

CONTROL OF PRODUCTION

By E. MORRISON

Summary

In the 1960-61 season, the production of sugar and sugarcane in South Africa was restricted for the first time since World War II. This paper sets out the reasons for restricting production, the problems that had to be faced in doing so and the manner in which it was achieved.

Historical Background

The Sugar Industry in South Africa operates under the Sugar Act, 1936 (as amended). This measure enables the Minister of Economic Affairs to publish a Sugar Industry Agreement in the *Government Gazette* and to amend such an agreement from time to time.

Ever since 1936, the Sugar Industry Agreement has provided for the maintenance of the requisite administrative machinery and records in case the need arose to restrict production. With bitter memories of pre-war restrictions in South Africa, the expansion programme did not really commence until 1948 when the Agreement specified that each grower was entitled to fulfil or exceed his quota during the five-year period 1948-49 to 1952-53. The administrative authority under the Agreement, which is called the Sugar Industry Central Board, increased each grower's quota by the amount whereby his delivery in each year plus his delivery in the previous year, divided by two, exceeded his quota. Provision was also made for the allocation to new growers of contingency quotas not exceeding 480 tons of sucrose which could be translated into basic quotas by mean peak performance. Now because the original quotas were based on mean peak performance (*i.e.* the highest mean production of two consecutive years in respect of the grower concerned) it will be seen that the entire quota system had mean peak performance as its basis. In 1952 the five year comparison period was amended to become an eleven year period terminating at the end of the 1958-59 season and this was extended for a further year in 1959, so that it eventually became a twelve year period from 1948-49 to 1959-60.

Meanwhile, on 1st May, 1956, the Agreement was amended to provide for the registration of quota cane lands as distinct from the registration of quota farms which had previously existed. This permitted another valuable means by which the actual area of land under cane could be controlled. It was not intended that this land control measure should be used as the sole means of restricting or cutting back production, but it was recognised that it could be a valuable aid in curbing further expansion if the need arose. It was hoped that it might allow for a period of gestation in that expansion could be stopped without restricting actual crops if the correct timing of this control measure was introduced.

South Africa is a party to both the Commonwealth Sugar Agreement and the International Sugar Agreement. One of the basic premises of the International Sugar Agreement is that there is likely to

be, at least from time to time, an overproduction of sugar for international trade relative to the economic demand. On this account exporting countries have undertaken to limit their exports to certain figures as may be necessary. In practice such limitations have been effective ever since the first post-war International Agreement came into effect in 1954, the only exception being at the time of the Suez crisis in 1956 when the world sugar demand temporarily outstripped supplies. Unless unforeseen events occur it is unlikely that there will be a world sugar shortage for many years. Accordingly the volume of sugar which South Africa is permitted to export is virtually limited to its present export quotas under the Commonwealth and Inter-Agreements.

Overproduction Occurs

At the end of August, 1959, the Government and the industry agreed that expansion should cease, that is to say, that no applications for new quotas or extensions of quota land received after that date would be granted. Applications in process, however, were to be dealt with.

An industrial committee was created to formulate, in consultation with the Government, a scheme for restricting production. This culminated in amendments to the industrial agreement which were published on 29th April, 1960.

The Restriction Scheme

The problem was to evolve a scheme that would be as fair as possible in the treatment of all units in the industry.

Mill Sugar Performance

Early consideration was given to the allocation of specific sugar quotas to mills with the object of subsequently dividing each individual mill sugar quota amongst the suppliers of sugarcane to that mill. Whilst this would have achieved equality of treatment for millers, it would have resulted in serious inequalities between growers. The industry had been expanding rapidly when the necessity for restriction occurred and as this expansion was distributed unevenly between mills, the mill sugar quota system became impracticable for the reason that, as in the 1936 scheme for controlling production, growers at some mills would have been called upon to suffer a far greater degree of restriction than at others.

Mill sugar performances were accordingly discarded as a measure of control, but in doing so it was realised that the adoption of a scheme to bring equality to the growing section should not create too great an imbalance between millers, particularly if certain measures were embodied for the protection of millers' interests. With this matter settled attention was directed to the best means by which equality between growers could be achieved.

Estimates of Available Crops

Simple reasoning dictates that if each grower is required to leave over unharvested an equal proportion of his available crop, then the restriction scheme will be equitable to all concerned. One objection to this theory is that a grower whose crop is reduced to below average by natural hazards then has an additional restriction applied at a time when he needs income most. However, a more important objection to such a scheme is that if seasonal delivery quotas for sugar were related to available crops, it would tend to encourage rather than discourage the production of cane. In order to harvest a given crop of say X tons, a particular grower would need to have

available for delivery a crop of $X \times \frac{100}{Y}$ tons, where Y

equals the industrial adjusting factor. This the grower would have to estimate in advance each year and it would depend not only on available markets, but also on the crops available for delivery by each grower in the industry. Thus, besides being wasteful by encouraging the production of more cane than is required, such a system would be subject to unknown factors and the industry would be kept in a continual state of uncertainty, unable to plan its operations in advance so as to achieve maximum efficiency.

Besides all of these objections, available crops would have to be assessed by resorting to estimates and for purposes of restricting production it is virtually impossible to obtain accurate estimates in the industry. Firstly, if they were to set about the task independently, no two estimators would agree over a given farm. Secondly, it would require a vast staff; and thirdly, in most cases it is impracticable to distinguish between cane for delivery in any one season and that for delivery in the following season. It can be stated emphatically that with a growing crop such as sugarcane, it is manifestly impossible for anyone to say at a date in the early part of the season what a crop of cane will yield several months later. This point is given weight by the fact that before there was any incentive to distort estimates, early season industrial crop estimates in 1951 were overstated by 18 per cent whilst in 1958 they were understated by 12 per cent. Within these industrial figures much wider variations occurred in respect of individual farms.

The foregoing were the main reasons why a scheme based on estimates of available crops was discarded by the industry as impracticable.

Land Control

Careful consideration was also given to the possibilities of a scheme under which land under cane or land harvested would form the basis. The disadvantages of such a scheme are as follows:

- (a) If it were based on restricting land under cane only it would not be sufficiently effective to restrict production with any accuracy;
- (b) If it were based on restricting the acreage to be harvested it would be difficult to formulate rules for the entire industry, parts of which harvest every season whilst other parts harvest after 24 months or more;

- (c) Great reliance would have to be placed on estimated crops available with its attendant disadvantages;
- (d) It would be difficult to avoid a conception of growers being encouraged to keep more land under cane than necessary, thus leading to waste, in order to enable them to harvest specific target areas which they would try to set themselves in advance;
- (e) It would penalise those growers who had been relatively efficient in the past by increasing the yields to near the economic maximum capacity of their land and conversely benefit those growers with records of low yields. This could in turn encourage marginal production to the detriment of efficient production;
- (f) It would necessitate a strict system of policing and inspection of farms, which is repugnant to growers and would involve a large and expensive staff.

These are some of the reasons why the industry passed over a scheme for restricting production based on land control only.

The Farm Mean Peak Principle

The past performance of each farm was eventually adopted as the criterion to which production restrictions would be equally applied to all growers. Firstly, the administrative machinery concerning the quota provisions of the Sugar Industry Agreement had always been based on crops actually harvested. Secondly, the cultivation of sugarcane, like all agricultural pursuits, is subject to the vagaries of nature. "Hard luck" stories abound. The criterion of actual past performance does have the attribute of eliminating endless argument by dealing with factual matters that are beyond dispute. Thirdly, by relating the delivery quota for each grower to his past performance, a definite fixed standard is provided which is independent of crop fluctuations from season to season. Fourthly, it is the simplest system to control, the important control stage being at the mills. These were some of the reasons why past performance was judged the most appropriate standard.

Now because in the main sugarcane in South Africa is harvested every second season, past performance is best measured by considering the mean production of any particular farm over two consecutive years.

It is always desirable to eliminate unrequired quota from any restriction scheme; nevertheless it was considered inequitable for the production of only the previous two seasons to be taken into consideration because some farms, and indeed some areas, had suffered from the vagaries of nature, whilst others were especially favoured. It was therefore decided to make the criterion that of past performance in any two consecutive seasons over the twelve years of the expansion period, it being felt that any grower who regularly produced sugar during any of the twelve years during which it was urgently needed, should rank for equal initial consideration.

In selecting the system that was eventually chosen it was known that any restriction scheme would create

hardships, particularly if an attempt were made to measure such hardships against what would have occurred had recourse been made to some other system for restricting production. The basis that was eventually adopted, however, was regarded as being the most equitable that could be devised for all concerned.

Basically then, in South Africa today each unit has its established farm mean peak and the total of these is a known given figure which is independent of the size of the individual's available crop or of the industry's available crop. By relating this total of farm mean peaks to the market requirements each year the industry will arrive at the industrial adjusting factor to be applied to each individual farm mean peak to arrive at the seasonal delivery quota for each season. Thus it becomes possible to predict in advance for a number of years the approximate extent of each grower's delivery quota. To illustrate this concept with an example, suppose that the total of farm mean peaks is the equivalent of 1,350,000 tons of sugar and that the markets available for South African sugar are 960,000 tons for 1961-62 increasing thereafter at the rate of 20,000 tons per annum. The industrial adjusting factors may then be predicted as in the following table:

Example of Method by which the Industrial Adjusting Factors may be Forecast

Season	Total of Farm Mean Peaks: Equivalent in Tons Sugar:	Available Markets Tona Sugar:	Industrial Adjusting Factor %	"Cut" on Farm Mean Peaks %
1961-62	1,350,000	980,000	73	27
1962-63	1,350,000	1,000,000	74	26
1963-64	1,350,000	1,020,000	75	25
1964-65	1,350,000	1,040,000	77	23
1965-66	1,350,000	1,060,000	79	21
1966-67	1,350,000	1,080,000	80	20
1967-68	1,350,000	1,100,000	81	19
1968-69	1,350,000	1,120,000	83	17
1969-70	1,350,000	1,140,000	84	16
1970-71	1,350,000	1,160,000	86	14
1971-72	1,350,000	1,180,000	87	13
1972-73	1,350,000	1,200,000	89	11
1973-74	1,350,000	1,220,000	90	10
1974-75	1,350,000	1,240,000	92	8
1975-76	1,350,000	1,260,000	93	7
1976-77	1,350,000	1,280,000	95	5
1977-78	1,350,000	1,300,000	96	4
1978-79	1,350,000	1,320,000	98	2
1979-80	1,350,000	1,340,000	99	1
1980-81	1,350,000	1,360,000	101	—

It is necessary to stress that the foregoing table, although vaguely related to possibilities, is only intended to illustrate simply the method by which the industrial adjusting factor may be estimated in advance and is not intended to be an accurate prediction.

The farm mean peak system also enables the production of sugar to be accurately controlled within narrow limits. The numerous complications involved in marketing the industry's sugar, both locally and in the export field, render this an important advantage of the system and enable the industry to plan its marketing operations for maximum efficiency and economy.

Special Cases

No scheme for the control of production is perfect, thus special consideration was necessary for certain classes of growers on whom the burden of the farm mean peak system would have been unduly severe. This problem was the most difficult of all to resolve for very few growers would be unable to provide some argument as to why their farm mean peaks should not be increased. To provide for too many exceptional cases would have made a mockery of the basic principle and would have transferred an inequitable burden to the shoulders of those growers for whom no special provision was made. The needs of the following groups were nevertheless given special consideration:

Realising that the expansion period would necessarily end in the foreseeable future, the registration of cane lands was undertaken in 1956. After this date growers had to apply to the Sugar Industry Central Board for permission if they wished to extend their quota lands. Up until this time it had also been customary to allow new growers to enter the industry by granting them contingency quotas amounting to 480 tons of sucrose. These contingency quotas could be translated into basic quotas by actual performance. The criterion of 480 tons of sucrose represented a guarantee to the new entrant that he would be able to produce on a reasonable scale if control were re-introduced. In order to avoid the prospect of having large quantities of contingency quotas hanging like a sword of Damocles over the industry when control of production was re-introduced, the Agreement was changed in 1956 so that untranslated contingency quotas remaining four years after the issue of a new quota would be cancelled. In effect this meant that new growers were given a guarantee that they would be permitted to produce on a reasonable scale (480 tons of quota) provided that they proved their capabilities by performance within four years, even if control of production became necessary before the four year period had expired. This moral guarantee had to be honoured by the industry, and so contingency quota growers became the first class of grower for whom special exception from the basic principle of the farm mean peak system had to be made. Similarly, those growers who had been permitted to extend their quota land had to be accorded contingency quotas to allow their extended land to be harvested.

Next, when thinking in future terms of restricting production, both the industry and the Government felt that they would not like any grower to be forced out of business through the introduction of the control scheme. With this object in view, an independent Quota Tribunal was set up to provide for the special consideration of exceptional cases of hardship. This Quota Tribunal was given power to allocate additional contingency quotas in cases of unforeseen exceptional circumstances where the grower concerned would be unable to discharge his liabilities. In addition, to deal with those cases where the Tribunal felt that temporary relief only was warranted, temporary delivery permits were issued by the Central Board on the recommendation of the Quota Tribunal.

During 1960-61 season many representations were made both to the industry and to the Government about the effects of the restriction scheme. The Minister of Economic Affairs became concerned about those growers who had been caught by control of production whilst developing and who were consequently left with larger than average crops available for delivery during the first year of restriction, viz. the 1960-61 season. He accordingly issued a determination to enable growers to deliver 67 per cent of their official crop estimates for the 1960-61 season.

The Problems of Mills

The milling side of the industry has found that their production of sugar under the restriction scheme has not been exactly proportional to their sugar production peaks. This inequality has been accentuated by the additional production now accruing from contingency quota growers. The diversion of cane supplies from one mill to another is not feasible as a total solution and consideration is being given by millers to some financial adjustment. Similar financial adjustments were in fact a part of the Minister's determination in respect of the 1960-61 season under which those millers benefiting therefrom contributed a sum representing the estimated profits from the additional cane supplies to a pool which was divided equally between all millers. At the time of preparation of this paper, this particular aspect is still under consideration by the milling section of the industry and it is therefore inappropriate to comment further.

Miller's interests have, however, been protected to some extent in the existing agreement in that shortfalls arising at any particular mill are re-allocated to other suppliers of cane to that mill. Thus a mill does not suffer through an individual grower's inability to supply his delivery quota. Only when all the mill's suppliers are incapable of taking up the shortfalls at the particular mill concerned, do these shortfalls become available for re-distribution to the industry as a whole.

The Introduction of the Scheme

The industry's restriction scheme was published in the *Government Gazette* and thus became law on

29th April, 1960. The industrial adjusting factor for the 1960-61 season was 77 per cent i.e. a "cut" on farm mean peaks of 23 per cent. This was perhaps more severe than most people had anticipated and it is unfortunate that this was so. Contributory factors were the levelling off in local market demand, the diminution in the sugar requirements by Rhodesia as a result of the expansion of their internal production and the production of sugar by Swaziland more quickly than had been anticipated.

The situation was aggravated by good climatic conditions which factor combined with the application of better agricultural practice by the majority of growers in the industry to produce crops on the lands of a standard not previously attained. The degree of restriction that has had to be applied has accordingly been most severe in the initial years.

General Comments and Conclusions

Not all growers are content with the existing scheme for control of production, but it is a self-evident fact that it is impossible to please everyone. Wherever a line is drawn in any restriction scheme, anomalies will be created on both sides of that line. Consideration given to special cases must end somewhere. One must therefore not be too critical of any scheme on the grounds that it creates anomalies. It is known that no scheme will be perfect, but an attempt was made to strive for the scheme that will be to the benefit of the vast majority in the industry and for the benefit of the industry as a whole.

There is no doubt that had the degree of restriction been less severe much of the discontent with the control scheme would have disappeared. Indeed, bearing in mind the severity of the "cut" needed, it augurs well for the scheme that there is an almost unanimous agreement with the basic principles of the farm mean peak system.

It may therefore be concluded that the system adopted by the industry for restricting the production of sugar in South Africa in the main has been successful in spite of exceedingly difficult circumstances.

For discussion on this paper see page 13.