THE TULLY CAPA—A COMPUTER PROCESSED EXTENSION SERVICE TO CANE GROWERS

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ABSTRACT
Canegrowers of the Tully Mill Area in Queensland have the service of CAPA, for Comprehensive Area Productivity Analysis, a computer processed and compiled feedback of productivity information. In addition to reports issued directly from the computer, milling staff prepare interpretive condensations of computer output for distribution to growers. Data arising as by-products from the system are used by the milling company to monitor cane quality and as a guideline in the preparation of cane transport schedules. A minor function of the system is the processing on an ICL 1903A machine of data relating to cane payment accounting. Annual costs amount to a little more than the equivalent of one cent per tonne of cane. Systematic feedback of productivity data has had a marked influence on growers' attitudes towards increasing productivity.

INTRODUCTION
The Tully CAPA was developed in response to two particular needs—
1) The need to prepare people for day to day familiarity with computer processing.
2) The need to provide cane farmers with all the information necessary to assure maximum development of the specialised skill of canegrowing.

DESCRIPTION AND PROCEDURE
Master file
The basic framework of the CAPA system is the master file of the 310 cane farms of the mill area, classified according to the district of location. Farms are sub-divided into blocks and blocks may be further sub-divided by farmers for the purpose of comparative yield observations.

Farms, blocks and sub-blocks are identified numerically. Before the season begins, the master file of farm and block data is brought up to date and stored on magnetic tape for computer access.

Input data source document
The main input data source document is the farmer's consignment note which accompanies each delivery of cane (Fig. 1). After weighing, consignments are accorded sample numbers which are subsequently used to identify all the data pertaining to the particular sample.

Sample records add to the master file throughout the season. Additional input data are derived from laboratory analysis reports, field officers' reports and farmers' fertilizer usage reports.

Data input
Data input to the system is by paper tape, punched on site.
Weekly processing and reporting

Each week's accumulation of input data is processed early the following week and reports issued that record—

1) Fibre and recoverable sugar (ccs) contents of each variety and each class of variety.

2) Quantities of supply according to increasing increment of delay between burning and delivery, and delivery and crushing.

Monthly processing and reporting

Each month, all blocks harvested during the preceding 4 weeks are sorted to identify those which recorded abnormally low sugar levels (block average ccs of less than mill average ccs — 1 unit of ccs). A low ccs notification is issued to the farm owner.

Low ccs notifications contain data considered relevant to the low ccs condition, the purpose being to locate, for further study, all blocks which unaccountably yield abnormally low sugar level. Processing of particulars relating to payment for cane also occurs each month.

Post-seasonal processing and reporting

Post-seasonal processing finalises the compilation of each farmer's harvesting and production record.

The data are reported directly in the form of a farm productivity report a feature of which is the display of district and mill area average productivity statistics for farm comparison. Block productivity data are expressed as tonnes of cane/ha, tonnes of recoverable sugar (ccs)/ha, and production value (dollars/ha). Supplementary information of significance is included.

A series of supervisory level reports, issued after the season, provide useful analytical information concerning productivity patterns and productivity trends. These are condensed for distribution to growers as a seasonal productivity review, the main features of which are district productivity comparisons and variety maturity profiles.
Farm fertilizer usage and response analysis

The system has recently been expanded to include farm fertilizer usage and response reporting.

Farmers will receive tabulations of block productivity data against fertilizer usage, expressed as quantities of tonnes/ha, and nutrient equivalents of N, P and K as kg/ha. The rate of diminishing productivity value ($/ha) according to the cost of applied fertilizer, and the cost of harvesting, will be shown. District and area average statistics will also be included.

RESULTS AND DISCUSSIONS

The introduction of the CAPA System had the unexpected effect of causing maximum productivity attainment to be regarded as an accepted principle of efficient cane growing in the Tully area. New initiatives have followed with the objective of setting continually increasing productivity standards. The Bureau of Sugar Experiment Stations supported the trend with the formation of a Joint Productivity Investigation Committee comprising bureau staff and miller and grower representatives. The result is that the practice of cane cultivation in the area is constantly subjected to an unusual degree of observation and evaluation.

These resources have resulted directly from the availability of productivity data in a form that immediately prompts questions of the type "Why is this level different from that level?" and "How can this level be made to equal that level?"

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EL TULLY CAPA—UN SERVICIO DE EXTENSION PROCESADO CON COMPUTADORA PARA EL CAÑICULTOR

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RESUMEN

Cañicultores en el área de Tully Mill, en Queensland, tienen el servicio de ACPA, para un Análisis Comprensivo de la Productividad del Area, (CAPA- Comprehensive Area Productivity Analysis), un análisis de productividad en el que la información es computada con retroalimentación. Además, el personal de molienda prepara resúmenes de molienda para interpretar los resultados dados por la computadora para distribuirlos al cañicultor. Datos de subproducto del sistema son usados por la compañía de molienda como indicador de la calidad de la caña, y como pauta en la preparación del itinerario de transporte de caña. Una función secundaria del sistema es el procesamiento de datos relativos a la contabilidad de pagos de caña. El proceso se realiza con una máquina ICL 1903 A. Los costos anuales alcanzan a un poco más de un centavo por tonelada de caña. La sistemática de retroalimentación de los datos de producción ha tenido una influencia marcada en la gestión de los cañicultores para aumentar los niveles de productividad.