SOUTH AFRICAN SUGAR INDUSTRY
AGRONOMISTS' ASSOCIATION

CODE: CANE LOSS 1/76
CAT.No.: 1849

TITLE: CANE LOSS IN THE FIELD

1. PARTICULARS OF PROJECT

THIS CROP: No crop	: JR Groom
REGION: North Coast Coastal	Inanda
DESIGN: Observational	: Natal Est LTD
Co-Operators: M Armstrong	Mt Edgecombe
Dalkeith Verulam	: C Lincoln
: Palmers (Canelands)	Bon Espoir Est LTD
: P Boulle	Upper Tongaat
Egolomi Est Maidstone	

2. **OBJECTIVES:**
To assess cane loss in the field left behind by cutters or stackers.

3. **MOTIVATION:**
It has not been established what percentage of cane is lost due to:- (a) poor recovery by cutters while stacking or
(b) cane lost due to topping too low

Method of sampling:
A survey was conducted on measured areas of a number of cane farms that had recently been cut and the cane taken to the mill.
Sampling was done on the path of operators and on cane windrowed that included whole sticks half sticks and spunzies.

4. **RESULTS:**
Table 1. Farm Egolomi Est. Maidstone (P Boulle)

Field (No.)	Area ha	Yield total (t)	Yield ± (t/ha)	Cane recovered ± (t)	± Percent loss
12A	15.0	1796	120	17	0.95
17F	6.7	581	87	8	1.38
14	17.0	1687	99	30	1.78
13E	17.3	2328	135	25	1.07
16 Part 2	3.4	365	107	12	3.29
20	11.3	1318	117	33	2.50
13D	8.4	1020	121	16	1.57
18 Part 19	21.4	1470	69	51	3.47
Mean	12.5	1321	106	24	1.82

Table 2. Natal Estates LTD. Mt Edgecombe sites

Estates	Fields	Yield ± (t/ha)	Trash Manage-ment	*Cane recovered ± (t)	± Percent loss
Blackburn	Laviorpierre	103.8	Burn	0.65	0.63
Estates	Wattles B	105.7	Trash	0.95	0.90
Buffelsdraai	Gullies	51.0	Burn	0.35	0.69
Estates	Toms	83.2	Trash	0.70	0.84
Cornubia	Bamboo A	90.5	Burn	1.06	1.17
Estates	Bamboo B	90.5	Trash	1.20	1.33
Effingham Est	Mtutu	80.8	Burn	0.49	0.61
Ottawa	Flanders B	72.0	Trash	0.44	0.61
Estates	200 A	118.9	Burn	0.58	0.49
Westbrooke	Wattles	86.6	Burn	0.50	0.58
Estates	Glen Anil	91.4	Trash	0.51	0.56
Saccharine Est	New Farm	63.9	Trash	0.65	1.02
Mean	Burn	88.6		0.61	0.69
	Trash	84.4		0.74	0.88

* Assuming one tenth of a hectare was used for sampling

Table 3. Palmers (Canelands)

Field (No.)	Area ha	Yield total (t)	Cane stalks surveyed					± Percent Cane loss
			Cane stalks			Area ha samp	Stalks 1000 ha	
			Whole	Half	Total			
45	9.0	1143	43	24	67	.040	1675	1.29
65	3.5	411	13	25	38	.286	133	0.10
66	5.5	516	41	54	95	.328	290	0.22
35	3.0	240	4	1	5	.044	114	0.09
36B	4.4	787	5	6	11	.007	1667	1.28
Mean		619.4	21.2	22.0	43.2		775.8	0.60

Table 4. M Armstrong Dalkeith-Verulam

Field (No.)	Area ha	Yield total (t)	Cane stalks surveyed					± Percent Cane loss
			Cane stalks			Area ha samp	Stalks 1000 ha	
			Whole	Half	Total			
6A	5.2	636	28	12	40	.058	694	0.53
8D	7.2	722	13	6	19	.432	880	0.68
8E	7.2	439	1	3	4	.009	463	0.36
805	-	-	7	10	17	.043	394	0.30
Mean		599	12.3	7.8	20.0		607.8	0.47

Table 5. C Lincoln Bon Espoir Est LTD Upper Tongaat and JR Groom Inanda

Co-Operators	Cane stalks surveyed					± Percent Cane loss
	Cane stalks			Area ha samp	Stalks 1000 ha	
	Whole	Half	Total			
C Lincoln	31	8	39	.024	1593	1.22
JR Groom	20	8	28	.058	486	0.37

Comments:
The survey was done on farms with different topography, slope transhipping and trash management system. Some farms burn the tops and trash and others graze their cattle on the green tops. Some farmers windrow (closest 5:1 to widest 11:1 lines.) Windrow materials consists mainly of tops, trash and mixtures of debris like mud and stones.

Egolomi Est uses the Funky Bell to load and stack, and stacks are side loaded. Cane was strewn along the road spilling at transhipment. ±1.82% almost 192t (out of 10500t) green cane is lost. see table 1

Natal Est recovery by cutters when stacking burnt cane is better ±0.69% than trashed cane ±0.88%. see table 2

Palmers (Canelands) almost all the sampling was done on windrowed cane. ±0.60% of cane lost in the field was sampled.

M Armstrong Dalkeith survey was conducted after flood and lost cane sticks were partially submerged.
±0.47% lost cane were sampled.

JR Groom Inanda ±0.37% cane stalks were sampled. Green tops are left to be grazed by the cattle.

C Lincoln TMS Mistbelt with 20 - 35% slope and almost on the edge of Coastal hinterland. Co-Operator averaging about ± 90t of cane per ha. Lost cane sampled ±1.22%. On a 22ha site average cane yield ±1980t of green cane about 24t of cane is lost per season.

On average the North Coast Coastal farmers are loosing about ± 0.86% green cane in the field. Contribution to the industrial pool which averages of about 2m tons per annum , ± 17286t of either "A" or "B" pool cane is lost in the field.

CONCLUSION:
Better management at cutting sites, training of cutters and stackers, loading and transhipping workers is an important step in reducing cane losses.