiences, and a move from being subject centered to problem centered.

* Qld Dept Primary Industries, G.P.O. Box 46, Brisbane, Qld 4001.
The essential elements of the communication process are the source, message, channels and the receivers. This type of communication, which we are often associated with, has been referred to as the diffusion of innovations. Diffusion is essentially a special type of communication concerned with the spread of messages that are new ideas, the results of research (Brown 1961). While such linear models explain the mass media communication they have deficiencies in explaining extension situations. Extension is better illustrated by the convergence model of Rogers and Kincaid (1981) where communication is defined as a process in which the participants create and share information with one another to reach a mutual understanding. These communications then form networks, similar to those discussed by Havelock (1973), and form the basis of Rogers and Kincaid's (1981) convergence model of communication.

From experience it is important that the source of the message is seen by the receiver as a credible source. The receiver may be the producer, or an intermediary channel such as journalist or extension officer. This should not be a problem if the research is relevant to the receivers requirements. What is more often a problem is the over protective, cautious and over qualifying behaviour of the scientific source. Most communication takes place between individuals and the degree to which these individuals interact is strongly influenced by their similarity in such attributes as beliefs, values, education and social status. The greater this similarity in these attributes the greater the chance for communication. Remember that messages can flow in both directions.

The message itself needs to be presented in a clear concise way so that the receiver appreciates its relevance. This still applies where the message is communicated through intermediary receivers.

Other work looks at the many and varied channels of communication. They may lead direct from the researcher to the producer or via several intermediaries. The channels may involve professional communicators or could include family, friends and business associates. The complexity of this interaction is well illustrated by Havelock's (1973) social interaction model. Some channels are more suited to particular forms of communication. For example the mass media is generally more effective in creating an awareness of new innovations and personal approaches are more important with innovations which involve changing attitudes.

Technology which is relatively easy to adopt at little cost is adopted quickly, e.g. growth promotants for cattle, whereas more complicated programs for genetic improvement of grazing animals have not enjoyed the same success and may never be adopted by some producers. Whether a person adopts and the rate at which he does so will depend on his perceptions of the technology's relative advantages, compatibility, complexity, trialability and observability (Rogers and Shoemaker 1971).

A further factor is the nature of the receivers. We are all individuals and our adoption of this technology depends on our goals.

Recent research by Underwood (1985a) has shown that dairy farmers actively seek knowledge and carry out self directed learning projects using a range of information sources. A mix of channels is required for the communication of technology as the information has to compete with other information for the receivers attention. In considering which channel to use the different emphasis that people place on reading, listening, seeing and talking as initial steps in the learning process is very important (Underwood, 1985b). It is the use of this theory with which the remainder of this contract is concerned.
THE USE OF MASS MEDIA IN SCIENTIFIC COMMUNICATION

B. TOON*, P. FRANCIS**, B. CHADWICK*** and K. CASTLE****

A wide communication gap exists between scientists and the mass media in Australia and little effort has been made by either side to reduce that distance. Media people have long recognised that a problem has existed in communicating with scientists, but it is only recently that scientists have been forced by financial constraints to realise that they have not used the media to best effect. The Australian Society of Animal Production has provided an excellent forum for the media to express its concern to scientists over poor communication in the past and offer help in working together in the future.

While agricultural and veterinary specialists who are funded by levy or the public purse have in most cases failed to make effective use of commercial media to communicate with farmers, 'in house media' is well supported and seems to be expanding. There are two main reasons for the failure to use commercial media. One is apathy, especially amongst research scientists, to communicate with farmers and the other a lack of appreciation of the 'style' required by the different media. However, supply of articles to 'in-house' outlets is considered part of the job. A review of the proceedings of conferences held in Australia shows that hundreds of research-and field trials are being undertaken each year, yet FARM magazine would receive no more than 10 articles volunteered from researchers in the same period. Bearing in mind that a high proportion of research funds are contributed by levies from all producers it is difficult to see why results are not being published in national outlets.

Many research people still think they have no responsibility for 'reporting' back to farmers. Their aim is to produce scientific papers. Such thinking while academically sound, may be short sighted in terms of future research funds. With limited funds available, it will be research institutes that are seen by farmers to produce effective results that will be favoured by the dollar.

CSIRO is a prime example of an organization that is only just waking up to the fact that public support is necessary if research funds are to be forthcoming. CSIRO appears to have held the view that its responsibility was in research, and left media involvement to extension officers within the state departments. Its centralised Media Section has not been able to provide full support for scientists, and this work has been given to so-called 'liaison officers' who have lacked media training and contacts.

Rutherglen Research Institute in Victoria is an example of research station management that uses the media well. It readily communicates with farmers through field-days and through the media.

The fact that press releases are written and sent does not ensure publication. In fact, not one research or extension officer has ever asked for advice on what style to write for FARM magazine. Every magazine considers itself to be a unique specialist publication, so it does not want to run an article that has appeared word for word in another magazine. Each also has a different style which in turn is different to newspaper requirements. This means that it is not good enough to produce a press release and hope that it will be published by all

* Qld Dept Primary Industries, P.O. Box 689, Rockhampton, Qld 4700
** FARM Magazine, P.O. Box 343, N. Melbourne Vic 3051
*** Queensland Country Life, G.P.O. Box 711, Brisbane Qld 4001
**** Countrywide, ABC, G.P.O. Box 9994, Sydney NSW 2001.
sections of the media. Press releases are usually published by newspapers; rarely by magazines. Most magazines want original material that suits their style.

For instance, FARM magazine is most interested in material based on trial work and then shown to have a practical application. It needs photographs in both black and white and colour, to make important points and show personalities. Article length is not as important as adequate coverage of the topic. Being a national, FARM magazine wants views from other appropriate people involved in the same field of work. An example occurred recently when a Victorian researcher contributed an article on copper for wheat crops and ignored including any Western Australian experience where a similar problem existed with a different solution. Magazines welcome contributions from research and extension staff, however, the papers need to be tuned to the publications requirements.

Rural weekly newspapers have found that the general performance of the scientific community in communicating rural research results to their publications has been extremely disappointing, in most cases, although there has been some recent improvement. Often the rural media find out about many of the research programs and trials being carried out, by accident. Even in these cases it is generally the journalist who has to chase up the details.

Certainly most research results eventually find their way into scientific journals, conference papers or research organisation annual reports. There is no doubting the importance of these publications in keeping the scientific and research community up to date with developments in their particular sphere of interest. However, it is often up to 12 months before these reports are published. A time span of this magnitude is little more than useless to weekly newspapers and the audience they serve.

Like scientific journals which service the research community, the weekly rural press plays a vital educational role in keeping farmers abreast of the latest research developments. An increasing number of well educated farmers use research findings to update their farm or property management and the scientific community must accept that it has a wider role than just maintaining a flow of information within its own sector. Research is vital to the rural community but unless results are disseminated efficiently to the productive end of the agricultural chain so they can be acted upon, the results, irrespective of their value, are meaningless in real terms.

Dissemination of information must be made a key part of research programme planning from the initiation of each project. This planning must address the various sections of the media which service the sector impacted upon by the particular research project. A list of the publications which best service a particular market should be compiled. Part of this planning should involve a critical examination of the requirements of each of the media outlets involved. It is a wasted exercise, in most cases, sending a weekly or daily newspaper, a radio station or a television station a 500 page scientific document on the outcome of a particular research project or conference. Time and space mean that, invariably, no one has the time to go through the document to find the news story required. The end result is that valuable and often times important research material gets filed in the rubbish bin. If a story is to be published in a weekly newspaper, the author should look critically at the newspaper involved and produce an article which fits into that format. If further information is required he can make this available on request.

Different requirements exist for television which is an entertainment
medium. It is also a medium of images. When considering suitable material for the ABC's rural current affairs programme Countrywide, these are the two basic criteria by which a story is judged.

Entertainment does not necessarily mean the story has to be a bundle of laughs. Entertainment in this sense is an intelligent, informative, well-produced item that anyone would want to watch. Current issues with economic or social consequences for those in rural areas are continually being dealt with on Countrywide. To ask what constitutes a suitable Countrywide item the answer must be a good story. In television terms this is one that raises issues while at the same time allowing the pictures to tell the story.

Technical and scientific items are dealt with constantly. However, not always in the way scientists appreciate. Scientific jargon and long detailed reporting is impossible to handle on television if the story is to remain informative without it being boring. Boredom could lead to the TV being turned off.

It is only in the print media that the full text of research findings can really be studied at leisure. On television if you blink you have missed it. In a newspaper or magazine article the issue can be read and re-read until fully understood. Television most importantly deals in images. The subject has to be seen.

For instance, it is easy to write about multiple lambing and a breakthrough in lamb survival for a rural newspaper. If the story is to make it on TV the audience has to see the lambs, so the item has to be filmed at lambing time. Any other time of the year would create problems for the TV reporter as he has little or nothing for the cameraman to film.

Television with its impact of sight and sound is, therefore, an excellent medium for drawing attention to issues. However, in contemplating how to get the message across it is important to first establish whether the subject should be dealt with on a regional basis or a national level. For a scientific or technical rural extension item to appear on the national network it would have to have widespread appeal and implications of, say, national economic significance. If it does not fill this then the story could be of regional significance, therefore it is more likely one of the regional TV stations would run the item. But even before this stage the journalist has to have notification of any relevant research. This means it is up to the scientists and their support staff to establish contacts with the TV media.

A programme like Countrywide is prepared to bridge the gap between research findings and their implementation. However, it requires the co-operation and enthusiasm of science researchers to do so.

ABC rural radio also requires interaction between scientists and its rural officers if scientific information is to be conveyed to primary producers. The ABC Rural Department provides almost daily communication with producers through its early morning Rural Report programme on regional stations throughout Australia, and has nationwide cover during the Country Hour. Primary producers regard these programmes as their own personal information systems because of their long-running specialised nature. Therefore these programmes are an excellent medium for contact with a captive audience.

The use of these programmes requires some effort and initiative on the part of scientists. Rural officers are responsible for a 15-minute programme five days a week, in addition to regular contributions to state and national radio
programmes, leaving little time to research scientific material. They will opt for more readily available information.

The communication system between scientists and producers has suffered because of the lack of suitable people in research or government organisations to interpret and restructure information in a form acceptable to the media. Organisations serious about improving communications need only to engage a professional journalist with a scientific background or flair. This has not been a high priority area in the past. As rural research is in most cases funded by the producers themselves or the general taxpayer, increasing pressure on the availability of these funds will result, in the future, in the well planned research project with a high media profile gaining the major slice of the research dollar cake. This is a compelling reason why the researcher should look closely at more efficiently servicing the media which directly provide information to the man on the land.

THE GOVERNMENT EXTENSION OFFICER OF THE 1990'S

R. T. STRACHAN* and R. P. THOMPSON**

The traditional view of agricultural extension as a channel through which research results are transmitted to farmers has been challenged (Drew 1974). At best, this approach assumes that management has identified problems and the information sought. At worst, it assumes that learning is a passive process of information transfer and that extension has correctly identified problems and needs.

There is increasing evidence that extension is only serving a small number of top farmers. It is assumed that the rest of the farming community will keep pace and follow this group by the diffusion effect. However, Crouch and Chamala (1975) suggest that the knowledge gap between the progressive and the non-progressive farmers has widened and in these circumstances, the process of diffusion is breaking down. The result is the increasing complexity of innovations and information being channelled to farmers in the traditional way are largely irrelevant to the majority.

Another problem of extension is that areas of management other than the implementation of new practices are too often neglected. Extension based on information flow about improved practices is dealing with an increasingly smaller slice of the farm management cake (Wylie pers. comm.). A whole host of day to day management decisions in running a farm become increasingly important as profit margins are squeezed and farming becomes more complex. An adjustment of extension approach is necessary if extension is to be relevant to the problems and needs of the majority of farmers in the future.

ADVISORY VS DEVELOPMENT ROLE

The fundamental purpose of extension is 'the provision of assistance to farmers'. This has been justified on economic and social grounds. While there remains a need to assist the majority of farmers, the extension officer in the next decade will be required to assume a facilitative role.

In a changing environment, the more effective view of farmer education is one of self-directed enquiry. This is a facilitative approach to people development, not a process of transmitting knowledge (Knowles 1970).

* Qld Dept Primary Industries, G.P.O. Box 46, Brisbane, Qld 4001
** Tasmanian Dept of Agriculture, P.O. Box 105, Scottsdale, Tas 7254.
The agricultural extension officer will need to be familiar with and trained in the practice of adult education. He will need to be primarily attuned to the concerns of individuals, that they tend to be problem oriented rather than subject oriented, and develop experiences that will involve farmers in problem centred, self motivated learning.

Using adult education principles, the extension officer will be able to formulate programmes that involve groups of farmers and have them totally committed to the needed change in behaviour. While, it will be necessary for the extension officer to provide correct, up-to-date information as required, on which farmers may base their decisions, the skilled extension officer will be more concerned with discovering what is not known rather than transmitting what is known or what he thinks farmers ought to know.

The value of the development approach in extension has been demonstrated in Queensland. The bringing together of up to \(30\) farm managers, of common interest, for periods of 2-3 days into a 'live-in' workshop to promote a more appropriate learning environment is seen as a major initiative.

Subject areas have included business and cattle management, breeding, marketing and graingrowing. The approach taken aimed to start with general discussion among participants about successful management and problems and worked towards specific options and techniques. Learning was a active process.

The majority of participants expressed feelings of satisfaction. They felt 'The workshops provided an excellent opportunity for open avenues of communication between Government departments and managers - government personnel have not always achieved their desired results through other means of communication'.

THE "USER PAYS" PRINCIPLE

A feature of the Queensland experience is that farmer participants have been prepared to meet part of the costs of live-in workshops. This has varied from \(\$60\) to \(\$150\), depending on the length and location of the workshop and covered the cost of accommodation, meals and administration. In effect, farmers' have been required to pay for information which they see as relevant to their particular situation.

Similar training courses, of from 3 to 15 days duration and now fully paid for by farmers in South Africa, have been favourably received. (Donovan pers. com.). When first introduced, farmers were only required to meet one third of the cost. This example of a user pay scheme in South Africa has the incentive of a tax deduction of up to \(150\) per cent of the cost.

While government sponsored agricultural agencies have traditionally provided farmers with information and advice free of charge, a number of forces are acting that point to the introduction of the user pay principle in agricultural extension. These include, increasing economic pressures, the demand for restraint and careful use of public money, and the lack of quantitative information on the cost effectiveness of expenditure on agricultural extension.

Accepting that governments have a role to play in providing certain basic information along with a belief in the user pays principle, information provided for specific individualised information is a candidate for attracting user fees in the future. Likewise, farmers may be required to pay for appropriate and probably more costly services designed for self motivated learning.
Experience in Tasmania (Thompson 1985) confirms farmers are prepared to pay for specific individualised advice provided by extension officers. The imposition of fees for advisory services in Tasmania has, however, led to changes in farmers' information seeking behaviour. The frequency of farmers contacting Department of Agriculture extension officers has decreased—whilst their frequency of contacting other sources of free advice has increased. The willingness of farmers to pass on information to extension has not been affected by fees for service. However, while farmers having paid to receive information claim no greater reliance is placed upon it than if it was received without cost, many farmers expect paid for advice to be 'spot on' and suggest if they are not, legal action could be forthcoming.

The foregoing reactions to fees for services pose considerable questions and problems relating to extension and its future directions. Fees for specific individualised information, where introduced, are likely to hasten a change in traditional information transfer systems and the role of extension officers. The success of this approach taken in Queensland suggests that the facilitative role may be a preferred option and one which will place the responsibility for learning firmly on he who pays a large portion of the cost.

NEW COMMUNICATION TECHNOLOGY FOR AGRICULTURAL EXTENSION

D. A. CARRIGAN

The new electronic ideas and equipment considered are those that promise to assist the extension function of finding, organizing and communicating information of use to primary producers in ways that are efficient and user friendly.

In primitive times — say before men went to the moon — it used to be said that there were three quick ways of communication, two of which were telephone and telegraph. To these we now have to add telecourses, teleconferencing, teletext, telex, videocassettes, videotex, videodisc, facsimile and the transfer of information between computers. Telecom have promised that by 1990 most people in Australia will have a quality telephone service either by Telecom's Digital Radio Concentrator System or by Aussat, a telephone network with a greatly expanded data and information carrying capacity.

Telecourses have not been used in extension in Australia to any extent. In North America telecourses or 'integrated learning systems' that employ television and various print materials are common on either broadcast or cable TV. Aussat TV with reception to defined areas has this potential — though experience to date in Australia indicates that it will be used in this mode as an adjunct to school or school of the air education rather than adult education.

Teleconferencing is one of the newest means of extending information to a group. It makes use of existing communication links and is available to anyone with a telephone. With increasing costs of travel, teleconferencing is an efficient means of holding a meeting. Individuals using a home telephone or individuals meeting as a group simply dial an assigned telephone number at a specific time, and when connected, everyone can talk to everyone else. For extension use, teleconferencing required six basic components; the technical system, extension officer, course preparation and content, support materials, organization and logistics, feedback systems.

Teletext is currently broadcast on Channel 7 as Seventel and carries a
range of information such as weather and market reports. It is one-way and
requires a device on a TV set to decode the signal and a keypad to allow the user
to make selections from 'pages' of information. Teletext may have a place in
more remote rural areas through TV carried via Aussat, but it seems unlikely to
be widely used until the decoder is either built in to TV-sets by manufacturers
or is subsidised by advertisers seeking to use teletext as an advertising medium.

Videocassettes are widely used in Australia for entertainment especially in
the pastoral areas. Production of extension material on videocassettes has been
slow. Various commercial groups are seeking to develop libraries of
instructional and/or promotional material from rural suppliers. The cost of
production of broadcast quality videocassettes currently limits their use, but it
is expected that a useful library of extension material will build up.. In
particular, videocassettes could be used to convey ideas and 'how-to'
instructions as well as the more usual promotional subjects. Many extension
officers seek to use videos as an aid to show products or processes that are
otherwise inaccessible to their audience.

There could be much more scope for the use of videos to complement
instruction manuals with complex machinery. Videos offer so many additional
sensory ways to convey a message compared with the printed instruction manual.

Videotex is currently developing rapidly in Australia for many purposes
including electronic messaging and banking. It is a computer based information
retrieval system connecting computers, or people, or people and computers through
the telephone network. A great range of information stored in computers can be
accessed from anywhere in the country with an STD telephone, a modem, a keypad or
keyboard and a visual display unit or TV. The system is interactive, i.e., the
user can send messages, order and buy goods, transact business and run a program
with his own data on a distant computer. The Victorian Department of Agriculture
has developed the system most for extension use in this country.

For this form of transfer of information an accepted standard is crucial
for the development of the system. Currently three of the world contenders for
the standard are in use in Australia. They are PRESTEL, NAPLPS, and ASCII.

Organizations which are or could be offering a videotex service to rural
Australia are; Elders (Farmlink - PRESTEL), Telecom's Videotex (Viatel -
PRESTEL), Agridata (ASCII), Rural Press Group (Grassroots - NAPLPS). The
Victorian Department of Agriculture provides information to Farmlink. Agridata
depends on customers having personal computers and has no graphics or colour
while Grassroots from North America has the best colour and graphics.

Videotex technology is impressive but it requires that people who need
information can acquire it through videotex in a more convenient and timely way.
The cost depends on use, but could be $1,200/year for an average user. The
initial costs of subscribing to such systems are high, but as more subscribers
sign up, the costs will diminish.

To succeed, videotex needs to provide information to specific user groups
with commonly held information needs. This is in contrast to a wide spectrum,
general interest approach.

There must be a real need to know the information - now. The information
must provide for a direct economic impact on the farm operation and must be
frequently updated. Information which is volatile or subject to change is more
suited to this medium than information that changes very little.

21
Experience to date in various parts of the world indicates that weather, livestock and commodity markets, news, newsletters or reports, planting recommendations, herbicide control information and various decision assisting programs such as cost calculations are most sought. The ability of a videotex system to 'window' into other computerised data bases promises to enlarge its use to allow access to a large range of specialised but little used information such as stored soil analysis results, lists of registers of bulls, brands, butcher shops, bee keepers or 'such like that is in demand.

There is no doubt that the role of extension in the coming electronic age will change over time. Probably microcomputers or terminals will initially be located in extension offices where they can be observed by producers and monitored by extension personnel. Large computerised data bases can also be accessed from these offices. Extension workers will ultimately need to be as proficient in aiding producers to get the best results from their computers as they are in helping them get the best out of other farm inputs.

Videodiscs have not been used in extension in this country to my knowledge but hold considerable promise for some purposes. The promise is in the remarkable storage capacity of the disc holding digitised signals read by laser. Each disc holds the digital facsimile of 108 000 pictures and two audio channels. Other features include random access, variable speeds, individual frame search and an external computer control access port. Currently vehicle manufacturers use them for dealership training of parts department personnel, technical and service training. Videodiscs are currently very expensive to produce in small quantities, which limits their education application.

Producer information centres are an idea proposed to assist extension personnel and producers to develop the use of new technology. The Producer Information Centre is an adult self directed learning centre equipped with printed material, videotapes, videotex and displays—in short a special agricultural (or pastoral) library facility to help break down the barriers between producers and the information they need to make decisions. The concept uses new insights into the way adults learn, user friendly technological aids and saving of that increasingly scarce resource—the time of experienced extension workers.

A considerable investment will be needed to make best use of new communications technology in extension. Apart from the hardware, existing staff will need to develop data bases in accessible format. The software to access them is a major development task that has only started.

AUSTRALIAN SOCIETY OF ANIMAL PRODUCTION
ITS ROLE IN COMMUNICATION TO THE RURAL INDUSTRIES

M. R. E. DURAND and A. J. ERNST

The first of five 'objects' for which the society was established is: 'To promote the advancement and further the interests of animal production in Australia'. The other four 'objects' in the constitution in essence relate to how the first may be achieved, and include production of 'such publications as may be considered desirable'.

Table 1 shows a breakdown of ASAP membership. Although the categorisation of members is not accurate, the overall picture is clear. ASAP membership covers a significant proportion of scientists working in applied animal production. However, whilst producers form a significant percentage of ASAP membership

22
ASAP members are only a miniscule fraction of those persons engaged in animal production in Australia. Moreover the producer members of ASAP, certainly in Queensland and probably elsewhere, are estimated on average to attend less than one society meeting a year - for obvious reasons.

We believe that ASAP needs to address two issues. One is to provide a more effective communication between its producer and scientist members and secondly to seek ways of communicating with more producers - members or otherwise. This should be done in a way that compliments or fills the deficiencies in the activities of universities, CSIRO, agricultural departments, producer organisations, and commercial media - rather than compete with these organisations whose resources are massive compared with ours.

The conclusion we reach in this paper is that ASAP can communicate with many more producers than it does at present through selected country activities and via an appropriate journal/magazine. Previous papers have discussed the role of mass media, government extension officers, and new technology. Can ASAP complement these?

Mass media Most mass media conveys technology in a very superficial manner, achieving little more than creating awareness, unless the technology is simple and straight forward. In the intensive animal industries The Pig Producer, and The Australian Dairy Farmer do provide an opportunity for specialised written communication of technology at an in depth level, though the latter publication is not often exploited for this purpose. Some non specialist magazines such as FARM magazine and National Farmer do communicate technology - but nevertheless are guided by the newsworthiness of the subject matter. The mass media all do an excellent job in creating an awareness of new technology and are exploited by extension organisations for this purpose. ASAP, we believe, does not need to play a role in the 'awareness' stage of communication.

Face to face communication Extension and research organisations are active in this field. ASAP cannot enter into the one to one adviser/consultant activity. Group activities such as field days are part of our current activities, but ASAP can do some things that are different from agricultural dept. functions? The North Queensland sub-Branch used commercial exhibits and sponsors to finance a very well attended field day in a manner that could not have been done by QDPI for policy reasons. The Queensland Branch sponsored a tour of country centres by an overseas scientist in co-operation with breed societies and the AVA in a manner that would have been difficult within a government organisation. Some topics can be aired by ASAP which may be taboo, for political reasons, to a government organisation.

We believe that ASAP needs to increase field day activities in country centres but should try to exploit methods and topics that cannot be readily entertained by government extension/research organisations. This needs thought and imagination. State wide branches and the national organisation can exploit interesting overseas/interstate visitors. Sub-branches or regional branches must spearhead country meetings. ASAP’s presence will only be felt in Woop Woop if there is a sub-branch there, and the fostering of sub-branches with positive help (speakers) should be a major function of the branches.

New communications technology This is an exciting field but one that will need substantial funds and manpower to exploit. Many of our members will be involved in this technology but we cannot see ASAP itself having a direct role in these early days.

Conferences Changes in frequency or format of ASAP conferences will not
Table 1  Categories of membership of the Australian Society of Animal Production

<table>
<thead>
<tr>
<th>Branch</th>
<th>Research, Extension Teaching, Admin</th>
<th>Others</th>
<th>Producers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narcoorte</td>
<td>11</td>
<td>23</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>Southern Tablelands</td>
<td>10</td>
<td>103</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Victoria</td>
<td>90</td>
<td>120</td>
<td>90</td>
<td>300</td>
</tr>
<tr>
<td>Richmond/Tweed</td>
<td>19</td>
<td>19</td>
<td>10</td>
<td>48</td>
</tr>
<tr>
<td>West Australia</td>
<td>100</td>
<td>25</td>
<td>100</td>
<td>225</td>
</tr>
<tr>
<td>Darwin</td>
<td>17</td>
<td>1</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>South Australia</td>
<td>69</td>
<td>21</td>
<td>39</td>
<td>129</td>
</tr>
<tr>
<td>Riverina</td>
<td>27</td>
<td>16</td>
<td>48</td>
<td>91</td>
</tr>
<tr>
<td>New England</td>
<td>54</td>
<td>8</td>
<td>184</td>
<td>246</td>
</tr>
<tr>
<td>Queensland</td>
<td>195</td>
<td>93</td>
<td>104</td>
<td>392</td>
</tr>
<tr>
<td>Total</td>
<td>592</td>
<td>303</td>
<td>703</td>
<td>1598</td>
</tr>
</tbody>
</table>

% of Total 37% 19% 44% 100%


Written communication

Considering the very wide geographic dispersal of ASAP membership and producers we believe that enhanced written communication offers another opportunity for furthering our aims.

In 1984 the Queensland Branch carried out a postal survey of its members. Table 2 analyses the replies to a question relating to a hypothetical Journal. Replies were overwhelmingly in favour of a journal combining news, reviews and scientific papers. The Veterinary Record successfully uses this format although it caters for a strictly professional membership. On the other hand the American Society of Animal Science and the British Society of Animal Production both publish strictly conventional scientific journals, though they espouse to lay membership. There is a good reason. A scientific journal of contributed papers only can be produced with minimum, even entirely honorary, editorial staff. A journal with news, reviews, comment takes more editorial time than any honorary editor, in full time employment, can afford. We believe, however, that the cost and time involved are not insuperable, and some details are depicted graphically on a poster presentation.

A more difficult matter is content. A big majority of ASAP members are interested in beef and wool production and this is reflected in the contents of Animal Production in Australia. Those interested in dairying are fewer in numbers and there are a very small group of members whose interests are in pigs and poultry. Beef and wool would inevitably dominate any journal. Some papers on beef cattle would interest dairymen and visa versa. However, pig and poultry production is very specialised, and pig producers already have a good technical magazine. How do we cater for these groups, and the deer farmers, goat farmers etc.? Will an occasional article of interest compensate for a possible increase
We have given the matter of costs and content much thought but do not want to elaborate here. If the society were to take the proposal seriously then a detailed feasibility report could be prepared.

Table 2 Preference for three Journal options (assuming production necessitated an increase in subscription): Results of postal survey by Queensland Branch

<table>
<thead>
<tr>
<th></th>
<th>Production</th>
<th>Research</th>
<th>Extension</th>
<th>Admin</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A conventional scientific journal?</td>
<td>yes</td>
<td></td>
<td>5</td>
<td>20</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>no</td>
<td></td>
<td>4</td>
<td>21</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>A practical producer-oriented news type journal?</td>
<td>yes</td>
<td></td>
<td>7</td>
<td>13</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>no</td>
<td></td>
<td>2</td>
<td>28</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>A combination of news reviews and refereed scientific papers?</td>
<td>yes</td>
<td></td>
<td>16</td>
<td>35</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>no</td>
<td></td>
<td>0</td>
<td>11</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total replies</td>
<td></td>
<td></td>
<td>17</td>
<td>50</td>
<td>13</td>
<td>5</td>
</tr>
</tbody>
</table>

CONCLUSION

To enhance communication with and between producers the society should take more active steps to encourage sub-branches to arrange meetings, field days, and tours of a nature that cannot be readily carried out by other organisations. The society should also consider publishing a journal containing refereed papers, new, reviews, comment, and advertising.

REFERENCES