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AN EXPERIMENT WITH BAMBOO UNDERDRAINAGE FOR SUGAR CANE.

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INTRODUCTION.

Soil, topographical and rainfall conditions on the coastal flats of British Guiana force the sugar planter to lay out his fields in beds which are separated from each other by open drains. The fields themselves are usually bounded on three sides by trenches in which flat-bottomed scows, or punts, are navigated for transporting cane, and on the fourth side by a somewhat smaller trench, usually 14 to 16 feet wide and about 6 feet deep, into which empty, directly or indirectly, the open drains which separate the beds within the field. The beds themselves are usually 36 to 37 feet wide, their length depending on the size and lay-out of the field. The drains between the beds are 2 to 4 feet deep, 1 foot wide at the bottom, and 2 to 4 feet wide at top. Over a considerable portion of the sugar area, however, the stiff and clayey nature of the soil apparently causes the lateral movement of soil water to be very slow and the drains under discussion are then chiefly useful for taking off surface water and for draining narrow strips at the sides of the beds which run parallel to them, for the middle portions of the beds often remain waterlogged for some time after heavy rains, although the drains, 18 feet away, may be almost empty.

On the other hand the digging and maintenance of drains add greatly to the cost of sugar production, and their presence is a hindrance to mechanical cultivation. The situation would be greatly improved if :—

(a) A satisfactory instrument could be found for digging the drains, or

(b) Some or all of the drains could be replaced by some system of covered drainage, or

(c) The present drainage system could be made to function more efficiently.

Up to the present no satisfactory instrument has been devised for digging drains under local conditions.

It is said that tile drainage has been tried more than once in the past and has never proved successful. Mole draining is now being tried on some estates in addition to the open drains. Mechanical difficulties have been overcome and a satisfactory drain can be made at intervals across the beds opening into the usual open drains. Such mole drains will probably facilitate the drainage of the central portion of the beds and will also enable water taken into the open drains in dry weather to find its way under the beds and so up to the cane roots by capillarity, a more satisfactory and cheaper system of irrigation than the general flooding of the field now practised.