

## Legal Aspects of Control

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*The Official Seed Testing Station, Cambridge*

Distribution in crop seed is a major factor in the dispersal of weed seeds. Although there are many biological adaptations to ensure dispersal by natural agencies, the most successful agent has been man (Wellington 1960). Since the law seeks to control human activities inimical to society it is not surprising that it has been involved in attempts to limit man's contribution to the spread of weeds. Although the legal approach has not been confined to distribution in crop seed, most stress has been laid on this aspect, not only because of its major contribution to the spread of weeds to new areas and clean land but more especially because the concentration of reproductive material which takes place during seed processing and trading facilitates the application of enforcement procedures at this stage.

This section reviews the development of legislation concerned with wild oats in the United Kingdom. New legislation has now been introduced to comply with the seed quality control programme of the European Economic Community, and these requirements are outlined. Finally reference is made to the legal control applied to wild oats in a number of other countries.

### UNITED KINGDOM

Although the Minister of Agriculture has power under the Weeds Act 1959 to serve notice on occupiers of land to take action to prevent injurious weeds from spreading (British Crop Protection Council 1968), wild oats have not been included in the prescribed species.

A departmental committee (Departmental Committee on Seeds UK 1900) recommended the establishment of a seed testing station by the government to provide facilities for seedsmen and farmers, but there was no statutory control of seed quality until the Testing of Seeds Order was passed in 1917. The temporary legislation was consolidated as the Seeds Act 1920, and regulations made under it (Seeds Regulations UK 1922) provided for the official testing of seed and the compulsory declaration to buyers of information on its quality. In addition there was a ban on the sale or sowing of any seed containing more than 5% of certain prescribed injurious weed seeds; but these excluded wild oats so that the buyer had only the declaration of overall percentage purity to rely on.

In 1950 an expert departmental committee (Committee on Qualitative Control of Seeds UK 1950) recommended that wild oat should be included in a

list of injurious weeds, the number of seeds of which in a sample of prescribed size should be declared to a purchaser. In addition it urged that, because of the damage caused by its spread to clean land, there should be complete prohibition, as soon as practicable, of the sale for sowing of seeds containing wild oats. The Committee on Transactions in Seeds UK (1957) also recommended inclusion of wild oat in a list of injurious weeds, in recognition of its importance as a competitor with the crop, the extra cost and trouble of cultivation, the possible loss of value in the harvested grain, and the extreme difficulty, inconvenience and cost of eradication. It reported that the sowing of contaminated seed could well be the most potent means of spreading wild oats to clean land, but concluded that the difficulty of eradicating its seed from bulks would mean that a prohibition on sale would unduly restrict the availability of cereal seed. Much of the desired effect could be obtained by requiring the seedsman to declare the number of wild oat seeds in a sample of prescribed size, thereby warning the farmer who already had clean land or was taking steps to clean it.

Many of the recommendations of the Committee on Transactions in Seeds, including those referring to wild oats, were embodied in new regulations (Seeds Regulations UK 1961) made under the Seeds Act UK 1920. The seller was obliged to declare in writing to the buyer the name and number of seeds of any of the prescribed injurious weeds found in an official examination of an 8 oz (227 g) sample of cereal seeds. In the case of herbage and field seed the declaration referred to the small working sample examined for determination of percentage purity; the weight varies according to the species but normally contains about 2500 crop seeds. The seller was required to state the name and number of seeds of any of the injurious weeds of which more than one seed was found. The term 'wild oat' included in the list of injurious weeds covered *Avena fatua* and *A. ludoviciana*.

In July 1974 these requirements were replaced by new legislation introduced to comply with the seed directives of the European Economic Community (see p. 231).

A number of reports have been published dealing with the incidence of wild oats and other weed seeds in samples submitted for testing by the Official Seed Testing at Cambridge (Broad 1952, Gooch 1963, MacKay 1964, Tonkin 1968). Statistics are also presented annually in the reports of the National Institute of Agricultural Botany (1962-1973). The figures provide no consistent evidence of a decline in wild oat contamination of seed since the introduction of the Seeds Regulations 1961, but they clearly show that there has been no deterioration over a period when the weed has been spreading rapidly. A report on the presence of wild oat seeds in cereal seed drills (Elliott and Attwood 1970) showed that seed supplied by merchants, and thus subject to seeds legislation, was much less frequently and severely contaminated than farm-saved seed.

Wellington (1966) has given a comprehensive review of the development of statutory and voluntary seed quality control and Thomson (1967) has summarised the requirements of seed legislation in the United Kingdom at

that time. However the next section will indicate the extensive changes which are now taking place.

#### EUROPEAN ECONOMIC COMMUNITY

The Common Market has adopted a policy designed to facilitate the free movement of seeds between member states on the basis of a standardised system for controlling quality (Graeber 1967). This system is laid down by the Community's Council of Ministers in a series of detailed directives to member governments, which must incorporate them in their domestic legislation within a prescribed period. Amongst other requirements the directives prescribe that seed may not be marketed if it does not comply with certain minimum standards of purity, germination and weed seed content. Members may prescribe higher standards for seed produced in their own countries but must not restrict the entry of seed from other member countries which complies with the directives.

In addition to general standards for percentage purity and content of seeds of other species, specific standards for wild oats are laid down in the directives dealing with seed of cereals, fodder crops and oil and fibre crops (European Economic Community 1972a,b). Cereal seed must be free from seeds of *Avena fatua*, *A. ludoviciana* and *A. sterilis* in a sample of 500 g. However, if one seed is found a further 500 g may be examined; if this is free the standard is considered to have been met. Fodder seed (which includes grasses, forage legumes, swedes and kale) and oil and fibre seed must be free from *A. fatua* in a 100 g sample, but if one seed is found a further 200 g may be examined; if this is free the standard is satisfied.

The requirements have been implemented in Great Britain by regulations introduced under the Plant Varieties and Seeds Act UK 1964 (Cereal Seeds Regulations UK 1974, Fodder Plant Seeds Regulations UK 1974, Oil and Fibre Plant Seeds Regulations UK 1974). They include the EEC minimum standards but, in the case of cereals, seed may also be sold as satisfying a 'higher voluntary standard', one of the conditions for which is freedom from seeds of wild oats in a sample weighing 2 kg. Parallel regulations have been introduced in Northern Ireland under the Seeds Act (Northern Ireland) 1965. However, the Cereal Seeds Regulations (Northern Ireland) 1974 prescribe stricter standards for wild oats: seed produced in Northern Ireland must be free from seeds in a 3 kg sample: imported seed must be accompanied by an official certificate stating either that both the crop was free from plants and a 1 kg sample from seeds of wild oats or that there were no seeds in a 3 kg sample. These provisions, which are designed to preserve the province's relative freedom from wild oats, have been authorised under a special clause in the EEC directive which permits the application of stricter standards for wild oats in seed from other member countries where there is an effective local eradication campaign and equally strict conditions are applied to home production.

During the 1972/3 and 1973/4 seasons United Kingdom producers were eligible for a subsidy on herbage seed payable from Community funds (Ministry of Agriculture, Fisheries and Food 1972). To qualify, seed must have satisfied the EEC quality standards prescribed in the directive. Nearly all of this seed (some 5500 samples) was tested at the Official Seed Testing Station, Cambridge; the results provide an indication of the likely effect of the new legislation on herbage seed producers. Percentages of samples of the main herbage species which failed the standards because of contamination by seed of *A. fatua* are given in Table 11.1.

Table 11.1 *Wild oat infestation in samples submitted to the Official Seed Testing Station, Cambridge*

|                    | Samples failing to reach EEC quality standards (%) |        |
|--------------------|--|--------|
|                    | 1972/3   | 1973/4 |
| Perennial ryegrass | 4  | 4      |
| Italian ryegrass   | 12   | 8      |
| Meadow fescue      | 4  | 6      |
| Cocksfoot          | 5  | 2      |
| Timothy            | 0  | 0      |
| Red clover         | 4  | 1      |
| White clover       | 0  | 0      |

Finch (1972) has compared the EEC standards with those in the British Cereal Seed Scheme (National Institute of Agricultural Botany 1972: Department of Agriculture and Fisheries for Scotland 1972) which prescribed both field and seed standards for wild oats. There was also a standard for wild oats under the National Scheme for Comprehensive Certification of Herbage Seeds (National Institute of Agricultural Botany 1971); it was less strict than that laid down in the directives, not more than one seed being permitted in the purity test. Both these voluntary schemes will be superseded when certification becomes fully statutory in 1976, as required by the directives.

#### OTHER COUNTRIES

A number of countries have legislation to limit the distribution of wild oats in crop seed. For example, in Norway there are strict regulations prohibiting the import, possession, disposal and sale of seed containing *A. fatua*. In Sweden (where sale is subject to certification) seed may not be certified if any seed of *A. fatua* is found in the analysis for weed seed number per kg. Wild oats are not classified as noxious under USA Federal legislation, but in Canada *A. fatua* is listed amongst the secondary noxious weed seeds, for which maxima are set according to grade.

A series of articles reviewing seed legislation in the major seed producing and using countries was published in *Proceedings of the International Seed Testing Association* (1967). Translations of those articles originally published in French or German may be obtained from the ISTA Secretariat. However, in view of the constant changes taking place in this field, a list of references would be soon out-dated and readers seeking detailed information on the requirements in a particular country should enquire from the national authorities.