

SEED CERTIFICATION — AN ASPECT OF QUALITY ASSURANCE WITH SPECIAL REFERENCE TO WHITE CLOVER SEED

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Abstract. Seed certification is discussed in relation to the concept of industry quality assurance. The present derivation of product specifications and consumer preferences is described. Procedures are outlined for making improvements to the quality assurance system.

Keywords: White Clover, quality assurance, OECD, certification, consumer preference, product specifications, consumer protection, Plants Act 1970, acceptable list, recommended list.

INTRODUCTION

New Zealand was one of the first countries to develop seed certification. The scheme was developed in the 1930s by the Ministry of Agriculture and Fisheries (MAF) in response to the needs of the farming industry for seed which was true to type and free of weeds and diseases.

QUALITY ASSURANCE

Seed certification is recognized as one part of a quality assurance (QA) system. The British Standards Institute defines quality assurance as, "all the activities and functions concerned with quality" (Table 1). It is clear from this definition that quality assurance involves the whole industry in the widest sense from growing the crop through to marketing the crop.

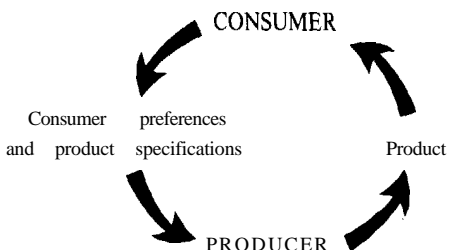
In an ideal QA system the product flows along the chain from grower to consumer and at the same time an information flow of consumer preferences and product specifications flows back along the chain in the opposite direction from consumer to producer (Figure 1). The responsibility for QA is recognized as an industry responsibility and the cost of the activities which are involved in the QA process are recognized as part of the cost of marketing the product. The role of government

in the idealised situation is to provide government to government assurances, i.e. certification as and when necessary and advise the industry of the requirements to obtain certification.

TABLE 1 The British Standards Institute's Glossary of terms used in Quality Assurance (BS 4778:1979).

4.1 .1	Quality	The totality of features and characteristics of a product or service that bear on its ability to satisfy a given need.
5.1.1	Quality Assurance	All the activities and functions concerned with the attainment of quality.
19.1.1	Quality Control	Quality control is that aspect of quality assurance that concerns the practical means of securing product of service quality as set out in the specification for a product or process. QC is defined as being: 'The operational techniques and activities that sustain the product or service quality to specified requirements.'
11.2	Quality System	The organisation structure, responsibilities, activities, resources and events that together provide organised procedures and methods of implementation to ensure the capability of the organisation to meet quality requirements."

FIG. 1 Movement of product and consumer preferences



Ideally QA systems should assist the consumer by providing assurances about the product and in so doing assist the operation of the free market. In practice governments around the world have intervened to require that market access for products is conditional on minimum standards being attained. Certification provides the government an assurance that these minimum standards have been attained.

The NZ system used for producing seed from breeders and basic sown white clover areas where there has been a change of cultivar follows a number of steps:

1. Paddock History
(no other clover for past 5 years, cultivated annually)
2. 1st Inspection — prior to establishment
3. Sow seed
4. 2nd Inspection — Seedling stage
5. Growing the crop
6. 3rd Inspection — prior to flowering
7. 4th Inspection — at flowering
8. Harvesting
9. Field dressed identification labels
10. Seed Cleaning
11. Seed Sampling
12. Seed Testing
13. Issue of Certificates
14. Storage
15. Transportation
16. Merchandising
17. Packaging
18. Promotion
19. Selling
20. Consumption

All of the above 20 steps can be regarded as part of the quality assurance system. Of particular interest is the derivation of consumer preferences and product specifications and the way that these are transmitted to the producer.

The product specifications are to a very large extent provided by the OECD scheme for the varietal certification of seed moving in international trade. These specifications are aimed at providing consumer protection and facilitating trade in those cultivars that meet the

specification. The standards are set by mutual agreement of member countries and can be changed by agreement of member countries.

GOVERNMENT ROLE IN CERTIFICATION

The key MAF role in certification is that of designated authority, i.e. MAF has been designated by the government to implement the rules and directions of the OECD scheme. Hence, MAF provides the final OECD certification. MAF also has the responsibility for administering the Plants Act 1970. Section 10 of this Act gives the power to make regulations for a number of purposes, one of which allows the prohibiting or restricting the import of plant material which has been defined as “being weak, inferior or undesirable strain”. Under the Act, cultivars of white clover can be imported for evaluation purposes, and for multiplication and re-export purposes, at the discretion of the Director-General of Agriculture.

Few overseas cultivars are on the acceptable list because it has been demonstrated that, under New Zealand conditions they are generally inferior to New Zealand cultivars as **herbage** plants (Lancashire, 1984). Prior to this year permits to import for multiplication and re-export had not been granted because of the buried white clover hard seed problem and the likely contamination of our own cultivars. The problem of hard seed is still with us as it is with other clover seed producers (Lancashire *et al.*, 1985). I am optimistic that techniques other speakers have discussed will overcome the problem (Clifford *et al.*, 1985).

While MAF does have a view of its own in matters relating to the Plants Act, the views of industry are sought before changes are made or **descretionary** powers are invoked. Last year at the request of the Agricultural Seeds Advisory Committee the Director-General made the decision to allow the import of sufficient seed of overseas cultivars of white clover to sow 100 hectares for seed multiplication and re-export. We anticipate that if the trial is successful substantial trade may develop.

WHITE CLOVER SEED CERTIFICATION

White clover seed certification procedures have been developed to enable farmers to produce clean seed. These rules apply to the

certification of 1st generation, basic or breeders white clover seed where there has been a change of cultivar, as follows:

1. An authority from the breeder and designated authority in the country of origin must be made available to the Ministry of Agriculture and Fisheries.
2. An acceptable cultivar description must be available.
3. Entries for certification must be received one month prior to sowing.
4. The area must not have grown any other white clover during the previous five harvest seasons and must have been cultivated annually.
5. A minimum width between rows of 30 cm is required and a minimum sowing rate of 3 kg/ha is strongly recommended.
6. Minimum isolation distances must be observed from other cultivars of white clover; for areas of 2 hectares or less 200 metres isolation is required and for areas larger than 2 hectares 100 metres isolation is required.

CONSUMER PREFERENCES

Returning to our idealised model of a quality assurance system we see that we should ideally be producing what the consumer wants. An examination of the markets would indicate that:

- (a) The overseas consumer requires a number of cultivars of white clover and;
- (b) Many overseas consumers prefer to sow a mixture of white clover.

A study of the overseas markets will support (a) and (b) above (Crump, unpub. data). Trials in Europe indicate a number of cultivars produce more than Huia but are generally less persistent (Lancashire, 1984). Recommended lists (e.g. NIAB recommended list) in overseas markets also illustrate both the large number of cultivars available and the superiority of recent cultivars. Those in the seed trade who are marketing our seed also recognise that overseas consumers are seeking alternative white clover cultivars (Mather, 1984). In the past the NZ industry has ignored the requirements of the overseas consumer. Hopefully this will change so that our industry will produce what the consumer wants.

FUTURE SEED INDUSTRY CHANGES

One of the changes that will occur this year is the re-introduction of charges for certification. As part of its economic strategy to encourage industry self sufficiency and efficient use of resources, the government in the 1984 Budget re-introduced product inspection fees. The following paragraph is quoted from the Budget document.

“Product Inspection Fees

All production inspection services provided by the Ministry of Agriculture and Fisheries will be put on a cost recovery basis.

One-third of costs will be recovered from the start of the applicable 1985/86 production season or from 1 October 1985 where no specific season exists. Two-thirds recovery will be effected from the start of the applicable 1986/87 production season or from 1 October 1986 where no specific season exists. Whether the level of recovery in the 1987/88 and subsequent production seasons will be higher than two-thirds will be a matter for later consideration. The Minister of Agriculture will be announcing further details.”

The extent of government involvement in providing industry services has been occupying the minds of Treasury and other government officials for some time. We in MAF have had a policy of encouraging the agricultural industries to implement their own product inspection and operate their own quality control systems.

The move towards a user pay system of seed certification will provide more opportunities for industry participation in the inspection process. Any changes planned for the implementation of seed certification will be fully discussed with the industry and their views will be sought. The Agricultural Seeds Advisory Committee has been the venue for industry communication and discussion. The committee had representatives from Federated Farmers, Agricultural Merchants Federation, DSIR and MAF. An improved industry consultative structure is currently being formulated. Having compared the ideal system and the actual system I shall conclude the discussions by summarising what I believe are the changes likely to occur in the NZ white clover seed industry:

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- (a) The industry as a whole will take greater responsibility for the quality assurance process with corresponding reduced government input.
 - (b) Consumer preferences in overseas countries will be communicated to NZ producers through the market system.
 - (c) White clover seed producers will have a greater choice of cultivars to produce.
 - (d) The quality assurance system will be more flexible and allow for changes in technology and consumer preference.
 - (e) White clover production will more closely conform with what the consumer wants.
The above changes will occur when the industry as a whole is in agreement with the need for change and the direction of change.

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DISCUSSION

- Q. **Will Government involvement in seed certification be reduced in future?**
- A. A gradual progression towards private industry monitoring such aspects is envisaged during the next decade, with the Ministry playing an overseeing role.