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EXTENSION IN ANIMAL PRODUCTION

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THE ANNUAL CONFERENCES of this Society, and their published *Proceedings* can be regarded as forms of extension even though they are directed at a fairly limited audience.

But though the main activities of the Society have some extension function, paradoxically extension has not been of great importance in the Society's activities. Very few papers on extension have ever been presented and the percentage of our members who are farmers (16%) or extension workers (21%) is small.

As a Society we think little about extension, even though it is such a vital factor in improving animal production. Without extension, our annual deliberations are of no value to farmers, for even the best idea or new technique must be heard about and used before it can produce results.

Before discussing the importance of extension to animal production, I would like to stress the importance of animal production to the economy.

In 1901 pastoral exports represented about 62% of the value of all New Zealand exports; 70 years later, they formed about 82%, though the figure had been higher for most of the intervening years. It is well recognized that a small percentage change in the value of pastoral exports can have a substantial effect on the economy.

HISTORY OF AGRICULTURAL EXTENSION IN NEW ZEALAND

At the beginning of this century organized agricultural extension did not exist. However, by 1902, when there were about 63,000 farm holdings there was at least one enthusiastic and farsighted person, the Chief Veterinarian and Bacteriologist of the Department of Agriculture. In the Department's annual report for that year he stated: "It was my intention during this winter to institute a series of classes in various centres with the object of giving definite information with demonstrations to the youth engaged in farming pursuits in the colony".

After explaining rather forcefully how his efforts were frustrated he continued:

"... I am perfectly satisfied that, if carried out as I wish, great benefit would result to the farming interests of the colony, as well as to the credit of the Department."

Annual reports of the Department in subsequent years reveal that extension slowly gained momentum so that in 1905, for example, 50 lectures on animal health were given in different parts of the colony.

Experience in extension was gained the hard way and in 1909 the Biologist reported:

"An important branch of the work of the Biology Division is the imparting of certain branches of agricultural knowledge to the farmer. This is a more difficult matter than the teaching of children, for the farmer requires exact facts which have a direct and immediate economic bearing on his work, and rudimentary principles which are essential to the agricultural training of the child but not directly applicable by the active farmer, are of little value at present to the latter. Lectures made sufficiently interesting and bearing on some special subject are given whenever possible."

The implication from that last sentence is that then, as now, if the lecturer found it was not possible to give an interesting and relevant lecture, he would oblige with an uninteresting and irrelevant one anyway.

Before World War 1 the Department of Agriculture was providing some extension in the fields of animal health, dairy hygiene and field husbandry. Experimental and demonstration farms were foci for this type of work.

By 1920 when there were seven Instructors or Assistant Instructors in Agriculture it was noted that the necessity for extension work had become widespread and two years later, despite increases in staff, it was reported that the Agricultural Instruction Department was still grossly under-staffed for the requirements. At this time there were about 84,000 farm holdings and although it is difficult to deduce figures for the number of people engaged either part or full time in extension it appears there was about one man for every four or five thousand farmers, or, looking at it another way, one man to every million stock units.

Through the 1920s and 1930s there was a more-or-less steady expansion in the number of farm holdings, the number of stock units and in the extension staff of the Department of Agriculture. It was noted that personal farm visits or field days appeared to be the most effective

methods of extension but during the economic depression of the 1930s less effective methods such as writing letters had to be resorted to.

World War 2 saw the government extension services being used to implement the national policy of growing more food for Britain and at the same time to promote more self sufficiency in agricultural items that had previously been imported.

During the late 1930s there was a new development in extension services which up to this time had been supplied exclusively by Government. Both pig and dairy producers decided to employ advisory officers of their own and in both cases some financial support was received from Government. These long-established services still flourish, the Dairy Board employing 19 consulting officers and the Pork Industry Council 9 advisory officers.

The next major development in non-government advisory services was the Farm Improvement Club movement. The first club started in 1951 and today there are 30 clubs employing 43 advisory officers. After a period of very rapid growth the Farm Improvement Club movement seems to be declining because of the development of another type of extension worker — the self-employed public farm management consultant. The first self-employed consultant set up in business at about the same time as the first Farm Improvement Club but rapid growth in this type of service has taken place mainly in the past five years.

From the development of advisory services for which the user directly bears the whole cost it can be assumed that the other advisory services available at the time were considered at least by some farmers to be inadequate either in their availability or in the type of service they provided. At the time these user-pay services were developing, an expansion was taking place in the number of advisers employed by both the Department of Agriculture and the Dairy Board. It is apparent that there was a rapidly increasing demand for extension over this period despite the fact that the number of farm holdings declined from 90,000 in 1951 to 73,000 in 1961.

This period was also notable for a curious feature in the government advisory services when staff of the Extension Division were virtually prohibited from giving advice on animal matters, a deficiency noted in Col. T. Durrant's 1956 Presidential Address to this Society, and in the evidence submitted by the Council of the Institute

of Agricultural Science to the Consultative Committee on Agricultural Education in 1957.

At this time there appeared in various papers and reports a suggestion that status and salaries of extension workers were low compared with those of other people with similar training and that consequently morale was low. Both status and salaries have since improved and there is at present no major cause for complaint about either. In fact the shortage now is of funds to employ additional men rather than shortage of men for the jobs.

A pleasing development from the point of view of animal production is the increasing number of livestock specialists in the Advisory Services Division of the Department of Agriculture. Among the various specialists available to other advisory officers are seven farm advisory officers (animal husbandry) and this group is expanding in numbers at a faster rate than any other group of specialists. Breeding and nutrition is their specialized field. A similar pleasing trend is evident in the Dairy Division where specialist advisory officers were employed for the first time in 1969. There are now eleven, and plans for considerably more dairy advisory officers (farms), whose job is to advise on all aspects of dairy buildings, equipment, milking technique and milk quality.

There is also a large force of livestock instructors in the Animal Health Division who have an extension function as a minor part of their activities.

An interesting example of an extremely specialized extension team teaching a particular skill should also be mentioned — the shearing instructors of the Wool Board.

#### THE PLACE OF THE VETERINARIAN

Veterinarians in general are not regarded as extension workers but there is an obvious extension role for them. The first extension work in this country was probably carried out by veterinarians and there is now a trend for them to take an increasing interest in animal production as well as animal health, and in extension. The Department of Agriculture has a Veterinary Advisory Officer Service which employs specialist extension officers dealing with specific diseases as well as general advisory officers.

The number of veterinarians in New Zealand has increased from 10 in 1901 to nearly 600 in 1971. Despite the tremendous increase in livestock over this period the number of stock units per veterinarian has decreased dramatically although it is still higher than in some countries.

The number of farmers per veterinarian is now between one and two hundred, if veterinarians engaged in meat inspection are excluded.

The Veterinary Services Council has for some two years had a committee studying the possibility of instituting a "planned animal health and production service" the aim of which would be to provide regular surveillance on the farm so that health risks are minimized and production increased. It will be interesting to see whether this concept is successful, because, if so, it will mean the first real entry of the veterinary profession into on-farm extension and a very substantial increase in the total extension force available to farmers.

The change, if it occurs, will inevitably bring some stresses and strains in deciding how far the advice of veterinarians should extend into animal *production* and farm management matters, and where their work fits in with that of other advisers. If there is a considerable change in function there may also be a need to fit more subjects into an already crowded degree course.

#### NUMBERS OF EXTENSION PERSONNEL

The current size of extension forces serving animal production is approximately:

Department of Agriculture				
Advisory Services Division	....	....	....	180
Dairy Division (not including farm dairy instructors)	....	....	....	11
Animal Health Division (not including livestock instructors)	....	....	....	15
Dairy Board	....	....	....	19
Pork Industry Council	.....	....	....	9
Farm improvement clubs	....	....	....	43
Public consultants	....	....	....	30?
Commerce	....	....	....	?

It appears, therefore, that there are about 300 advisers working more-or-less full time on advisory work related to animal production. There would in addition be a substantial number of persons employed by commerce who have an important part-time advisory role.

A total of more than three hundred advisers may seem very large, especially as it is the largest in history, while the number of farmers at about 66,000 is smaller than at any time since the very early years of this century. The number seems less adequate, however, when it is

realized that if each farmer were to have the equivalent of two days visits a year from advisory officers more than twice as many advisers would be needed.

We know, too, from the operation of existing free services that advisers usually feel they do not have enough time for "follow-up" visits to see whether their advice has been correctly applied and whether the result has been satisfactory. There is, in practice, an unsatisfied demand for extension.

Even if the number of farmers continues to decline at the present rate, an expansion in extension personnel will still be warranted because it will be many years before the number of farmers contracts sufficiently for their demand for extension services to equate the current supply.

#### FORMAL TRAINING AND EXCHANGE OF IDEAS ON EXTENSION

Although extension services had been operating for very many years, there was no formal training in agricultural extension available in the universities until Lincoln College, in the early 1950s, and Massey College in the early 1960s, provided an Extension option in the fourth year of the B.Agr.Sc. degree.

In the past 10 years the practice of extension has come under much closer scrutiny and there have been two major meetings at which extension problems were discussed. The first of these was the Extension Workshop sponsored by the Institute of Agricultural Science at Massey College in 1961. The Workshop was regarded as very successful by most who attended and a report of the discussions was published. However the report was not directed at anyone in particular and it was no one's responsibility to adopt any of the suggestions made.

Then in 1970 the Department of Agriculture sponsored an Agricultural Extension Seminar at Massey University. Attendance was limited to 64 people from 25 organizations to ensure full participation in discussions. The objective of the seminar was to look into the responsibilities and requirements of extension over the next 10 years and from this study to bring down recommendations as to what changes were considered desirable and how these might best be implemented — a formidable and important task.

A total of 28 recommendations resulted from the discussions and these were published in the *Proceedings* of the seminar. The first three recommendations were:

- (1) The approved recommendations of this seminar should be placed before the Minister of Agriculture.

- (2) The organizing committee should carry on as a continuing body to follow up the recommendations approved by the seminar.
- (3) A top-level Agricultural Extension Advisory Committee should be set up to advise the Minister of Agriculture on possible ways to promote co-ordination and to improve the structure of New Zealand's extension services.

These first three recommendations were all-important as they were to be the method of implementing the remaining 25.

Recommendation 1 was carried out. Recommendation 2 was carried out to what the organizing committee felt was the limit of its resources and it then placed its faith in Recommendation 3.

When the Minister declined to accept this recommendation there was a danger that a good deal of the enthusiasm generated by the seminar would be dissipated and the momentum achieved would be lost. A less satisfactory alternative to this recommendation is now being considered.

It is true that some of the other recommendations have been, or are in the process of being, carried out in part or in full but it is no one's responsibility to see that they are, and there is no specific body to exercise leadership in this field.

There have been many suggestions over the years for re-organization of advisory services and I do not intend to add to the number by making further suggestions here. But I am sure that without re-organization, the total extension effort would be more effective if the proposed Agricultural Extension Advisory Committee had been formed. One of its most important first jobs would have been to attempt an amalgamation of, and improvement in the information services for, extension workers; another would have been the provision of continuing education. But above all it would have provided a central clearing house for ideas on extension and a permanent co-ordinating body for occasions when co-ordination was needed.

#### THE FUTURE

What of the future for agricultural extension? New Zealand has followed the same pattern as in most countries and extension services have been mainly provided by the



state. This was specially justifiable when, for many years, over 90% of the total value of exports was of pastoral origin. As the proportion of non-pastoral exports increases there could well be increasing pressure in times of economic stress for a permanent reduction in expenditure on state extension services.

The fact that individual farmers are prepared to pay the cost of some extension services is likely to be cited as evidence that there is no need for state or producer board support. It is obvious, however, that privately-supported extension services could not exist without the extensive back-up facilities provided by the state, or at least they could not provide a service of the same standard or at the same cost as at present.

It is essential that some "free" extension service should always be provided. But to put its value in monetary terms is difficult and this is a real handicap to the supporters of extension. The difficulty is measuring the effect of extension. More research on this aspect is urgently needed, for, not only would it help the authorities in assessing the value of investment in extension, but it would help extension workers make better use of their time by showing them which methods were most effective. The recent and hopefully temporary reduction in finance available for the state extension services is an indication that they are certainly not regarded as sacred. Those who wish free extension services to continue at a substantial level will face a stiffer fight in future than in the past.

Another potential danger lies in possible greater government direction. Advisory officers should never think of other than the individual farmer's welfare in their advisory work for to do so is to destroy the confidence of the farmer and render themselves useless as advisers. As far as I know, this problem has not yet arisen in New Zealand, but it is a potential danger for the state and state-supported extension services. The type of situation I have in mind is that of an advisory officer trying to persuade a farmer to make a change in the national interest when it is against his own best interests.

I can see the possibility, too, that funds may still be allocated but for a different purpose. It will be recalled that the catch cry of the past 10 years has been "more ewe equivalents". It appears the catch cry of the next decade will be "better quality of life", and we shall have to watch that the needs of extension in animal production are not neglected in favour of extension designed to prevent the animals polluting the environment.

## OPPORTUNITIES

Another urgent requirement is some mechanism to allow us to take advantage of exceptional extension opportunities which occasionally arise. One such opportunity exists at the moment in the improvement of beef cattle through breeding. After years of a fairly static situation a number of developments are taking place at once.

One of these is the central performance testing of groups of breeders' bulls; a second is the introduction of new breeds; a third is the use of artificial insemination; a fourth is the formation of nucleus breeding herds by screening large numbers of cattle; and a fifth, which is bound to arise some time soon, is oestrous synchronization to further stimulate interest in A.I.

Some of these ideas may have been fostered by extension, others may have been adopted in spite of extension. In any case the net result is that a revolution is in process in beef breeding and during any revolution the chance is available for opportunists to set new patterns that may last for many years. The best-organized group of opportunists wins the day, but can we say that the extension services of the present time are the best-organized group?

Have all the extension services got together with research personnel to decide on objectives for beef improvement and how to achieve them? Without a national co-ordinated approach we are failing to make the most of our opportunity in the beef revolution. The energies of many enthusiastic farmers may be wasted in going up blind alleys, because extension is tending to follow the enthusiasts rather than to lead them. We need to decide where each part of beef improvement fits into the whole and then to make sure that effort is channelled in the right direction.

Extension opportunities of this kind are rare enough anyway, but in this case an additional opportunity is available since many farmers are entering beef production for the first time and are seeking all the information they can get. If extension and research fail to organize a programme to make the most of such an opportunity, it will be to the discredit of both and to the detriment of the beef producer and the nation.

Finally, I reiterate the dangers I see ahead for agricultural extension:

The danger from *outside* is a possible reduction in state-supported free advisory services, or that political considerations will prevent those services from carrying out their present role.

The dangers from *within* are :

- (1) Failure to evaluate adequately the effects of extension.
- (2) Failure to find ways of securing sufficient co-ordination of different extension services to get the maximum benefit from extension as a whole.
- (3) Failure to find ways of capitalizing on the exceptional extension opportunities that occur rarely.

We must be alert to the dangers from outside and active in trying to overcome the dangers from within.