

# TECHNICAL EDUCATION IN THE SOUTH AFRICAN SUGAR INDUSTRY

By C. VAN DER POL

At the Thirty-third Annual Congress of this Association in 1959, the Technical Education Committee reported that a course of training for factory Technologists had been started in February of that year. Of the 29 students which enrolled, eight students obtained the certificate in May last year. The first year of study was resumed in February, 1961, and the second year of study, which is at present in progress, commenced with six students. This number of students is considerably fewer than the number which the Natal Technical College regards as a minimum and it appears to the Committee as if the Course will have to be discontinued on completion of the third year of study next year. Although the Committee has always realised that the demand for trained technologists is limited, it has come as a great surprise that the Industry's entire demand appears to have been satisfied by so relatively few technologists and the Committee is seriously perturbed at the Industry's attitude.

In September, 1961, the Committee responsible for agricultural training had organised a course of training in Sugarcane Agriculture. Unfortunately only a short time was available during which it could be made known that this course of training was available and insufficient support prevented the course from starting in January, 1962, as had been planned. The Committee proposes to extend the scope of this course to cover crops other than sugarcane and it is felt that the new circumstances in which the Sugar Industry finds itself will give rise to a demand for trained young men with a broader knowledge of agriculture than has been found necessary in the past. It is hence proposed to make yet another effort to start a course in January, 1963.

Speaking very generally, the Technical Education Committees of this Association, in common with some leaders of our Industry, are concerned at the Industry's apparent lack of interest in efforts made to ensure that there shall remain available to the Industry a supply of well trained technologists.

Two years ago, Mr. C. J. Saunders, in his opening address to the 34th Congress stressed the necessity of—  
“reducing unit costs of production and obtaining the highest possible return from a limited market. This the Industry can and must do by improving its methods and making better use of its resources”.

And he went on to say—

“The future success of the Industry depends now primarily on the extent to which it can improve its profitability by increased internal efficiency. No longer can standards be measured by volume of output alone.”

In the light of these remarks, we must accept that we have not yet reached the limits of our technical

efficiency and both in the fields and in the factory there is still scope for considerable improvement.

During the last years there has been an increasing tendency to rely more and more on the advice of our Research Institutions. This is indeed a very healthy state of affairs but it must be remembered that these institutions can do no more than give advice and the carrying out of the advice given is the responsibility of the individual planter and the individual miller.

As we heard from our President only this morning, the time has come for a new approach to our problems and our Research Institutions are being urged to get down to fundamental problems. In order to give them the opportunity to do so it is essential that the less fundamental problems are solved by the planter and miller himself. Furthermore the theoretical knowledge of both cane production and the manufacture of sugar, in all its facets, is growing and in order to apply this knowledge in the field and in the factory with the greatest efficiency we need trained men who can translate knowledge into practical methods. We have no records of the man hours, fertilizer, steam and other costly items which have inadvertently been wasted because a perfectly good idea was misinterpreted as a result of inadequate understanding on the part of those doing the job. I have no doubt that a very considerable sum of money is so involved.

Lest I have perhaps given the impression to the contrary let me hasten to say at this stage that theoretical knowledge of the factors which control the growth of cane and the manufacture of sugar is by itself not enough to improve the profitability of our Industry by increased internal efficiency. Attending a technical course and passing the examinations may produce a good technician but in order to secure the prosperity of the industry, we need good technologists who have an appreciation of economical factors and are prepared to apply this knowledge to obtain the maximum value out of the resources at their disposal.

There is a general shortage of technically minded and technically trained men in the whole world today and also in this country the Sugar Industry has to compete with other industries for its technical staff. Due to the geographical location of the Sugar Industry, we are at a disadvantage in that most sugar farms and most factories are located away from the larger centres. Hence, we have to make our conditions more attractive if we want the right sort of men. This does not necessarily mean that salaries and accommodation must be so much better than in other industries, this helps but is by no means the only factor. It should also be recognised that a young trainee has professional pride, to which he is justly entitled.

With these remarks, I have endeavoured to convey to you the anxiety which the Education Committee

of this Association have in regard to the Industry's attitude towards Technical Education. This is a serious problem and deserves the serious attention of the whole of our Sugar Industry.

**Mr. du Toit**, in the Chair, said the report read by Dr. van der Pol summarised the work done by the Committee, at times apparently under very difficult conditions. For some reason there was little demand for trained technologists by the Industry at the moment. He considered we had to deal with a dangerous method of cutting corners in the name of economy as shown by the reluctance to employ young trained personnel.

**Dr. van der Pol** said that the inadequate support for the course was not due to finance. The S.A. Sugar Association had been very generous and had provided as much money as the Committee required.

**Mr. Moberly** said this same subject of lack of desire to train young personnel had been debated often many years ago but he was glad that the Committee was still pegging away against the failure to appreciate the urgent necessity for such training. The industry must be made to realise that it could not carry on in the tempo of the new world by employing anyone and just allowing him to learn from his own experience.

**Mr. Wilson** considered that the Association should have a means of getting the requisite message across to those people who ran the industry.

**Mr. Thumann** questioned that there was scope in our 18 factories for ten or twelve trained personnel each year. He thought the first nine from the course could readily be absorbed and possibly the next three, but after that things would be difficult.

The people who now decided if a man were suitable for a certain position were not the technologists but the economists and cost accountants, and this he considered wrong. There were certain factories where the laboratories were staffed by Indians because they could be paid less. Under these circumstances it could not be expected that people would send their sons to the Course.

Some youngsters employed today came only to earn more money than they could obtain elsewhere, but there were some who would like to follow the course but they had not sufficient educational background to enable them to do so. He asked if it were possible to have another course, even a correspondence course, run by senior factory men, so that after one or two off-seasons' training it would be possible perhaps to fit these young men to be able to follow the course and perhaps qualify.

**The Chairman** thought the lowering of the standard appeared somewhat dangerous and he doubted that it would ever be necessary to do so.

**Dr. van der Pol** said that in the highly efficient petroleum industry up to recent years, men with university degrees in chemical engineering were employed as shift workers. When it was found unnecessary to demand such a high standard this was

lowered, but now the matriculation or some equivalent was necessary to obtain employment in that industry. If we took the advances made by the petroleum industry over the last few years as an example, the sugar industry had a long way to go.

Referring to Mr. Wilson's remark, he had contacted the Natal Sugar Millers' Association, and in the near future a meeting would be convened by that body when these problems would be considered. The S.A. Cane Growers' Association would have the matter of an Agricultural Course brought before it and possibly the subject would be raised at the Annual General Meeting of that body.

**Mr. Grant** considered that Mr. Moberly had no cause to be very disappointed with the results stemming from the course he ran many years ago. Quite a number of our present senior technologists received their early training from that course.

Some ten years ago the late Mr. O. A. Feltham, as Chairman of the then Technical Education Committee, approached all the milling companies and found that the number of trainees required by the industry over ten years was very small indeed.

Indians were employed in laboratories because there was no other labour offering. Most people employed in the industry would not allow their sons to become laboratory assistants because they felt it was a dead-end job, and once trained in such work, it was too late to find other employment.

He suggested that the course might well be started once in ten years or so. The first thing was to ascertain the number of vacancies with reasonable chances of advancement which could be expected over a period.

**Mr. Wilson** thought that it was possible we were misguiding our efforts. He questioned if we should not be grading technical posts to Indians and asked Mr. Grant for his experiences with the Indians now employed.

**Mr. Grant** explained that Indians were engaged only for routine work and at present that was as far as they could go.

**Dr. Douwes Dekker** said the matter was one of the most important faced by the industry at the moment. The committee was trying to do a service to the industry and not to force technical training just for its own sake. The problem was not to train young men, but to prove to the Industry that there was a genuine need for properly trained men.

The whole question was lined up with the problem of how to staff a sugar factory. He did not think that the problem of training young men could be solved until a properly constituted committee of the Natal Millers' Association had gone into the subject of how to staff our factories.

**Mr. Thumann** related his experience in the petroleum industry during the period, 1935 to 1937. He said that many youths working in the laboratory at the end of their training received a salary of only £9 per month, equal to about R57 today. He asked where one could obtain a man who, when he reached the age of 30, would be prepared to work for only R57 per month.

**Mr. Phipson** said that one disadvantage of the course as at present designed was that factory laboratories would be short-staffed during the period the course was run as supernumeraries were not employed. He could only spare one man for the course and although others were keen to attend he could not let them go.

**Mr. Bentley** stated he would like to support what **Dr. Douwes Dekker** had to say and that the success or otherwise of this whole training scheme depended upon what sort of people we, and the others who ran the industry, wanted in our factories in future. He considered factories had to carry supernumerary staff if any sort of training was to be carried out successfully.

He felt that we should realise that the sooner we started training our own technologists, the sooner we could expect more rapid improvement in technology in the industry.

To say there is a lack of applicants was quite wrong because when his company advertised, it got twelve times more applications than it could handle. To say that it was just a dead-end job was also quite untrue, in that it depended on how the factory was run as to whether the training was made dead-end training or not. If avenues of promotion were made available, then the future for someone with the proper training could be quite promising; but if you take a man on and train him and then leave him in the laboratory for the rest of his life, naturally he has come to a complete dead-end and you would get very few who would be prepared to go in for that sort of training.

He felt that the whole of this training scheme depended, firstly on the enthusiasm which we as an Association put into it and the effort we put in to make a success of it, and secondly the enthusiasm that the people who control the Industry put into it.