

# 'WARDS' – A NEW STRATEGY FOR PEST AND DISEASE CONTROL AND AGRICULTURAL EXTENSION IN THE SOUTH AFRICAN SUGAR INDUSTRY

By Q. V. MANN

*SA Sugar Association Experiment Station, Regional Extension Office, Dalton*

## Abstract

A brief history of the different extension strategies used in the South African sugar industry is given. Advice to the individual, the discussion group approach, planned projects and committee work are discussed. The concept of 'wards' initiated by the Local Pest and Disease Control (LP&DC) Committee in Dalton is a geographical fragmentation of the district into groups of farmers, each with a ward leader, responsible for co-ordinating a community campaign against sugarcane diseases. Rather than the LP&DC Committee having to initiate action and control measures, the individual farmers are now all involved in setting their own objectives and seeing that control measures are carried out. These same wards, perhaps with different leaders for different disciplines, are seen as an invaluable means of communication for more effective extension in the future.

## Introduction and historical background

For many years the chief role of the South African Sugar Association Experiment Station's extension staff has been to satisfy the varying and individual demands of each cane grower within his district. Düval<sup>3</sup> in 1973 stated that such work falls within the definition of advisory or educational work rather than real extension, which has far wider implications. The erratic nature of advisory work for individual growers makes it difficult to programme or evaluate. Its success depends on the credibility of the individual extension agent and the personal attitudes of his growers. Nevertheless, this is a very necessary part of an Extension Officer's function.

Over the years, however, there has been a gradual change from purely passive advisory work to planned extension. Whitehead<sup>12</sup> in 1969 initiated in-service training in the Extension department to improve extension techniques. Paxton<sup>9</sup> in 1979 introduced the concept of carefully planned projects for individual Extension Officers. Several good projects have already been completed. Some have been less successful but the experience gained has not been wasted.

The impact and real value of planned extension projects is still gaining momentum as individual Extension Officers learn to identify the communities' needs more accurately and as their managerial skills improve with experience. Already it can be confidently stated that planned projects conducted by the Experiment Station's Extension Officers have had a substantial economic impact on the sugar industry. Examples of some planned projects are smut control on the Umfolozi flats (Koenig<sup>6</sup>), computer analysis of farm records from an extension area (Hulbert *et al*<sup>4</sup>), 'operation low top' (Mann<sup>8</sup>), and field records as an aid to the management of sugarcane crops (Culverwell<sup>2</sup>). In future, priority projects and other planned extension programmes may demand even more time and the greater impact on the community could warrant such a trend.

Group work has long been used in conjunction with advisory work and planned projects. Most Extension Officers have worked with formal district groups such as farmers' associations, mill groups, and conservation committees. Pearson<sup>10</sup>, as long ago as 1964, introduced the concept of 'cells' and liaison

groups throughout the industry. These groups, which were constituted in various ways, formed a platform for discussion and proved to be an extremely useful vehicle for disseminating technical information to all growers.

Stead<sup>11</sup> since 1966, has used groups contacted through schools and school children to reach over 2 000 Indian growers who are small quota holders and who are often part-time farmers. This technique is still used and he and his co-workers must have contributed significantly to the doubling of cane productivity per hectare amongst Indian cane farmers over a period of 20 years. Most white farmers in the same period have improved only by 40 to 50%.

From 1965 to 1969, Mann<sup>7</sup> organised 13 separate 'cells' in Zululand south to meet frequently to discuss agricultural subjects of their own choice. Each group worked according to a prescribed set of rules such as 'keep to the subject', 'don't talk too much' and 'ask constructive questions'. When the groups were first formed, attendance at meetings was good but later it became increasingly difficult to choose useful subjects, attendance dropped and the meetings were eventually discontinued.

Hulbert<sup>4</sup> has effectively divided the Natal north coast into four homogeneous areas (the coastal sands, coastal lowlands, rising plateaux and the hinterland) and growers from each of these areas meet to discuss crop performance which is based on a computerized analysis of individual field records.

On the south coast, Jerman<sup>5</sup> and Buchanan<sup>1</sup> have divided their areas into 'wards' and the basis for their grouping is areas with similar soils, climate and topography. These groups have been used very effectively in their joint programme on 'planned management of soils' and for describing the current disease situation.

With the appointment of Local Pest and Disease Committee and six Pest and Disease Control Officers in 1982, a new dimension was introduced to extension activities. These committees and the Pest and Disease Officers have accomplished more in the past three years, in creating an awareness of and implementing constructive campaigns against pests and diseases, than the extension service was able to achieve during the previous 15 to 20 years.

## Method – the new 'ward' concept

In 1984, the combined Noodsberg and Union Co-op Local Pest and Disease Committee initiated the idea of each Committee member being responsible for a 'ward' or part of the district. This was done so that all could participate in setting objectives to help control mosaic and smut, rather than the Committee making decisions for everyone else. Sixteen wards have been established and there are between eight and 20 growers per ward. A Committee representative is attached to each ward which is led by a grower member. Where a milling representative is responsible for a particular ward, the Committee has elected a local farmer to be the co-ordinator of that ward.

Co-ordinators act as chairmen and help the Pest & Disease Control Officer to arrange meetings, but they are not directly responsible to the LP&DC Committee. Only individual Com-

mittee members and extension staff report back to the Committee.

The role of ward leaders and co-ordinators has not yet been fully developed but it is expected that they will help in monitoring the disease situation within their wards and will lead and co-ordinate any actions which may contribute towards pest and disease control.

Every cane grower within the jurisdiction of this Committee is attached to at least one ward. Where a person owns more than one farm in different parts of the district, he will be a member of more than one ward. Each ward consists of a geographical grouping of farms with similar soils, topography and climate. Disease problems may also be similar at present but the situation in each ward could change with time. A ward is therefore a reasonably closely knit, though heterogeneous community. Boundaries of wards may be reviewed periodically, and it may be convenient to split or amalgamate wards while still retaining geographical units of land.

#### *What is different about pests and diseases?*

With extension campaigns, once a drive to implement a particular practice has been accepted by those who adopt new ideas at an early stage, it can usually be left to develop naturally and be accepted gradually by the rest of the community. In a campaign against pests and diseases, however, it is essential for the entire community to become involved because even if only one farmer does not co-operate, his farm can become a source of infection to all neighbouring farms.

This is where the full impact of the ward system is expected to come into its own. Each farmer will have to pass through different stages, i.e. of **infamiliarity, awareness, interest, acceptance** and finally, **adoption** of a particular development. Each grower can be classified as an **innovator, early adopter, early or late majority or a laggard**, depending upon how quickly or how slowly he passes through these phases. The ward system will place community pressure on everyone to make changes early and so hasten the whole process of adoption.

### Results

The first round of meetings with all 16 wards was completed by the end of January 1985. By then some wards had already met on three occasions. Twelve 'mini field days' or training sessions were arranged for 186 labourers and 38 employers, to be taught to identify smut and mosaic and to keep records. The local Pest and Disease Control Officer and Extension Officer were largely responsible for the success of this exercise. In the process, they learned a great deal about how groups function.

Despite the fact that these meetings were held at a very busy time of the year, they were well attended. Overall attendance averaged about 60% and was as high as 90% in some wards but was only 30% in others. Good attendance was however, not the only criterion for a successful meeting. At some meetings where attendance was below the average, very useful decisions were made. Notes on the major decisions reached at all meetings were made and later sent to all local ward members.

Many wards have set an objective to halve the incidence of disease in their wards over a period of two years. This is a good intention, but unless all farmers monitor the changes in the situation on their own farms, it will be difficult to measure progress. Other wards considered increasing replant programmes and making disease incidence a more important criterion for determining replanting rather than an old ratoon or a disappointing yield. There was a lively interest in the newer cane varieties which are less susceptible to disease, but there was also a natural reluctance to give up tried and trusted varieties such as NCo 376 and NCo 293.

One of the more notable developments from the first round of meetings is that growers in one ward in the Wartburg area are planning to establish a nursery to supply their collective seedcane requirements. A grower in the Table Mountain ward offered the services of two trained labourers to monitor the incidence of disease on all farms in the ward. It was decided that this service would be paid for by all cane quota holders in the ward at a cost of about 20c per hectare of registered cane land. Unfortunately, because there are many part-time farmers in this ward, it has been difficult to take full advantage of this excellent offer.

At this stage, even though it is soon after the wards have been established in this district, it may be stated confidently that most of the growers are far more enlightened and aware of the Local Pest and Disease Committees' campaign against mosaic and smut than they would have been had the ward concept not been initiated. Most growers have shown some interest in the disease problem. One small group has accepted the idea of an ongoing programme against disease, but because of the many difficulties involved, only a few enthusiasts are implementing the principle.

At the other end of the scale, there is a very small group of growers who are not convinced, are unperturbed, or are totally ignorant of the threat posed by the increasing incidence of smut and mosaic. Until now, not much pressure has been exerted on these people by the rest of the farming community, but they are nevertheless beginning to feel threatened by their more progressive neighbours.

#### *What does the future hold?*

There will be many problems to overcome, but the ward concept will be enthusiastically pursued. The method could become an increasingly powerful weapon for the local committee end extension staff to use in their combined efforts to fight sugarcane diseases. It will obviously have to be used wisely and skillfully but it is hoped that this concept can be adopted throughout the cane growing areas and be used effectively in extension campaigns other than those concerned with pests and diseases.

The Illovo LP&DC Committee recently expressed the wish to divide the whole of their district into wards. The government agricultural Extension Officer for Pietermaritzburg area (McGrath, personal communication), is planning to use wards to launch a major campaign against weeds such as lantana, American bramble and bugweed.

There appears to be no reason why the geographical grouping of farms into wards cannot be used (perhaps with different ward leaders or co-ordinators) to approach any agricultural or social rural problem. It is hoped that the future members of 'specialist district study groups' will report back regularly to their local ward members on a range of topics such as labour management, computerized field records, new chemicals in agriculture, and the pest and disease campaign that has already been launched.

### REFERENCES

1. Buchanan, GF (1984). *Extension Officers' Reports*. Rep Exp Stn S Afr Sug Assn 1983/84.
2. Culverwell, TL (1984). Field records as an aid to the management of sugarcane crops. *Proc S Afr Sug Technol Ass* 58: 179.
3. Düval, GH (1978). *Landbouvoortligting by die Kruispad-Uitdagings vir Agrariese Voorligting as Universiteitsdepartement* Pretoria: University van Pretoria. Nuwe reeks No 127: 1978.
4. Hulbert, EO and Harding, RL (1980). The computer analysis of farm records from an extension area. *Proc S Afr Sug Technol Ass* 54: 121
5. Jerman, JR (1984). *Extension Officers' Reports*. Rep Exp Stn S Afr Sug Ass 1983/84.

6. Koenig, MJP (1980). *Extension Officers' Reports*. Rep Exp Stn S Afr Sug Ass 1979/80.
7. Mann, QV (1965). *Liaison Cell news - Zululand South*. The Link, Exp Stn S Afr Sug Ass.
8. Mann, QV (1980). Operation low top - a planned project in the Umvoti area. *Proc S Afr Sug Technol Ass* 54: 118.
9. Paxton, RH (1980). A strategy for extension in the South African sugar industry. *Proc S Afr Sug Technol Ass* 54: 115.
10. Pearson, CHO (1965). *Liaison Committees*. The Link, Exp Stn S Afr Sug Ass.
11. Stead, BA (1979). Strategy for change amongst Indian sugar farms. *J Agr Ext* 8: 55.
12. Whitehead, C (1969). *Extension*. Rep Exp Stn S Afr Sug Ass 1968/69.