

## GENERAL NOTES ON SOME OF THE NEWER VARIETIES UNDER TRIAL.

**Varieties Introduced from other Countries.**

During the year the only transfer that has been made from the quarantine glasshouse in Durban to the open at the Experiment Station has been the historically interesting variety Black Cheribon.

Introductions into the glasshouse, however, have been more numerous this year, and probably the most promising varieties of commercial interest will be the newer Coimbatore seedlings, and a variety from Puerto Rico.

Once more some varieties have had to be destroyed because of unsatisfactory behaviour, while two introductions have failed to germinate.

The following is a list of varieties which are under trial in quarantine stations outside the Experiment Station:—

*Indian Varieties.*

Co.270	} No further extension has taken place during the year of these varieties. Co.270 in some stations has been eradicated.
Co.355	
Co.419	
Co.331	} These varieties have been considered of sufficient merit to warrant further extension.
Co.426	
Co.432	
Co.413	} These varieties have been for the first time planted in outside quarantine plots.
Co.421	
H.M.609	
H.M.619	

*Canal Point Varieties.*

C.P.28/11	} No further extension has taken place. From some stations they have been eradicated during the year.
C.P.29/320	

*Java Varieties.*

P.O.J.2753	} These varieties have been planted outside the Experiment Station for the first time.
P.O.J.2883	

*Puerto Rico Varieties.*

M.P.R.3	} These have been further extended.
M.P.R.28	
M.P.R.49	
M.P.R.151	
P.R.809	
M.P.R.7	} No further extension has occurred. Eradication has been carried out at some stations.
M.P.R.42	
M.P.R.61	
M.P.R.63	
P.R.803	
F.C.915	

*Other Varieties.*

S.J.4	} No further extension has occurred. S.J.4 has been removed from one station.
B.H.10/12	

**Seedlings Raised at the Experiment Station.**

Several seedlings of a wild cane, Amu Darya, from Turkestan, have been raised, and have flowered and produced seed from which at the moment seedlings are being raised. This is a matter of considerable scientific interest, as previously no sugar cane introduced into Natal, so far as is known, has ever produced viable seed.

Extension into replicated plot trials has been carried out with seedlings from crosses of Mauritian origin, viz. 14 seedlings of the parentage Selangor Seedling  $\times$  M.196/31, and 7 of the parentage Selangor Seedling  $\times$  M.108/30.

Of seedlings from Indian seed, 414 individuals of the cross Co.421  $\times$  Co.312 have been replanted from the original stools into propagation lines.

Seed of three new crosses were received from Mauritius, but unfortunately two of them did not germinate, and of the third only eight plants have been obtained.

The search for new varieties of sugar cane suitable to Natal conditions may be summarised for the past year as follows:—

Introduced into the quarantine glasshouse... ..	11 varieties
Destroyed while under quarantine ...	4 varieties
Transferred from the quarantine glasshouse to the Experiment Station...	1 variety
Extended from the Experiment Station to outside quarantine and trial plots ... ..	6 varieties
Previously in outside quarantine plots and now being further extended ...	8 varieties
In outside quarantine, but not extended further ... ..	13 varieties
Total number of varieties in outside quarantine ... ..	27 varieties
Seedlings raised at the Experiment Station ... ..	8
Seedlings planted into propagation rows ... ..	414
Seedlings planted in replicated plot experiments... ..	21

The collection at the Experiment Station at present consists of 136 varieties, and the total number of seedlings in the fields is 743.

South African Sugar Association,  
Experiment Station,  
Mount Edgecombe,  
March, 1940.

The PRESIDENT expressed his interest in the recording of the early history of sugar cane in this country. The paper showed the work being undertaken at the Experiment Station.

Dr. HEDLEY said that this paper and that read by Mr. Dodds in 1938 ("The Revolution in Sugar Cane Varieties in South Africa") should dispose of the idea held by some people in the sugar industry that the milling companies could have introduced effectively new canes. Mr. Dodds' paper showed the necessity for long quarantine control and also continued examination as to sucrose content and suitability for commercial use of a very large number of varieties. Only about one variety in a thousand survive such study.

The paper just read showed the great number of canes previously introduced and every one of them have failed to survive, except Uba, to the present day, due, to some extent, to the absence of systematic investigation.

Mr. DODDS thought the early history of sugar sufficiently fascinating to be written down fully by someone. He referred to the very first milling test of cane in this country made by Mr. McKen, curator of the Botanical Gardens, Durban. He undertook some recovery tests out at the Morewood plantation. His tests were in May 1849, and his conclusions were that the canes were satisfactory, but rather unripe. It would appear that even in those early times the millers made the mistake of starting to crush too early. New varieties in this country, Mr. Dodds continued, had a very promising future. They had in Co.281 now, however, a variety which would be difficult to surpass for some time. The same applied to P.O.J.2725 at Umfolozi, though both these varieties may yet be improved upon.

Mr. MOBERLY expressed his interest in the historical aspect of sugar cane, and drew attention to the fact that in 1947 we would reach the centenary of this industry. He hoped something would be done to commemorate the occasion. When the International Society paid their visit to Queensland in 1935 a small obelisk, marking the first place where sugar was grown or milled, was unveiled. He had gone into the matter and roughly located at Compensation the earliest site where sugar cane was planted.

The PRESIDENT asked with respect to the importation of seed whether it was not possible to develop seed at Umfolozi or still further north?

Dr. McMARTIN replied that sugar cane in Africa did not produce viable pollen. The pollen was not fertile, either here in Natal or anywhere else on the continent. There was a point he would like to add, however, that just over a year ago the Experiment Station introduced a wild Siberian cane, a species of *Saccharum spontaneum*, which had been transported to the States. A few months ago this variety flowered and produced fertile pollen. Some seedlings were now being raised, the very first in this country. The value of this work, of course, was not in the variety itself, which was worthless, but in the possibilities for crossing with other varieties.

Mr. DODDS observed that he and Mr. Ladlau had inspected an excellent stand of this central Asian variety when in Washington two years ago. The frost-resisting powers of the *Amu Darya* cane was something quite unknown hitherto in sugar cane.

The PRESIDENT concluded by thanking Dr. McMARTIN for his hard work in preparing this paper. (Applause).