A NOTE ON SUGARCANE VARIETY AND INCIDENCE OF *NUMICIA VIRIDIS* MUIR (HOMOPTERA : TROPIDUCHIDAE).

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Investigation Methods

During 1966 and 1967 field trials in Swaziland and at Pongola were used to investigate various aspects of numicia populations in different varieties.

1. Swaziland.

The 9 varieties (listed in table 1) were in a trial of 10-month-old plant cane. There were 4 replications in a randomised block design. All stages of numicia were present and it was considered that any differential ability to survive and mature on certain varieties would be revealed, especially by egg and nymph population numbers. The hymenopterous egg parasites *Oligosita* sp. (Trichogrammatidae) and *Ootetrastichus ?beatus* Perkins (Eulophidae) were also present.

The trial was systematically sampled in March and again in May (samples 1 and 2 respectively in table 1) by the methods previously described (Carnegie, 1967).

Differences in nymph numbers were just significant at the 5% level, with highest numbers recorded in NCo 310, and lowest in N51/168. In sample 1, highly significant differences were found between the percentages of leaves with eggs, and between the numbers of unhatched eggs per plot.

2. Pongola.

In anticipation of a possible build-up of numicia populations within a variety trial at the Pongola Field Station, samples of egg-bearing leaves from the plant crop were taken periodically and forwarded to the Experiment Station for examination. Sampling was non-systematic, although 10 varieties (as listed in table 2) were sampled on each of 4 occasions.

Differences significant at the 5% level were found between the total numbers of eggs per leaf, and between numbers of unhatched eggs per leaf.

In neither locality were differences in parasite numbers significant.

Discussion

There was no striking and consistent evidence of any particular variety attracting or supporting larger numbers of numicia than the others.

It is interesting that in Sample 1 (Swaziland) a significant difference ($P < 0,05$) between nymph numbers was detected between varieties which included NCo 310 and NCo 376, the most popular varieties in S. Africa and Swaziland. (In the course of numicia surveys throughout cane-growing areas, incidence in NCo 376 was regularly slightly lower than in NCo 310 (Dick,1967)). Field personnel have often remarked that under apparently similar numicia infestations, the variety NCo 310 suffers more visibly than NCo 376; so possibly in such cases higher numbers are actually present in NCo 310.

In the Swaziland trial the only other categories in which significant differences were found, were the percentages of leaves with eggs, and the numbers of unhatched eggs per plot. Of these, the former might be considered as a reflection of numicia population; but, with the exception of N51/168, the rating was at variance with the number of nymphs per square metre.

With the exception of N50/211, which contained high numbers of unhatched eggs in both Sample 1 and Sample 2 (NS), varieties harbouring highest numbers in Sample 1, were among those having the lowest in Sample 2 (notably N53/216).

Significant differences were not detected in data from Sample 2, but the results did, if anything, tend to gainsay those in Sample 1.

Conclusion

Although significant differences in numicia numbers on different cane varieties were detected, they were inconsistent, and cannot be considered important.

Acknowledgement

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REFERENCES

1. **Carnegie, A.J.M.** (1967). Field populations of *Numicia viridis* Muir. *Proc. S. Afr. Sug. Technol. Ass.* 41 pp 178-180.
2. **Dick J.** (1967). Four years of numicia survey. *Proc. S. Afr. Sug. Technol. Ass.* 41 pp 181-183.

TABLE 1

Numicia and egg parasite populations in 9 sugarcane varieties : Swaziland.

	Category	Variety NCo 310	CB 38/22	CB 36/14	NCo 334	N 51/539	N 50/211	N 53/216	NCo 376	N 51/168	L.S.D. (0,05)
Sample 1.	nymphs per sq. m (1)	1,18	1,05	1,00	1,00	0,98	0,97	0,92	0,91	0,79	0,19
	% leaves with eggs	48,0	38,5	46,8	29,5	48,8	63,2	53,5	51,5	35,5	12,1
	eggs (unhatched) per plot	196,7	176,0	173,0	136,2	133,7	215,5	270,7	170,5	152,2	82,6
	eggs (total) per leaf	17,7	15,3	16,6	12,5	15,5	17,0	22,1	17,9	13,9	NS
	% eggs hatched	42,2	43,6	58,3	47,0	56,5	35,9	38,1	51,8	45,5	NS
	% viable eggs	55,9	56,6	47,4	64,8	45,9	42,8	68,4	47,0	78,6	NS
	O.beatus numbers (2)	7,4	5,9	9,0	7,4	6,7	11,8	5,8	10,3	3,7	NS
	Oligosita numbers (2)	1,2	0,9	0,8	0,4	0,8	1,5	0,1	0,7	0,8	NS
	% eggs degenerated	2,2	2,2	1,0	1,2	1,9	3,2	4,9	0,8	1,3	NS
Sample 2.	% leaves with eggs	43,2	54,3	39,0	49,5	48,5	47,0	62,3	63,0	44,5	NS
	eggs (unhatched) per plot	404,5	397,0	443,0	464,5	466,0	481,7	313,2	384,5	406,7	NS
	eggs (total) per leaf	23,6	23,3	23,7	25,9	25,5	25,7	20,9	20,7	23,3	NS
	% eggs hatched	15,3	14,2	7,1	11,4	8,7	6,3	25,8	7,1	13,9	NS
	% viable eggs	83,8	82,8	82,3	78,3	75,8	74,5	78,6	82,1	86,6	NS
	O.beatus numbers (2)	4,6	3,6	6,5	5,5	6,4	7,7	4,4	6,4	3,4	NS
	% eggs degenerated	1,1	2,9	1,0	4,0	4,1	1,4	1,3	0,6	1,2	NS
(1) log transformed data (2) total parasites x 100 / total eggs											

TABLE 2

Numicia and egg parasite populations in 10 sugarcane varieties : Pongola.

Category	Variety NCo 310	CB 38/22	CB 36/14	NCo 334	N 51/539	N 50/211	NCo 376	N 57/168	N 55/805	NCo 293	L.S.D. (0,05)
eggs (unhatched) per leaf	28,4	43,0	40,6	25,3	27,1	36,7	33,6	31,9	38,6	27,3	8,6
eggs (total) per leaf	49,7	57,5	66,9	44,1	42,0	47,8	51,9	44,4	61,2	46,5	14,4
O.beatus numbers (1)	0,8	0,8	1,5	0,9	1,2	2,1	1,7	1,1	0,9	0,6	NS
Oligosita numbers (1)	0,8	0,6	0,7	1,2	2,0	1,1	0,6	0,7	0,9	0,8	NS
(1) total parasites x 100 / total eggs											