Ref No. 2147/57/38

P. O. Box 159,
ZANZIBAR
EAST AFRICA

2nd February, 1938.

Dear Mr. Cochran,

Very many thanks for your letter of January
4th. I must apologise for the delay in answering,
but we have just finished off a record clove crop.

- 2. In reply to the points you raise I have to reply as follows:-
 - (a) the data presented represent the only known yields of individual clove trees conducted for more than one year.
 - (b) the yields for five years for the individual trees are attached. Blank spaces in the plan sent with my original letter represent trees which have died during the course of the experiment and any individual yields from these trees in the first years of the experiment should be neglected.
- 3. From the attached individual tree yields you will appreciate the remark in para 2 of my original letter. It may be said that normally the production seems to have a five year cycle which includes one bumper, two average and two poor crops.

Trusting you have now all the information you require,

I am,

Yours sincerely,

DIRECTOR OF AGRICULTURE.

W. G. Gochran, Esq.,
Statistical Department,
Rothamsted Experimental Station,
RWRM/LP. Harpenden, Herts, England.

Yields in lbs. per tree of Green Cloves for the five seasons 1933-34 to 1937-38.

Plot K.B.C. Kizimbani.

Times	1925-04	1934-35	1985-86	1986-37	1987-38.		
No. of Tree.	1933-34	1934-35	1935-36	18.0 1936-37	87:82.0 1937-38. 106:25		
1	29.0	30,7		-	121.0		
1.	84.5	72.6		227	76.0		
2.	83.5	43.0	T	300	90.75		
3.	29.5	65.4	-	Four)			
4.	44.5	75.2	-	No.	96.5	1	
5.	50.5	55.0	24.0	খাটো	91.0		
6.	6.0	53.0		1308 17 10 (1)	50°		
7.	73.5	±24 Û	nizo	र्वेतः	nart.		
8.	59,5	68.5	mer.	tou L.O	66.8		
9.	48.0	9.0	=	8.0	89.5	-	
10.	28.5	82.5	Desi.		iods		
11.	21.0	60.4		4 <i>an</i>	un un		
12.	46.5	122.4	-	an)	ಚಾ		
13.	25.5	19.3	out.	var	200	1	
14.	32.5	64.2	cito.	21.0	171.25		
15.	61.5	48.0	15.0	20.0	68.75		
16.	16.0	56.5	2	-	114.5		
17.	28.0	114.2	-	2150	55.5		
18.	81.75	84.0	-		1-11-15		
19.	23.5	15.5	_	_	100		
20.	11.5	12.0	=	1.0	113.5 53.0		
81.	49.75	24.0	1.0	6.0	68.50		
22,	11.0	14.5	10K		111.25		
25.	48.5	6.0	yben	1.5	135.0		
24.	32.0	49.0	avel	-	99.5		
25.	36.5	52.3	évze	10.5	89.0		
26.	88.0	111.0	Webs	Kitor	154.0		
27.	58.5	58.5 16.1	an	(1927)	74.5		
28.	40.0	9.0	54,5	4.5 co	37.0		
29.	45.5	70.0	ma	and a	144,76	18	
30.	33.5	19.8 25.7	200	am	(a)	- 100	
	00.0	55.1			A STATE OF		

						3
, of free.	1933-34	1934-35	1935-36	1936-37	1937-38.	
	88.0	88.5	-	18.0	122.0	
31.	17.5	19.4			106.25	
32.	15.0	30.7	Page 1	100	121.0	
33.	29.0	31.0	-		80.0	
34.	65.5	21.0	-	2.0	77.95	
35.	82.5	30,6	-	8.0	44.50	
36.	45.0	24.5	-	I mart 1	96.5	
37.	20.0	51.1	in the second	1	109.0	
38.	70.0	65.0	nes .	7.0	56.5	
39.		53.0	-	-		
40.	45_0	12.0	-	-10	66.5	
41.	59,5	19,7	-	1.0	36.5	
42.	9.0	100.2	-	3.0	29.5	
43.	11.0	49.0		-	6.0	
44.	67.0	44.0	-	-	_	
45.	33.5	18.0	-	=	41.0	
46.	9.0	46.9	No.	-		
47.	5.0	72.4		-	00.5	
48.	16.0	51.8	and a		92.5	
49.	32.5	28,2	-	200	65.5	
50.	10.0	21.6	-			
51.	25.0	74.9	-	-	35.5	
52.	10.5	75.0	-	-	113.5	
53.	16.0	and the same of		+ -	87.25	
54.	21.0	26.9		-	99.0	
55.	35.5	1 1 1 1 1 1 1	-	1.5	135.0	
56.	79.0	450	-	(Fig	99.5	
57.	3,0	16 Earl 20	_	-	118,75	
58.	28.0	73.0	_	170 -	142.25	
	28.0		è	Physic -	205, 25	
59*	9.0	877.0		15.0	37.0	
60.	59.0	20.0		-	144,75	4
61.	43.0	19.3			47.25	-
62.	A STATE OF THE STA	19.6		- 409		

of ree. 1933-34 1934-35 1935-36 1936-37 1937-38 63. 17.5 78.0 - 66.5	
66.5	
64.	

I						
of Tree.	1933-34	1934-35	1935-36	1936-37	1937-38.	
95.	62.0	14.5	-	-	50.5	
96.	63.5	32.0	17.0	-	69.75	
97.	54.5	177,5	45.0	4.0+0	71.5	
98.	42.5	3.8	-	89.0	49.25	
99.	79.0	13.1		6.0	106.0	
100.	93.5	81.1	-	20.0	221.0	
101.	59.5	15.0	17.0	13.0	103.75	
102.	76.5	57.2	10.0	17.0	138.5	
103.	89.0	17.7	-	5.0	139.75	
104.	75.25	48.8	-94	1 10	106.25	
105.	30.5	82.7	-		105.5	3
106.	104.0	136.3	-	-	105.5	
107.	44.0	22.5	10.5	-	162.25	
108.	24.0	6.0	-	W. 0	169.0	
109.	89.0	207.0	8-5	37.0	97.5	
110.	48.0	25.3	-	14.0	40.0	
111.	63.0	58.7	-	-	71.5	
112.	24.0	26.0	-	5.0	57,25	
113.	100.5	15.3	-	-	W87.0	
114.	97.0	77.0	-	-	115,25	
115.	75.5	80.5	-	-	1.05 E	
116.	58.0	60.3	-	25.0	75.75	
117.	CT CT	13,0	-	-	80,25	
118.	57.5	58.0	I Torr	33.0	132.0	
119.	85.75	79.0	20.0	67.0	77.0	
120.	60.5	41.5		-	117.25	
121.	86.5	40.0	13.5	27.5	132.0	
122.	77.5	62.6	7.5	34.0	124.5	
123.	40.5	42.2		9.0	117.0	
124.	66.5	81.4	-	9	128.75	
125.	6.5	20.0	1	-	128.0	
	I w			1	1-	1 305
				11		

ree.	1933-34	1934-35	1935–36	1936-37	1937-38.	
126.	20.5	45.0	-1	27.2	0.5	
127.	37.5	12.1		-	83.0	
128.	74.5	17.5	45.0	40.0	50.0	
129.	39.0	24.5	70	39.0	93.5	
130.	45.0	104.4	7.	6.0	88.5	
131.	5.5	30.5	Tes_	2	33.0	
132.	75.0	18.0	17,0	- E	86.25	
133.	34.0	3.0	10.0	2	68.5	
134.	77.0	185.0	700	2 -	88.75	
135.	30.0	56,0	- m	. =	68.5	
136.	52.5	57.0		=	82.5	
137.	57.0	22.4	Tkar <u>-</u>	=	104.5	
138.	24,5	25.6	10.5	-3-1	55.75	H I
139.	86.5	45.7		8.0	169.0	
140.	52.0	20.0	8.5	31.0	51.0	
141. V	14.0	41.0		14.0	113.5	
142.	28.0	62.0	-	=	69.75	
143.	27.0	35.7	-	2	66.5	- 71
144.	12.5	9.0	_	=	73.0	
145.	42.0	110.0	_	=	112.25	
146.	54.0	40.0	_	7-	109.5	
147.	58.5	55.1	-	1.0	79.75	
148.	23.0	13.0	-	=	80.25	
149.	13.0	¹⁵ 36.0		-	55.0	
150.	19.5	2.0	_	-	46.0	
151. 🗸	20.0	68 3 5	P	-	44.0	
152.	37.5	69.0	=_	-	97.0	N
153.	35.0	35,5		8.0	78.0	
154.	12.0	21.0	140	141	42.25	
155.	21.5	66 . 6			87.0	
156.	4.5	26.0	17 Ban	A100	66.6	
188.	100	26-2	-	-	-	1 188

		1		L	-			-			-
	of ree.	1933-3	34	1934-35		1935-36	Į.	1936-57	1937-38,	3	
157	7.	84.8	1	100			1	1936 - 37	1937-38.		-
158			1	19,4	1	Neg		97.0	98,78		-
159		22.5		72.4	1	-	The Boll page		0.5		
160.		48.5	1	21.7	The state of the s	-	-		164.0		
161.		28.0	b	64.7		040		5.0	53.075		
162.	1	60.0	The Colonia	6.0	C C	-		5.0	30.75		
163.	4	62.0	1	35.5	April 1	_	AL LINE		72.75		
164.		11.0	1	36.3					76.5		
165.		3,0		55.2				1	50.0		
166.	100	82.5	1 3	125.0		-	7	Dec.	72.75		
167.	-	50.5		209.5	1	- /			95.5		
168.	1	2000		88,5	1 1 1	-1	4	+ 1	185.5	1- 435	
169.	1	All Lands		4.00 A	100	- 3		-	6140		
170.		-		49.3	100	- 1				6 6	
171.	Ŋ.	17.0		26.0	1	Otony		*	64.0		
172.	No.	12.0	- 3	20.0	1	-		2	43.0		
173.	1	54.25	8	35.9	123	-			76.5		
174.	19 75	2.5	81	6.1	1	H.	-	9	5.0		
175.		2.5	87,	7.9	-	A.V		174	4.02.25	1	
176.		2.5		9	1-		ned One	82	2.75		
177.		3. O		» 4.	1	1	COM These	93	.75		
178.	65	. 0	65.	035.0	1-	**		98,	.5,4,0		
179.			48.	18.	-	mr.	1009	128.	5,57,5		
180.		- 38 kg		4	-	TVI NO.		55,	055.5		
181.	- 4		154,8			7.3	Nage .	51.	5		
182.	ಾರ, ∖	0 24 6	58.5	5	-	*		180.7	75.2.7		
183.	19.5		68,8	3		47		102.0		-	
184.	19.5			124 R				110.0			
185.	16.0 35.5			38.5 8.1 3	-			105.0			
186.			8,5	-	1	1	a,		2024.0		
187.	21.5		2.0	20 0				59.0	Say 1		
188.	4.5	26	0.0	-	200			87.0	104 - Y-X		
		100	S. P.	2				65.5			
		- BOSTON		THE PERSON OF	Savija Savija	Juna					

	-					
ee		1933-34	1934-35	1935-36	1936-37	1937-38.
189.		84.5	19.4	7530	27.5	88.75° • B
190.	81 ₀	16.5	61.9	Compa)	21.0	65.085.0
191.	88.	28.5		750		95.526.5
192,	22.	31.5	58.6		1	. I was a
193.	184.	36.5	37.0		(D)	72.75
194.	\$5 a	51.0	51.5	cms	(SE)	92.25 71.75
195.	7	63.5	168.0 40.0	End:		
196.	1	6.0	82.5		entra .	100.5 54.0
197.	1	61.0	105.7	Office	-	138.75
198.	V	25.0	61.5	Const	Omes	98.25
199.	1	79.5	83.6	(40)	(70%)	106.00
200.	1	34.0	45.0	(संस्कृत		61.0
201.	7	36.5	75.5	2799		93.75
202.		85.0	120.6		1.0	175.0
203.	2	10.0	69.7	we.	-	74.75
204.	1	69.5	121.4	artas	2,5	47.5
205.	~	22.0	87.8	scales)	No.	85.5
206.		76.0	25.1		- 40	72.25
207,		29.5	91.0	au	taa:	99.75
208.	*	42.0	90.5	ran .	<i>\$20</i>	90.5 118 0
209.	Y	16.0	35.0 50	au a	Anto:	- 54.0 55 75
210.	4	32.0	56.7	4900	7	0 47.5 118,85
211.	V	31.0	14.5	en ar		56.5
312.	4	16.0	5 - 83+	7.0	con	- 5.5 28 20
213.	3	24.5	67.2	1202		82.75
314.	V.	41.0	76.8	0 0	es 60	77.5
215.	*	51.0	124.8	· • • • • • • • • • • • • • • • • • • •	as	139.0
16.	×.	85.0	38.5	derica)	- a.	70.75
17.	X.	30.5	84.3	C-0	0.25	123.5
18.	7	27.5	72.9	dans:	M =	90.75
19.	No.	35.0	47.9	8 =	oue:	66.5
20°	Y	61.0	84.9	gira)	(see	86.0
A HOUSE		OWNERS NAME		- Alberta	- Carlotte Company	acceptation of the second

o. of Tree.	1933-34	1934-35	1935-36	1936-37	1937-38.
221.	20.0	88.2	7	5.0	117.5
222.	51,5	80.6	a- 1	1.0	85 。 0
223.	45.0	66.5	<u>-</u>	6.0	126.5
224.	55.5	96,9	52	41.5	90.5
225.	49.5	122.0	2-	S+0	131.75
226.	55.0	154.6	2 -	-,-	157.75
227.	37.0	40.8			67 a C
228.	49.5	61,4			106.5
229.	48.0	77.0	=-		83.5
230.	38.0	99.5	13-	8.0	151.75
231.	77.5	131,5	ii -		97.75
232.	64.0	71.9	-1 -1		82.5
233.	19.5	598.0	ia -		118.5
234.	252.5	47.0	2 0 0 0		113.75
235. 🔻	40.0	79.#	_		100.25
236. Y	81.0	126.5	-		119.5
237.	89.0	26. =	-	- W	89.5
238.	65.0	132.4	C	40.0	182.0
239.	8,5	13,0	6=0=	B _v C	80.0
240.	30.5	583.0	<u>-</u>	100	118.0
241.	33.0	50.0	-	ANI TO	68,75
242.	21.0	56.8	-	7.0	118.25
243.	64.0	55.4	-	5.0	95,75
2244,	330.5	487.7	-		136.25
245.	56.0	103.0	-	wer were	115.0
246.	28,5	184.0	- 1	9.0	171.0
247.	67.5	88.5	_	1.0	106.5
248,	48.5-	14,3-	-	"a-	49.0
249.	72.5	173.7	-		93,5
250.	56.0	2553.1	-	7	104.25
251. v	37.5	96,8		13.5	100,25
8-	243	1 3 1		-	

of Tree.	1933-34	1934-35	1935-36		1936-37	1937-38.	
252.	51.5	38.0	-		3,0	84.5	
253.	115.0	144.2	1		1.0	150.0	For (action)
254.	-	-	1 =			5*0	ADA
255.	95.0	135.6	1 =	-	100	114.75	
256.	35.5	23.4			Othe	128.0	
257.	33.0	52.0				97.75	
258.	29.0	48.6	1 -			82.75	
259.	45.5	61.0	=			87.25	
260.	55.0	57.2	=		00'	116.5	
261.	28.0	54,0	-	appropriate and a second	18,5	87.25	
262.	22.0	115.0	2		- 4	155.25	
263.	22.0	94.0	=		1000	87.5	
264.	11.5	53.0	=			44.0	
265.	58.0	88.8	2			61.25	
266.	41.0	79.3	200		-	100.25	
267.	80.5	87.4	=			145.75	
268.	29.0	26.1	12			89.5	
269.	49.0	15.4	-		2.0	44.25	
270.	37.0	13.0	6.0		8.0	47.25	
271.	38.0	52.9	-		- 1	64.5	
272.	86.0	51.0	=		*-	121.25	
273.	67.5	96.6	=			88.0	
274.	7.0	99.0	_		_	55.75	
275.	36.5	48.8	-		- 1	36.0	
276.	52.0	165.5	-	dia a	-	121.25	
277.	13.5	103.4	Fr.	OTENED APP	-	66.0	1
278.	31.0	69.4	_			143.75	
279.	42.5	14.3	_		-	49.0	
280.	24.5	63.0	244		5- V	52.5	
281.	-	25.0	=		_		
282.	71.0	84.7	-		_	78.0	
14,	8.0	- 1	-			10.0	

	1			No. of		THE RESERVE TO THE RE
of ree.	1933-34	1934-35	1935-36	1936-37	1937-38.	
Comment of the Commen		28.0		_	47.75	
283.		AAP TO THE PERSON NAMED IN COLUMN TO			86.0	
284.	29.0	67.3	-	mo - 1	3.0	
285.	10 700	104.3	w.	(400)	96.5	
286.	82.0		-		111.75	
287.	33.5	81.7			10.	
288.	11.5	9.5			29.5	
289.		29.0		1.0	95.75	o in the state of
290.	27.0	73.1	-		133.0	1000
291.	15.0	49.7	-	-	38.25	The same of the sa
292.	80.0	148.2	=	13.5	154.0	
293.	100 <u>+</u> 0	17,0		-	4.0	
294.		80.7	T. I.	-	-	
295.	- C C C C C C C C.	100-4	-	L Un		
296.	19.0	108.3	-	-	164.75	
297.	-	16.0	- Ton		78.5	
298.	33.0	76.0	-	-	78.75	D. 4 4 7.8 7
299,	59.0	60.6	-	-	157.75	
300.	75.0	101.9	-	-	125.0	
301.	8.5	96.6	=	-	141.0	
302.	_	60.0	-	-	-	
303.	- E	70.40	-	-	-	
304.		87.0	_	-	-	
305.	4	68.5	-		-	
306.	10.0	54.9	_	100	79.0	1
307.	81.0	33.1	-	-	158.0	1.
308.	470	72.0	-	81.0	141.5	
309.	18,0	110.8	-	37.0	67,0	
300	-	59.0	-	_	60.0	
310.	20.0	62.0		2		
311.	20.0	65,6		- 400	435	
312.	100	F.C. O.	1	-	UCM.	
313.	The state of	56.0	1		TIME.	
314.	8.0	-				
				-	The second secon	

T	1	The second second	-			(Commence of the last of the l
o. of Tree.	1933-34	1934-35	1935-36	1936-37	1937-38.	
	1933-34 - 26.5 - 11.0 37.5 38.5 5.0 25.0 4.0 97.0	1934-35 44.0 93.0 49.1 31.0 17.7 13.0 67.0 31.0 17.0 80.7 100.4 12.0 34.0 50.8 15.5	1935-36	1936-37		
332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 343. 3345.	13.5 56.5 24.0 10.0 21.0 4.0 55.0	57.0 70.0 65.6 11.7 32.0 64.0 45.5 35.1 45.0		81.0	54.0 - - 152.0 48.5 67.0 80.0 41.5	

	N. San		the same of the same of		
1933-34	1934–35	1935-36	1936-37	1937-38.	
-		-			
31-0	103.4	-	_	1	
9.0	95•0	_	_		
	72.0	-	_	134.5	
_	68.5	_	_	130.5	
/*	1 100.00	_		-	
- 1	_ 1	-	-		
1			-		
6.5	6.0	-		34.0	1000
25.0	53.8	-	-	1	THE Y
	36.0	-		7	
13.5	27.0	-			TA CADE OF
37.5	31.0	-	1.0	127.75	
× - 1	-	**	-	160 0	
19.0	102.0	-		-	
18.5	67.0	-		136.0	
23.0	58.8	-	- 1	154.25	
21.5	35.0	-	-	22.5	
-		-	-	15.0	
-	-	- 1	-	-	1
6.0	47.0	_	- 1		
- 1		No.			
38.5	66.0	-		144.75	
78.5	157.4		- 1	238.0	
26.5	80.5			-	
-	46.75			148.75	
-	12.0	-	1 - 1	48.0	
14.0	107.0	-		110.0	
5.0	60.0	-	- 1	79.0	
9.0		-	-	51.0	on the
29.0	64.8	-	-	137.5	
	2	- X	**		
	31.0 9.0 9.0 - 6.5 25.0 - 13.5 37.5 - 19.0 18.5 23.0 21.5 - 6.0 - 38.5 78.5 26.5	31.0 103.4 9.0 95.0 - 72.0 - 68.5 	31.0 103.4 - 9.0 95.0 - 72.0 - 68.5 6.5 6.0 - 73.8 - 75 31.0 - 73.0 58.8 - 75 - 75 5 50 66.0 - 78.5 157.4 - 26.5 80.5 - 46.75 - 12.0 - 14.0 107.0 - 5.0 60.0 - 9.0 15.3 - 29.0 64.8 - 20.0 - 15.3 - 29.0 64.8 - 20.0 - 15.3 - 29.0 64.8 - 20.0 -	31.0 103.4	31.0 103.4 -<

No. of Tree.	1933-34	1934-35	1935-36	1936-37	1937-38.	
377.	80	35.9		1 1 1	17,75	
378.	11.0	72.0	-	_	70.0	
379.	50.0	20.9	A1054		15.0	
380.	23.0	77.0	544		Tel	1, 3 3 3 3
381.	28.0	46.3	1	_= -	100	
382.	22.0	40.0	_	_=	4715	
383.	121.0	21.0			77.5	
384.	51.0	33.3	_#		4.0	
385.	15.0	48.5		- 4	61.5	
386.	520,5	43.0		1.0	87,25	
387.	26.0	38.7		7 -	117_0	
388.	35.5	63.5	1-5	1 2	82.0	
389.	5.0	8.0			22.5	
390.	20,5	10.0			169.0	
391.	LEO 1	46.1	_=		21.5	
392.	11.0	68.3	1/4-0		124.5	
393.	21.5	64.0		4 -0	118.0	
394.	38.0	13.1	-41	_=	141.75	
395.	4-1	19.0	20		50.0	
396.	-	5.0	-×	3 - × 1	1	
397.	69.5	108.1	11.0	-	1 101×0	
398.	35.5	59.0	46.0	25.0	82.5	
399.	27.5	35.0		4.0	125.0	The state of
400.	46.5	45.9			138.5	
401.	13.0	24.4		2.40	77.5	
402.	440	22.0			7.6	
403.	86.5	41.5		25.0	105.5	
404.	45.0	B ₄ 0		4 4	51.0	A Care
405.	33.5	73.1			120.25	
406.	5.0	89.8			90,0	
5 407.	12.5	2,5			74.0	