

**Agricultural Research Institute, Pusa**

**Sugar and the Sugarcane in  
the Gurdaspur District**

BY

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## PREFACE

**I**N 1911 an analytical survey of the sugarcanes of the Gurdaspur District was commenced with a view to ascertain the average sugar content of country canes grown under ordinary conditions of cultivation. The enquiry was to show not only where the best canes were grown, but to what extent the different types differed in the composition of the juice as well as to give some idea of the influence of soil and climate.

As the survey was primarily undertaken to select a site for a central refining factory in what was then considered the best sugarcane district of the Province, it was of prime importance that our results should indicate every vicissitude to which the raw product of the factory might be subjected. It consequently includes a very large number of analyses of cane, and I have thought it desirable to give these results in some detail for future reference notwithstanding they make the Bulletin very bulky.

At the same time information gained from cultivators in the district on the losses occasioned by hard winters and dry summers indicated the need of prolonging the enquiry over several years so as to include bad as well as good seasons.

The results of the enquiry, which has now been pursued for five years, show that the time has not yet come when a central refining factory can be erected in the district with any chance of being a financial success. I shall show that the conditions for success of such a factory are not to be found there at the present time, and that, before refining on a manufacturing scale can be attempted, it will be necessary to improve very materially the quality of cane grown by the importation of better varieties, which must be sufficiently hardy to resist the rigorous winter climate of this district and which will give much better yields than the cane now being grown there, as well as to improve the soils of the district by improved methods of cultivation and by the addition of those manurial constituents which the combined study of science and farming have shown to be necessary. The average out-turn of stripped cane per acre in the district appears to be about 10 tons. This figure and the average composition of these canes were enough to turn the only capitalist really willing and competent to undertake the erection of a sugar refinery in the Punjab further south. This was Mr. Thomas Hughes, Director of the Colonial Sugar Refining Company, Sydney, who visited the Punjab in 1914 to see if the new canal colony in the

Montgomery District would provide a suitable place to start such a factory.

If we are to refine sugar in the Punjab, we must aim at producing a heavy yielding cane or a series of canes which will ripen in from 8 to 11 months and which will give when ripe a suitable expression for the refining processes, a juice of sufficient purity to be easily handled in the factory. We are a long way from this at present though the testing of cane varieties has been one of the principal objects of the Gurdaspur Experimental Station since its foundation in 1910.

In 1913, the Government Sugarcane Expert, Dr. Barber, was invited to assist in the enquiry by the botanical classification of the canes of the district and the results of his enquiry will be found under a separate publication.<sup>1</sup>

The indigenous methods of cultivation described in Chapter I have been written from notes supplied to me by Mr. Southern, and I wish to express my indebtedness to this officer for his very able and kindly help in all stages of the enquiry.

I am much indebted to Maulvi Fateh-ud-Din, Officiating Deputy Director of Agriculture, and his staff for help in the district and on the Gurdaspur Farm. Many of the figures relating to out-turn, yield of *gur*, etc., have been provided by them.

I also acknowledge the painstaking care of my assistants, Mr. D. K. Ambekar, M.A., and Bh. Arjan Singh, L.Ag., who have done practically the whole of the sugar assays of this report.

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*June, 1916.*

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<sup>1</sup> Barber, C. A. *Mem., Dept. Agri., India, Bot. Ser.*, vol. VII, no. 1.

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