Accreditation of fertilizer advisers and relationship to quality agronomic advice

D.R. McGuffog

Fertilizer Industry Federation of Australia, Inc., Noosa Head, Qld, 4567

Abstract

Market research has indicated widespread perceptions that there is insufficient information available about the proper use of fertilizers. While a number of the major fertilizer companies train and accredit fertilizer dealer agronomists, recommendations and advice to farmers on the use of fertilizers in Australia is provided by a wide range of advisers, many of who are outside the fertilizer industry. It is likely that the introduction of user codes of practice, accreditation and training in the responsible use of fertilizers will lift public confidence in the industry and in the food and fibre products produced with the aid of fertilizers. Consideration must now be given to the whether a system of accreditation of fertilizers advisers is necessary and, if so, how this should be structured and delivered. At the same time consideration needs to be given to the provision of information and training required to support such a system, including the adequacy of current tertiary agricultural teaching curricula.

Key words

Fertilizer, advisers, accreditation, training, education.

Fertilizers are one of the major physical inputs into Australian agricultural production. Total consumption of nitrogen (N), phosphorus (P) and potassium (K) has increased from around 700 kt in 1979/80 to around 1,400 kt in 1996/97 (2). The estimated value of fertilizer used on farms in 1996-97 was around $1.7 billion (1).

Even though fertilzers are a major component of agriculture and a contributor to production, there are concerns among stakeholder groups regarding adverse effects of fertilizer use on the environment and the level and quality of support and advice farmers are receiving about fertilizers. To overcome these concerns a system of accreditation and training is proposed.

Stakeholder Attitudes

The fertilizer Industry Federation of Australia, Inc. (FIFA) is an industry association representing all the manufacturers of inorganic fertilizer (excluding soil amendments such as lime and gypsum) in Australia and most importers. FIFA's members supply over 95% of the fertilizers used in Australia. FIFA commissioned a market research study to monitor the attitudes of the different stakeholder groups whose views could impact upon the industry. One of the key findings of the research was that all of the groups surveyed felt that better information from the industry about the use of fertilizers was needed (5).

Identification of stakeholder groups

The first stage in the study was the identification and grouping of the following stakeholder groups:

- General public/media/special interest groups;
- Farmers/farm advisers;
- Politicians/Government bodies and agencies.

Methodology

The first stage of the methodology involved in-depth qualitative interviews with a small representative sample of respondents from each group. From the qualitative research, a range of key issues that affect each of the groups were identified. These were then grouped according to their thematic similarity and developed into three main survey questionnaires.

The questionnaires were all between 15 and 40 questions in length and were based on agree/disagree attitude rating scales. While the individual wording of some questions changed between survey questionnaires, in general, each of the three questionnaires covered similar issues. The questionnaires were administered via telephone interviews to a random selection of respondents drawn from the White or Yellow Pages and other listings. The sample sizes used for each group were specially selected to provide a reasonable level of statistical accuracy and were generally proportional to the total size of each stakeholder group. A total of 481 interviews were completed.

Findings

The following comments have been extracted from the summary of the research findings.

- While farmers and farm advisers believed that fertilizer companies did understand their needs, they felt that they were not getting enoughadvice from them.
- While generally positive about the industry, politicians and government bodies did have some criticisms. These were that farmers needed more advice about the use of fertilizers, and that it was the responsibility of the industry to provide this to farmers. Furthermore, they feltthat fertilizer companies needed to be more environmentally sensitive and less profit driven.
- The public, media and special interest groups were all concerned that farmers may not be well informed on how to use fertilizers correctly. This was a cause for concern as it was felt that a lack of knowledge could lead to overuse and associated health risks for the end consumers of the produce. These groups also felt that fertilizer companies should be providing more information to farmers on how to use fertilizers correctly.

Conclusions from market research

For the main part, it appears that most people in most of the segments examined felt in a broadly similar way. Their belief system is quite rational and has the following logic. fertilizers are integral to Australian agriculture. However, they can damage the environment if incorrectly used and this generally occurs when farmers lack knowledge. It is a key responsibility of the fertilizer industry to provide this knowledge, and more knowledge needs to be conveyed to farmers. In order to do this, fertilizer companies should work together more for the good of farmers and the environment.

Discussion

Current accreditation and training initiatives by the fertilizer industry

Several FIFA member companies provide training for the agronomic staff of their dealers and agents. These training programs are basically aimed at ensuring that the agronomist has a sufficient level of competence to provide an appropriate level of information and advice to farmers on the optimum level of fertilizer to recommend to farmer customers. In many cases these recommendations will be based on soil and/or plant analysis results and the agronomist must therefore be able to interpret soil and plant tissue tests results and, where necessary, use decision support tools. Some companies have proprietary interpretation manuals based on previous research and an extensive database of analytical tests. Several companies have developed particular marketing approaches to their advisory services and in several cases these are marketed under specific brand names, *eg.* "Nutrient Advantage" and "Prescription Farming". Dealers providing these "branded" services must be trained and accredited by the supplying company.

The industry also provides training and information on specific aspects of fertilizer selection and use. The most important initiative to date has been the program to train dealer staff in the management of heavy metal impurities that are an inherent feature of a number of fertilizer products. The most important of these is cadmium, which occurs as an impurity in all sources of phosphate rock that are used to produce phosphorus fertilizers.

The findings of the market research study were taken into account in a review of FIFA's objectives for 1997/98 and the industry decided to seek ways to improve users' knowledge and understanding of the proper use of fertilizers. As a result one of the major projects for FIFA is the production of an Australian Soil Fertility Manual which has been designed for use in training and accreditation programs.

As well the Australian Fertilizer Services Association Inc. (AFSA) is undertaking a project to develop guidelines, codes of practice, accreditation and training for members of their association. AFSA is an industry association, which represents companies involved in the distribution and contract ground spreading of fertilizers and soil amendments.

The rationale for accreditation of fertilizer advisers

The development of a credible accreditation scheme is likely to provide a number of important benefits to fertilizer manufacturers and dealers and to fertilizer users. The market research study commissioned by FIFA indicated that farmers and farm advisers were somewhat sceptical of the objectivity of the advice given by fertilizer companies who they felt may be profit driven and sometimes biased in the information they provide. The introduction of accreditation standards for personnel providing advice would go some way toward overcoming these negative perceptions. These findings also probably indicate a need felt by farmers for more independent advice. As the sources of advice grow in number and diversity, so too does the risk that the advice is based on insufficient knowledge and competency. Accreditation standards could therefore provide a greater degree of confidence in the advice given and a mechanism to ensure that advisers were kept up to date.? Farmers would obviously benefit from access to better advice and indeed a better understanding of how to fertilizer use more profitably.

However, profitable use of fertilizers is not the only issue. In fact the potential for fertilizers to impact adversely on soil and water resources and the implications this may have for the longer sustainability of land use is probably the most compelling reason to consider the introduction of accreditation for fertilizer advisers.

As a parallel, there is little doubt that the introduction of accreditation and training, through Agsafe and Farmcare Australia, in the safe handling and use of crop protection and animal health products for both dealers and users has had a very significant effect on the public perceptions about that industry. It therefore seems likely that the introduction of programs that will result in more effective use of fertilizers would help to allay the concerns of the general public about whether they are being used correctly.

The requirement for quality assurance and accreditation of suppliers is an emerging trend among food processors and retailers. Food producers will be required to demonstrate that their crop and livestock products entering the food chain will not have adverse effects on consumers. It is likely that they may be required to demonstrate that their products are produced in a sustainable agricultural system.

It is doubtful whether any of the current training programs for fertilizer advisers adequately addresses all the emerging issues. The current certification of agriculturists by the Australian Institute of Agricultural Science and Technology and soil scientists by the Australian Soil Science Society Inc., are not designed as specific, curriculum-based training programs for fertilizer advisers.

The scope of accreditation for fertilizer advisers

In considering the scope and structure of accreditation and training programs for fertilizer advisers, one must take account of all the various factors that may impact on the profitable and environmentally responsible use of fertilizer. It could be argued that a sound knowledge of plant nutrition and soil factors impacting on nutrient use and uptake is too narrow. For example, the lack of weed control in a crop or pasture, or the use of an inappropriate variety, could diminish significantly the benefits from fertilizer application. Similarly, the potential for any adverse off-farm impact of fertilizer use on water quality must be assessed.

There is also a different range of competencies required by people involved in the handling, distribution, application of fertilizers and those providing advice and recommendations. For example the knowledge and understanding desirable for a competent operator of a fert- iliser spreader is considerably different to that required by an adviser involved in the provision of use recommendations.

Accreditation in other industries and overseas

Australia has a well-developed program for the accreditation of personnel and premises involved in the crop protection and animal health industries. It should be noted that crop protection and animal health products are subject to regulations which require registration of labels that include detailed advice on such things as; rates and timing of applications for specific crops and pests, precautions and minimum intervals between application and harvest, and safety precautions. Personnel accreditation involves several days of training in the safe, effective and legal use of industry products and passing a written examination. Premises must meet statutory requirements for the storage of dangerous goods. Accreditation is obligatory and is enforced through a system of trading sanctions that has been auth- orised by the Australian Consumer and Competition Commission. However, this scheme does not extend to the accreditation of the agronomic competency of advisers.

In the USA and Canada a Certified Crop Adviser (CCA) program was introduced in 1993. The American Registry of Certified Professionals in Agronomy, Crops and Soils (ARCPACS), a membership service of the American Society of Agronomy, coordinates the program. Certification of CCA credentials and development of CCA state exam questions are handled by state boards composed of representatives from agribusiness, agricultural consulting, universities and government agencies (3). An applicant must pass a state and national exam. The areas covered in the exam are; soils and soil fertility, soils and water management, plant growth and development, and pest management (weeds, insects and diseases).

In the United Kingdom, the fertilizer Advisers Certification and Training Scheme (FACTS) is a non-statutory certification scheme for advisers and sellers within the fertilizer industry (4). A management committee representing consultants, government agencies, contractors, education institutions, farmers and trade associations administer the scheme. The day to day operation of the scheme is undertaken by BASIS (Registration) Ltd who have been operating an accreditation scheme for the crop protection industry since 1978. Applicants undergo four to five days of training and must pass written and oral examinations.

The challenge for the fertilizer industry

The fertilizer industry believes that it can make a significant contribution to improving the level of training and information available to both farmers and fertilizer advisers on the responsible use of its products. The industry, through FIFA, has initiated the production of the Australian Soil Fertility Manual. The format of the manual is based on the Potash and Phosphate Institute Soil Fertility Manual, which has been used successfully for training and education in the use of fertilizers in North America. The Australian manual will provide a basic reference for training within the industry and would be suitable for use in wider education, training and accreditation programs.

FIFA is assisting the Australian Fertilizer Services Association in its development of guidelines, codes of practices and training for that sector of the industry and is contributing funds for the promotion of the AFSA program.

FIFA is also willing to provide assistance and expertise to farm sectors that are developing user codes of practice that include the use of fertilizer. However, it is beyond the scope of the fertilizer industry to provide training to individual farmers and it would be more appropriate for such training to be delivered through existing educational and training networks, such as TAFE.

The challenge for professional societies and agricultural teaching institutions

The changing technologies in agriculture and community concerns about the sustainability of our agricultural productions systems and its impact on the environment pose a challenge to professional societies. It is suggested that they need to review and examine whether they also should play a role in the way in which essential agricultural inputs are recommended and used.

Educational and teaching institutions are also faced with reviewing the emerging requirements of the agricultural industries covering all aspects from production through to marketing. These requirements will need to address quality assurance, accreditation and training issues associated with the use of agricultural inputs.

Where to from here?

The industry will be reviewing the question of accreditation and training needs within the fertilizer industry at its biennial conference being held in Perth on 18-21 October 1998. As part of the conference agenda, FIFA has invited a paper from the University of Melbourne to propose a framework for the industry's training requirements. Workshop sessions at the conference will seek to define an overall industry strategy.

The fertilizer industry is aware of the potential for integration of plant nutrition-related training modules into a broader framework of agronomic accreditation.? However, this will depend on the extent to which other disciplines such as soil science, animal nutrition, plant protection, other professional societies such as the Australian Society of Agronomy and the Australian Institute of Agricultural Science and Technology, and other industry programs such as Agsafe, would want to participate.

References

1. Anon. 1998. *Aust. Commod*. **5(1),** 91.

2. Anon. 1997. Australian Commodity Statistics 1997*. Australian Bureau of Agricultural and Resource Economics*: Canberra). p 94.

3. Anon. 1997. Certified Crop Adviser Program Policy and Procedure Manual. 3rd Ed. *The American Society of Agronomy:* Madison, WI, USA.

4. Anon. (undated). Fertilizer Advisers Certification and Training Scheme: Ashbourne, Derbyshire, United Kingdom.

5. Fletcher, M. 1996. *Proc. Fert. Ind. Fed. of Aust. Inc. Conf.* Canberra. pp. 31-34.