A CO-ORDINATED APPROACH TO YIELD PROBLEMS IN A CO-OPERATIVE MILL AREA

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Introduction

Since about 1945 the low sugar content of cane crops in the Babinda mill area—relative to others in the tropical wet belt—has been of economic concern to canegrowers and the mill staff. In recent years, the financial position of growers had deteriorated with the lowering of sugar prices. During 1966, the Babinda Mill Suppliers’ Committee requested the Bureau of Sugar Experiment Stations to intensify its investigations into the recurring problems of low c.c.s.

Subsequently, Bureau studies indicated that the variable, but low, c.c.s. and seasonal maturity trends were a function of the local environment. Variations of local climate, coupled with geographical location and farm topography, placed an upper limit on the sugar content of Babinda crops. For example, the variable sugar content of the variety, Pindar, grown in all of the northern mill areas, demonstrated the over-riding influence of climate on the sugar-bearing components of a cane variety (King, 1957; Sturgess, 1968).

Biometrical studies of the effects of environmental factors on c.c.s. production (Leverington 1969, 1970) later found statistically significant relationships between Babinda crop data and soil type and location and shading effects. Yet, the results of stepwise-multiple regression analyses (unpublished data) indicated that factors not taken into account in the analyses were exerting significant influences on the sugar content of crops. These results stimulated further lines of problem identification.

In the meantime, Bureau recommendations, arising from progress reports, were disseminated to growers and mill staff by personal contact and other extension media (Buzacott, 1969; Sturgess, 1969). The recommendations were generally put into practice, but many growers held personal reservations. These were directed to the balanced planting and times of harvest of varieties suited to different soil types and measures to minimize losses from the post-harvest deterioration of crops. The validity of the recommendations was not in question; personal reservations stemmed from the belief that any improvement in c.c.s. by the adoption of the above measures would be insufficient to bridge the gap between the seasonal c.c.s. averages for Babinda and those of other mill areas in the wet belt.

During 1968, when Bureau studies implied that cane transport schedules and week-end storages of chopped cane could be contributing to the low c.c.s. problems, the mill staff and directors evinced a great interest in the Bureau investigations. The Board of Directors of the Babinda Co-operative Central Mill Society, acting on a suggestion from the Bureau, met with the Babinda Mill Suppliers’ Committee and both
parties agreed to the formation of a standing committee to investigate low c.c.s. and allied problems. The Bureau, by joint invitation, convened the inaugural meeting of the Babinda C.C.S. Investigation Committee.

The composition and scope of the committee and its co-ordinated approach to a local problem set an operational pattern that has much to offer to other mill areas with similar problems of economic moment. For this reason, the composition, function, staff arrangement and lines of investigation of the committee are summarized below:

**Babinda C.C.S. Investigation Committee**

**Composition:** The committee consists of eight members—three representatives appointed by the mill directors, three by the Mill Suppliers’ Committee and two by the Bureau. The Bureau representation on the Committee stemmed from the views, expressed by the mill management and growers that its inclusion was logical and desirable for two reasons: any additional investigations in the field or the mill would supplement the current and traditional studies of the Bureau and, secondly, the Committee could liaise directly with Bureau staff and use the resources of the Bureau in matters requiring consultation and investigation.

**Function:** The basic objective of the Committee was, and still is, to improve the financial returns of growers—the mill shareholders—through increased c.c.s. and yields of their crops. Considering the potential for increase in the seasonal averages for c.c.s., relative to other mill areas, the financial goal was set at half a million dollars. By taking into account the expected fluctuations in yields and sugar prices, one unit of c.c.s. is worth between a quarter and a half a million dollars a year to the mill area. The Committee set its goal at the higher figure. To achieve this desired end-point, the functions of the Committee are to plan investigations in order of agreed priority, to make the necessary arrangements for the investigations, to report results and make recommendations to the respective organizations. All discussions are confidential, thereby encouraging the free expression of opinions, without prejudice to sectional interests. Reports and recommendations are not released without the majority approval of the Committee. Where conflict in costs may arise between grower and miller (for example, extraneous matter), the Committee gives primary consideration to recommendations which should result in an optimum reduction of overall costs to the mill area.

**Staff:** Early in the Committee’s deliberations, it was realized that considerable investigational and statistical effort would be required to solve Babinda’s inter-locking problems. In addition to the Bureau research and advisory staff operating in the area, the directors of the mill agreed to finance a person with milling and agricultural experience who would be actively associated with all of the Committee’s projects. This offer was accepted by the Committee, and a District Productivity Officer was appointed during 1969. In practice, the Committee defines appropriate lines of investigation for the officer; the mill manager supervises projects on behalf of the Committee and, where necessary, provides additional assistance. This practical arrangement reflects the desire and intention of the mill management to implement a co-ordinated approach to the district’s problems. This policy is in line with that implied by Prince (1965) and advocated by Kelly (1966) and Maddison (1969).

**Investigations:** As stated previously, the Committee defines and approves all projects for local investigation and places them in some order of
priority. To date, many projects have been initiated, some of which are listed below:

**BABINDA**

**Agricultural projects** — Statistical analyses of c.c.s. data in terms of crop class, soil types, location-shading and harvesting methods. Effect of fluctuating water tables on yields. Comparative study of solar radiation at Babinda and Tully.

**Milling projects** — Determination of c.c.s. by first-expressed juice method and the wet disintegrator method of analysis. Effect of tops on cane payment. Extraneous matter.

When projects are finalized, confidential reports are presented to the Committee for consideration and subsequent action.

**Discussion**

Standing committees of investigation (or enquiry) have operated with success, at all levels, within the structure of the Queensland sugar industry. At Babinda, the c.c.s. committee brings together—for local discussion and planning—the personal elements of administration, research, extension and practice. The involvement of the Bureau is linked with its responsibility for research and extension within all mill areas of the State.

The committee has many advantages as a local extension cell, but its activities must be relevant to economic, farm and mill practices, and it must also maintain the confidence of its represented groups. Fortunately, the Babinda committee is extension-orientated and the local atmosphere is sympathetic for invoking valid changes in practices.

Any success of the committee will relate to its functioning as an extension cell and not as a local research group. By definition, extension is a two-way educational process whereby the results from research activities are translated into practical recommendations and local problems of economic importance are identified and referred to specialists for attention.

In a co-operative mill area, where the directors and shareholders of the mill supply the raw materials for processing, the concept of vertical integration, discussed by Maddison (1969), will influence the decisions of the committee, particularly in the framing of projects, reports and recommendations arising therefrom. In proprietary mill areas, the basic objectives of a standing committee in respect of a continuing local problem of economic importance would not be any different from its counterpart in a co-operative mill area. Whilst Maddison stated that "proprietary sugar mills have adopted a moral attitude to industry and have accepted their community obligations within the allowable limits of their commitments to pay dividends to shareholders", the proprietary mill attitude is usually one of direct response when the quantity and quality of cane supply is insufficient to produce mill peak.

One example of a local extension cell, operating successfully in either a co-operative or a proprietary mill area is the (voluntary or compulsory) Cane Pest and Disease Control Board. From time to time, Pest Boards as extension cells have directed the Bureau’s attention to local problems
quite outside their defined powers and duties. Therefore, with problems of low c.c.s., a local committee will play a valuable role in the coordination of research and advisory services for the mill area. Any method which will accelerate the identification and solving of problems causing a decline or limiting sugar yields in a mill area justifies the formation and dedication of local committees in mill areas, whether they be proprietary or co-operative.

REFERENCES