

# TECHNICAL EDUCATION COMMITTEE (AGRICULTURE)

## REPORT ON TRAINING COURSES IN SUGARCANE AGRICULTURE STARTED IN 1963

By T. G. CLEASBY

The South African Sugar Industry has reached a standard of technical achievement of which it can be justifiably proud and which enables it to hold its own with any other agricultural industry. In agriculture this started with the formation of the South African Sugar Experiment Station in 1925, primarily to improve the commercial varieties of sugarcane. Since this time the Experiment Station has grown out of all recognition and the number of technically qualified staff has increased to carry out research in all branches of agriculture. The development of the technical or scientific side of agriculture took another step forward from 1955, when the milling companies began employing qualified staff as agronomists or agricultural chemists to supplement the research work being done by the Experiment Station, with particular reference to local problems; also, to provide Field Management with reliable data on which field policy can be decided. There is therefore a wealth of technical information available today from the agricultural research being carried out within the industry.

This, however, is only one side of the story, as is admirably pointed out by Dr. F. C. Bawden, F.R.S., Director of Rothamsted Experimental Station, in his address to the 11th I.S.S.C.T. Congress in Mauritius on "The Role of research in the Development of Modern Agriculture". Research and technical knowledge is only of value if the farmer has the ability to interpret it and use it intelligently for his own good and for the good of his agricultural industry. This, in a nutshell, is the overwhelming case for technical education in agriculture. It is no different to that in any other industry. Fortunately, this has been appreciated by the South African Sugar Industry, which, for a number of years, has discussed the possibility of starting a course of training in sugarcane agriculture. The main difficulty has been to decide the exact nature of such a course, coupled with the fact that the two agricultural training centres in Natal, namely the University of Natal and The College of Agriculture at Cedara, are situated outside the Sugar Belt. The South African Sugar Association passed the problem to the South African Sugar Technologists who in turn gave the responsibility for starting technical training in agriculture to the Technical Training Committee (Agriculture). This committee came to the conclusion that the problem was in two parts: firstly, to provide personnel already employed in the industry with an opportunity to improve their technical knowledge, and secondly, to attract young men with a sound basic training in agriculture into the industry. It is also felt that the second part was just as important, if not more important, than the first.

With this in mind, the Technical Education Committee (Agriculture) has planned three separate courses which culminate in a comprehensive short course in sugarcane agriculture lasting between six and eight weeks at the end of each year. It is a pleasure to be

able to report that an encouraging number of students have been enrolled for all three courses which were started in January, 1963. These courses, however, could not have got under way without the outside assistance of The Natal Technical College, Durban, The Director of Agricultural Technical Services for Natal and The College of Agriculture, Cedara. The Technical Education Committee (Agriculture) is very grateful indeed for the co-operation it has received from these bodies.

The three courses mentioned above have been designated courses A, B and C. *Course A* is designed to encourage young men with a good basic training in agriculture into the sugar industry. It consists of the full two year diploma course at the College of Agriculture, Cedara, followed by the comprehensive short course in sugarcane agriculture. In order to encourage students to take this course, the South African Sugar Association has awarded annually five scholarships of R300 each per annum for two years to students accepted by the College of Agriculture, Cedara. The only conditions attached to the scholarship are that the students will do a total of eight weeks practical work in the sugar industry during their course and that when they receive their diploma they will take the short course in sugarcane agriculture. As a matter of interest, the following students have been awarded scholarships: Second-year students D. W. Thomas, J. A. L. Fisher, J. B. Moolman, R. Hagan, E. Haslop and H. W. Peters. First-year students: J. R. Kennedy, H. N. A. Harris, P. J. Catterall, A. J. Roodt, and B. H. Powell.

*Course B* has been designed for people employed full-time in the sugar industry who wish to improve their technical knowledge but have no particular basic training in agriculture. The course which has been planned is only a beginning and it is fully realised that it can be greatly improved in time, and with more experience. It is a one-year course and the students attend the Natal Technical College, Durban, on Mondays from 9.00 a.m. to 5.00 p.m. during the normal Technical College terms from January to October. They receive lectures in botany, chemistry, surveying, soil science and agriculture, designed to give them some basic knowledge which will enable them to get the most out of the short course in sugarcane agriculture. The students will also attend one or two short courses during the year run by the College of Agriculture, Cedara. The ones selected for this year are: "The Prevention of Stock Diseases" and "The control of harmful Pests".

Eight students have been enrolled for *Course B* this year. It is the feeling of the Technical Education Committee (Agriculture) that the number should be limited to about this figure, in order that the first part of the course can be more personal than would be the case with a much larger class.

Course C is open to students who already have acquired a good basic training in agriculture, such as a university degree or a diploma and students taking this course will only be expected to attend the short course in sugarcane agriculture which will be held at the end of each year. Six applications have been received for this course from people with the above qualifications.

The short course in sugarcane Agriculture will be a comprehensive course dealing with all aspects of sugarcane production and also very briefly its manufacture. The lectures will be drawn from technically qualified people employed in the industry and all will be experts in their own field. It is hoped that this course will offer a unique opportunity to anybody considering furthering a career in sugarcane agriculture. It is also felt by the Technical Education Committee (Agriculture) that the strength of this course will be the fact that the students will be mixed, in one case having a largely theoretical background (Course A and C) and in the second case practical experience of growing sugarcane (Course B). The short course in sugarcane agriculture will be a full time course lasting from six to eight weeks. Lectures will be given in the botany of sugarcane, sugarcane diseases, sugarcane pests, sugarcane varieties and the breeding of sugarcane, the cultivation of sugarcane and its irrigation, the work of the South African Sugar Experiment Station, the fertilisation of sugarcane, the manufacture of sugar, the mechanisation of sugarcane cultivation and its transport to the factory, farm and labour management and soils of the sugar belt. Considerable emphasis will be placed on the practical aspects of sugarcane production and every effort will be made to give students the experience of how sugarcane is grown in different parts of the industry. The first short course in sugarcane agriculture will be held in October this year and will be taken by about 20 students from courses A, B and C.

No fees are payable for any of the courses run by the Technical Education Committee (Agriculture) as all expenses are being met by the South African Sugar Association. Students are responsible only for getting themselves to and from lectures and for any accommodation they require during the short course in sugarcane agriculture.

In this report the need for technical education in agriculture has been mentioned and also the type of education which is being provided at the present time reported. It is the intention of the Technical Education Committee (Agriculture) to endeavour to improve the existing courses in the light of experience and the needs of the industry. It will welcome both suggestions and constructive criticism. In conclusion it is essential that these courses receive the full support of the Cane Growers and Millers to see that promising personnel have an opportunity to improve their technical knowledge so that they can become more useful members of the industry; also, to see that the better qualified personnel that the Technical Education Committee (Agriculture) is encouraging into the industry through the course it is running, can find congenial employment. The Technical Education Committee (Agriculture) has the full support of the South African Sugar Association and is most grateful for the financial

assistance it has received to enable it to make a modest beginning with technical education in agriculture.

**Mr. du Toit** (in the chair) said it was most gratifying that the Committee under Dr. Cleasby had been successful in establishing the Course and in obtaining five scholarships to encourage students.

**Mr. A. C. Barnes** said a great debt was owed also to the Chief of the Department of Agricultural and Technical Services for his co-operation. The Agriculture Course had probably not had the appeal to the planting side of the industry in the past, as had the Technical training scheme to the milling side, but the fundamental importance of the production of the crop had at last been recognised. We could look forward to still greater improvement in crop husbandry as a consequence of the establishment of the Course.

**Mr. J. B. Alexander** said he was particularly interested in section C of the Course, in that it mentioned that technically qualified people employed in the Industry would do the lecturing. He hoped that a superior quality of raw material would thus result.

**Mr. Fourmond** echoed Mr. Alexander's hope that the raw material would improve, as last year's cane was of extremely bad quality, causing much trouble in the factories.

**Mr. A. C. Barnes** said that the cane farmer had been blamed last year for things which were beyond his control. Drought conditions added to cane being left over due to restriction, caused the quality of cane to deteriorate. The conditions he had mentioned led to cane being sent to the factories in poor condition and it was hoped these conditions would not be repeated in the future.

**Dr. Douwes-Dekker** stated that it was gratifying to note that need for improved courses in both factory and agricultural sides of the Industry was so deeply felt by the Technologists' Association and he hoped this feeling would reach the ears of the leaders of the industry. All major industries realised the importance of training their own people.

As far as the Factory Training Course was concerned, the S.M.R.I. would do all it could to meet the extra duties required of it, but the trainees needed the assistance of all the factories in which they worked during their five years of training.

**Mr. Rault** said that it was encouraging to see on the same platform a factory manager and an agronomist collaborating in the shaping of a programme of studies for the technical sugar workers of the industry.

It was an indication of the progressive spirit which would go far to produce a better informed type of worker, conscious of the inter-dependence of the various aspects and problems of the industry, compensating in some measure for the somewhat separate outlook of agricultural and manufacturing activities.

**Mr. Wilson** said that the Agricultural Committee considered more and more attention should be paid to general agricultural education, for a sound background of general training was more valuable than a restricted outlook based on cane agriculture alone.