

the stalks, this figure was raised to 7.09, or 0.81 percent sugar yield higher, by analyzing the middle portion of the bottom four-foot cut, this being the portion then being sent to the sugar house.

On Feb. 28, the last thousand tons of cane was ground. Although frozen for over 75 days, the average yield of 96° sugar was 5.83 percent, a very remarkable showing of far-reaching importance to the local industry.

ABSENCE OF CERTAIN SUGAR HOUSE DIFFICULTIES

In spite of the fact that the major portion of the crop was frozen long before it had attained its maximum maturity, no difficulty was experienced in clarification or recovering sugar from the comparatively low grade of cane which arrived at the sugar house, even 75 days after being frozen. Walton and Fort (5) mention specifically the formation of mannite and dextran by sugarcane after being frozen in Louisiana. These materials, especially mannite, cause considerable difficulty in working the low-grade products, so that the mills have to be closed sooner than would be the case if such decomposition products were not formed. Acetic acid fermentation also becomes a factor of major importance in Louisiana when working with frozen cane. No trouble was experienced at all from these various causes in this region of Florida, even when the cane reached the sugar house 75 days after being frozen. Since the major amount of cane handled was P.O.J. 2725, the increased acidity in this variety after 60 days is of special interest. The average of over 80 separate analyses from middle joints of 1,044.9 acres was ~~0.1~~ cc. (0.1 N.NaOH per 10 cc. juice) immediately after the freeze on Dec. 12. Sixty days later, the analyses of the four-foot bottom cut being harvested from these same fields showed an average titration of only 1.76 cc., an acidity not at all abnormal for ordinary handling.

SUMMARY

1. Temperature and rainfall conditions during the crop season of 1934-1935 have been recorded and discussed in relation to the deterioration of sugarcane after freezing weather in the Everglades of Florida. The probability of such low temperatures occurring so early in December is shown to be about once in 50 or more years, judging from past experience.

2. The general deterioration curve for all varieties, and that for P.O.J. 2725 in particular, are given. The rather slow de-