

with industry representatives and research officers. Eighty growers from throughout the district attended the meeting.

The area of dryland grain sorghum treated with atrazine in the 1974/75 season increased to about 50% of the total area in the district. Indications are that a similar percentage of the grain sorghum area will be treated with atrazine in the 1975/76 season. Atrazine has become a very important tool for grain sorghum growers in the Inverell area, and has certainly significantly increased yields. However, extension advice has stressed that chemical usage must be fitted sensibly into the overall farm program, and sound cultural practices should continue to be used.

There is little doubt that the successful and rapid introduction of atrazine for use on dryland grain sorghum in the Inverell district has been a result of the close liaison maintained between research workers, extension workers, industry representatives and farmers.

AN APPROACH TO WEED IDENTIFICATION

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The identification of weeds in the seedling and young plant stages is a major problem, particularly for the worker who can devote only a limited amount of time to the subject. The few keys that exist have been produced for the species found in restricted regions and their usefulness is limited outside the area for which they were compiled.

Orthodox dichotomous or multi-choice keys present many problems both in use and compilation. With young plants in particular where the main features - flowers, fruits, etc. - used in systematic classification are absent the selection of unambiguous characteristics can be very difficult. The vegetative features which must be used can be affected by the situation in which the plant is growing, while many - especially leaf shape - can alter drastically as the plant grows. Once a key has been constructed the addition of extra species may involve a complete reconstruction or at best a renumbering of many couplets.

An alternative approach is to use sorter cards, one for each species. The standard 'INVICTA' R card has a total of 102 available holes, and using these it is possible to define for each species far more characteristics than can be included in a standard type key. The user is also able to select the characteristics in any order, and can choose those most appropriate to the specimens being examined. Extra cards can be added without difficulty.

In developing a sorter card system for use in broad-leaf species 87 characteristics have been defined, leaving a further 15 'spaces' for further development. The characteristics used include: presence of hypocotyl or epicotyl; growth as a rosette; size, and length to width ratio of cotyledon; shape of the tip and base of cotyledon and leaves; shape of cotyledon and leaves; presence and type of hairs on cotyledon, leaves, and stems; shape of the margin of cotyledons and leaves; growth habit; cross-section, markings and branching of stems.

In general only positive characteristics are defined: the presence of a distinct hypocotyl, for example, is recorded by clipping hole No. 3; the absence of a hypocotyl is not a separate characteristic, but is indicated by leaving Hole 3 unclipped.

Where a characteristic - for example leaf shape - changes as the plant grows the holes corresponding to each of the different forms which may occur are clipped.

The face of the card lists the botanical name and synonyms, common names, and family. It carries a description of the species, noting in particular significant features and variations in characteristics. Other species similar in appearance are noted together with the particular features which allow them to be separated. The reverse of the card carries line drawings, photographs, or any other illustrations which can be obtained.

Copies of the list of characteristics used can be obtained from the author, and copies of completed cards will be available for inspection at the Conference.

6. INFLUENCE OF PRODUCT PROCESSING
AND MARKETING

The effects of weed contamination on the value of agricultural products

W.V. Mungomery 6 - 1

The influence of herbicide residues on the acceptability or sale value of produce

J.T. Snelson 6 - 3