CANE VARIETIES RESISTANT TO SALT LANDS

By F. S. EARLE, Agronomist, Central Aguirre

On both coasts of Porto Rico there are various tracts of land too salty to permit the growth of the ordinary sugar-cane varieties. In some cases heavy losses have been made in attempting to plant these lands. These salty tracts are more frequent on the dry, south coast, and here unfortunaly some tracts, formerly productive, have become salty owing to carelessly allowing irrigation water to stand and evaporate in low places. Some work is being undertaken to see if such lands can be reclaimed by proper banking and ditching. In this connection it becomes important to know which cane varieties have most resistance to salt and consequently which it will be safest to first plant on these lands. It had already been observed that Uba and Sealey's seedling showed rather more resistance than Crystalina, while Yellow Caledonia and Cavengirie were if anything more susceptible.

To test this matter farther, on September 20 ninety-three varieties were planted in small plots of about 20 seeds each on land so salty that a planting of Crystalina made last March had completely failed. The differences in the behavior of these different kinds is very interesting, although it is still too early to draw final conclusions. The usual effect of salt is to retard germination even where it does not prevent it. As was to be expected the germination was slow and uneven. After three weeks only 4 kinds showed as many as 20 shoots, 23 showed between 10 and 19 shoots, 27 kinds had 5 to 9 shoots, 34 kinds 1 to 4 shoots and 4 showed no germination. Some of those that germinated most promptly and uniformly soon began to turn yellow and fail. There are others, however, that continue to show good color and vigor. It is quite noticeable that a much larger percentage of these are found among the Demerara seedlings than among those from either Barbados or Porto Rico. There are 8 Demerara kinds in the experiment and all of them except D-433 are so far quite satisfactory. Of the 17 Barbados kinds only two or three are equally good, while of the 41 Porto Rican kinds only two or three are good while many are failing completely. This result was perhaps to be expected since the Demerara kinds were bred and selected on low, maritime lands protected from the sea by dikes where

the soil must of necessity be still somewhat salty. Naturally only those that can resist these conditions have been selected. The Barbados and Porto Rican kinds, on the contrary, have been bred on uplands and were selected with no reference to salt resistance.

Among those making the best showing at the present time may be mentioned Bamboo Blanca, Penang, Rosa Morada and Uba, among the older named kinds; and B–208, B–6536 and BH–10(12) among the Barbados kinds. Among the Demerara kinds D–117, D–448, D–504 and D–625 are best showing full stands and good vigor. D–109, D–350 and D–1135, have equally good shoots but the stand is broken. Among the Porto Rican seedlings PR–333, PR–460, PR–16(874), PR–18(153), and PR–18(171) still give some promise, but PR–202, PR–207, PR–260, PR–271, PR–328, PR–417 and PR–449 are already complete failures.

The final result of this experiment will be of great interest and considerable practical importance.