

(2)

- AFIS (Advanced Fiber Information System)(4) -

4 AFIS

4.1

AFIS Nep 6

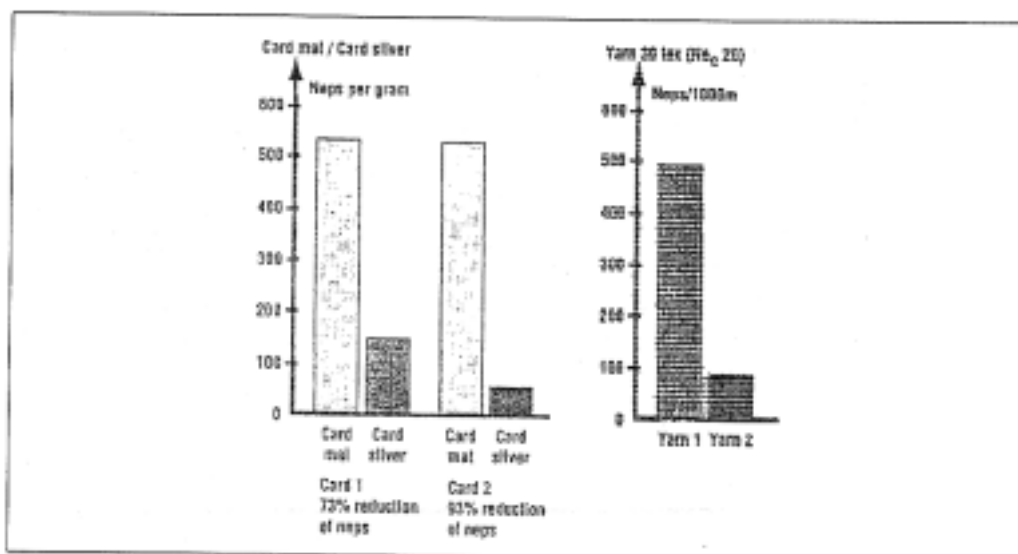
. 2 ,

,

가 , 가 . 2

, , Ne 20 ,

< 4.1>.



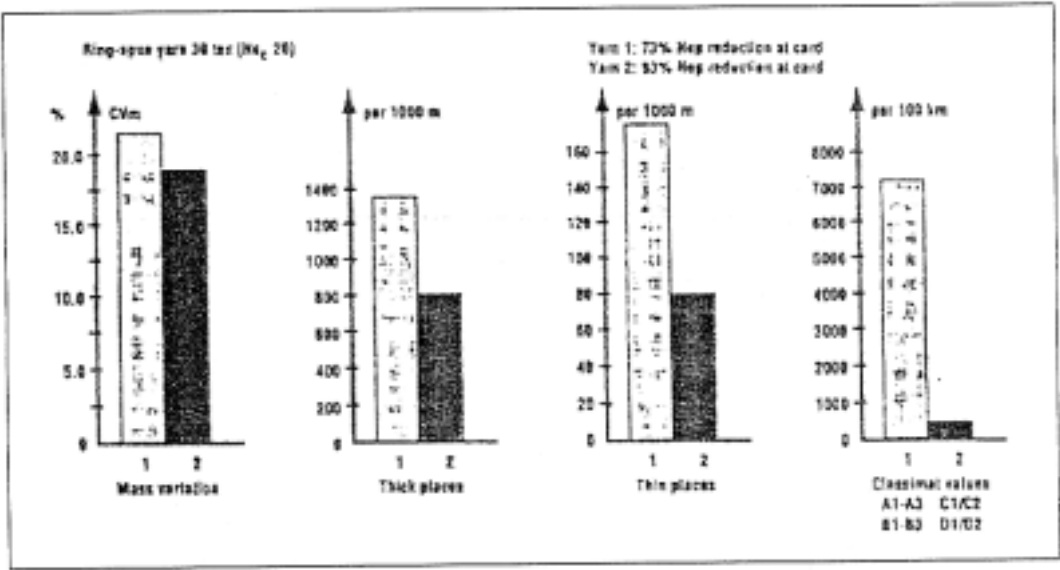
< 4.1>

Uster

< 4.2>.

가

(white speck)



< 4.2>

4.2

AFIS

가 . 2

가 , 35

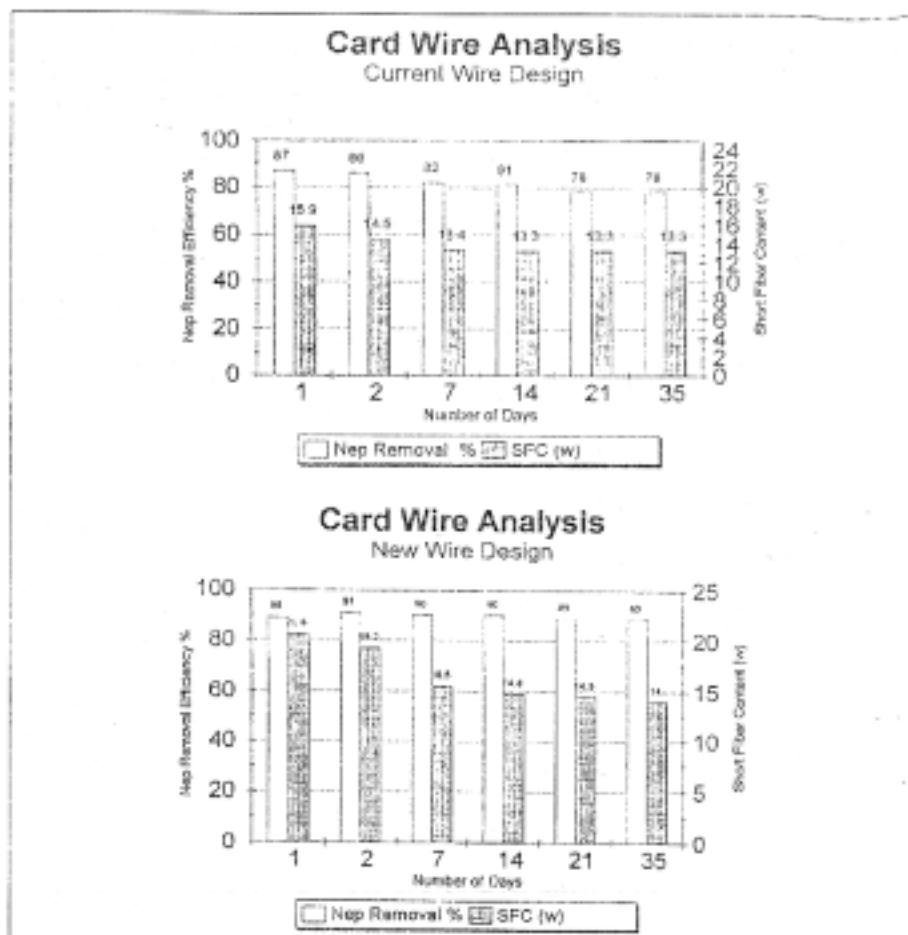
80%

10%

14%

13.3%

< 4.3>.

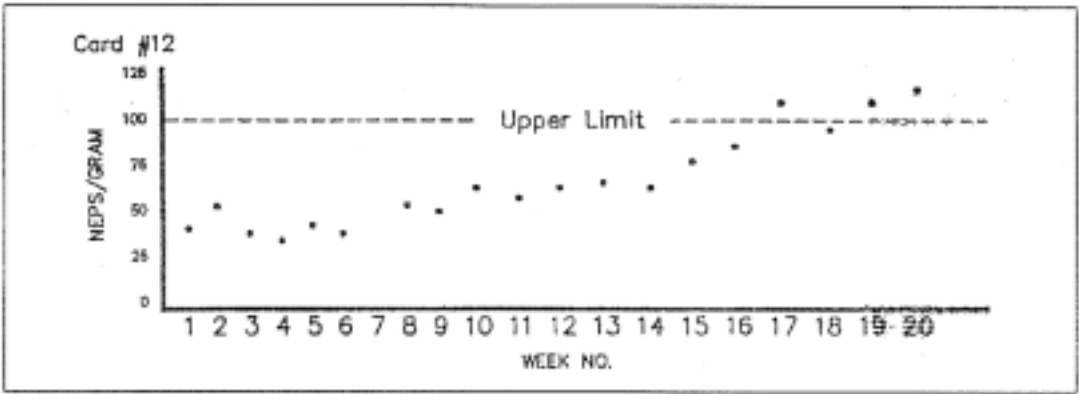


< 4.3> 가

< 4.4>.

,

.



< 4.4>

4.3

4.3.1

가 가 .

USTER TESTER 3(UT3)

.

.

가 가 CV% 가

.

45~80kg/hr, 가 24

1,088kg 가 . ,

가

가 , 가

, .

가 . 가

.

AFIS .

.

,

.

4.3.2

가 .

가 .

가 , , AFIS

가 .

. AFIS

. < 4.5>

가 , 가

.

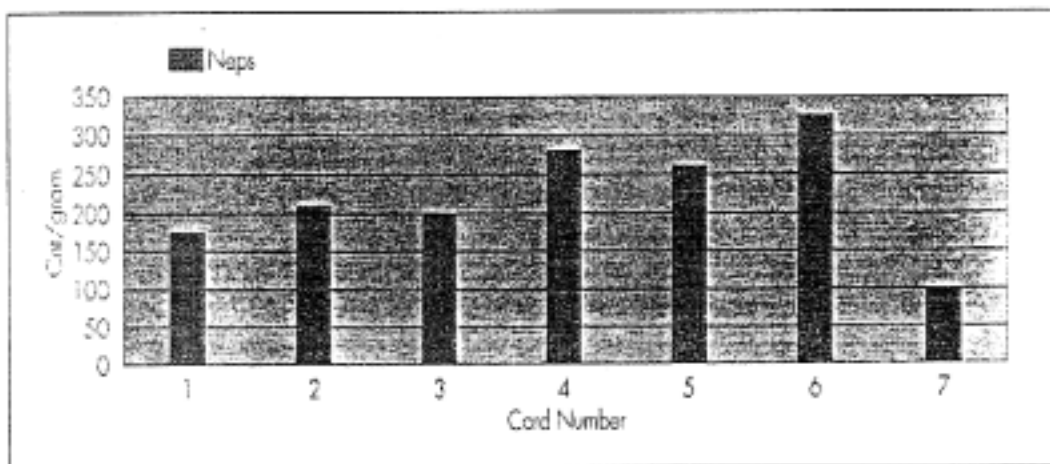
(saw ginned)

American Upland

.

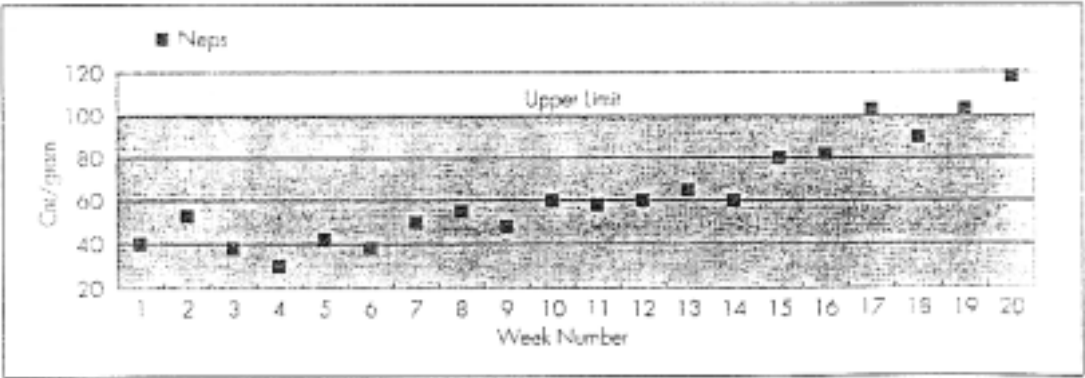
< 4.1>

.	6	225,000kg
.	1	450,000kg
.	6	225,000kg
.	6	225,000kg
.	3	125,000kg



< 4.5>

< 4.6>



< 4.6>

가

< 4.6>

AFIS , 가

.
 ,
 .
 .
 ,
 ,
 USTER
 UT3 USTER .
 .

4.3.3

가
 . AFIS , 4~6
 가
 .
 가 가
 (/) ,
 (Nep removal efficiency) .

$$(\%) = \frac{\quad - \quad}{\quad} \times 100$$

•

,

•

.

가

•

•

AFIS

•

900,000kg

•

3

가

•

•

< 4.2>

	/		
30	30	\$ 2,500	\$ 75,000
	/		
30	60	\$ 250	\$ 15,000
			\$ 90,000

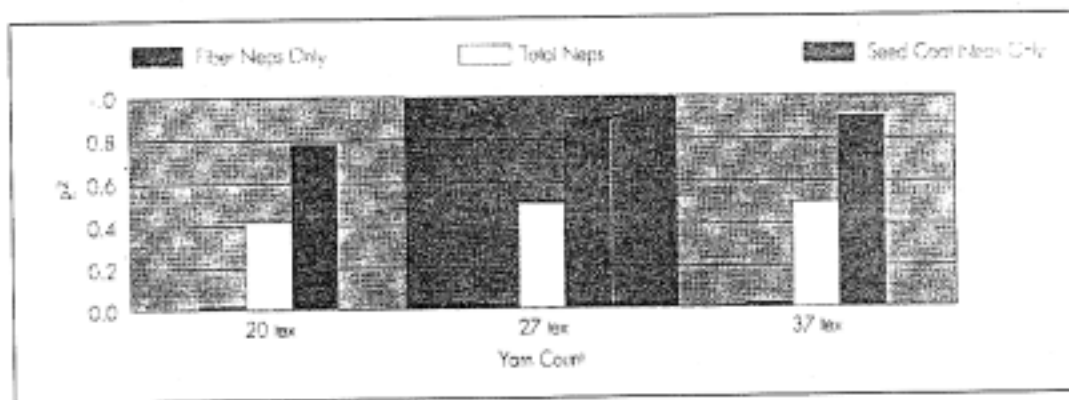
< 4.3>		AFIS	
/			
30	18	\$ 2,500	\$ 45,000
/			
30	21	\$ 250	\$ 5,250
			\$ 50,250

4.4

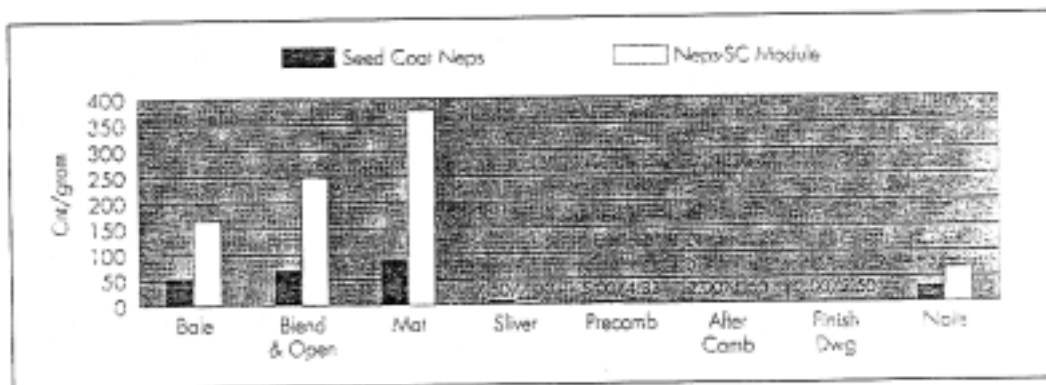
) , 가 가
가 .

< 4.8>

, 가 .



< 4.7> , , UT3 +200%



< 4.8>

< 4.9>

. 500 μ m 2,200 μ m

70

가

가 ,

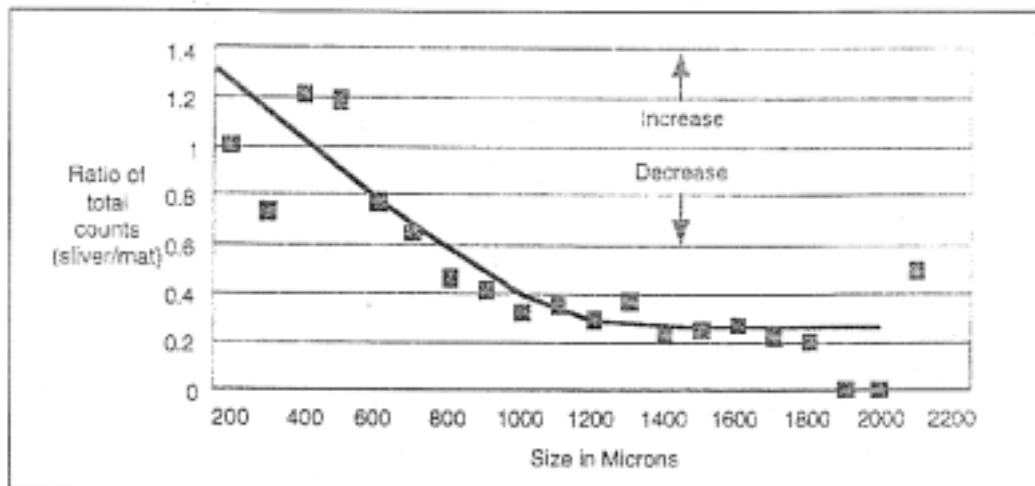
가

가

가

가

,



< 4.9>

4.5 , ,

(saw and roller

ginned cotton)

9

4.3ktex

() ,

가

가

USTER HVI 900 Upland Cotton Pima Cotton 97†

< 4.4>.

< 4.4> HVI

	%Area	Cnt	Len(in)	Un(%)	SFI	Str (g/tex)	El(%)	Mic	Rd	+b
1	0.5	44	1.11	83.3	6.6	32.8	5.7	4.3	75.3	8.7
2	0.7	55	1.13	82.8	7.0	32.3	6.3	3.8	76.2	7.8
3	0.2	19	1.13	84.0	5.5	30.5	6.7	4.5	79.7	7.9
4	0.4	36	1.12	83.5	6.3	32.6	5.4	5.1	75.1	8.9
5	0.8	52	1.07	80.9	10.1	24.4	5.4	4.9	59.5	10.8
6	0.8	64	1.03	79.8	11.9	25.1	7.5	2.8	77.5	8.3
7	0.6	43	1.08	81.6	9.1	25.7	5.1	4.9	64.2	10.0
8	1.0	62	1.06	81.3	9.7	27.5	8.0	3.1	78.7	7.6
9	1.1	87	1.06	78.4	13.3	23.3	7.5	2.7	67.1	8.7

< 4.5>

	(in)	rpm	(in/min)	(lb/hr)	(ktex)	() (in)
	0.01	365	9.75	70	4.3 ± 1	0.020/0.025
A	0.008	365	9.75	70	4.3 ± 1	0.020/0.025
B	0.008	365	9.75	100	4.3 ± 1	0.020/0.025
C	0.008	365	5.00	100	4.3 ± 1	0.020/0.025
D	0.010	365	5.00	100	4.3 ± 1	0.020/0.025
E	0.010	365	5.00	70	4.3 ± 1	0.020/0.025
F	0.008	450	6.20	100	4.3 ± 1	0.012/0.015
G	0.008	365	9.75	100	4.3 ± 1	0.012/0.015
H	0.008	365	9.75	100	4.3 ± 1	0.020/0.025

2.7~5.1, 23.3~32.8(g/tex), 1.03~1.13 "

, 100(lb/hr), 120(lb/hr) 가

, 5(in/min), 9.75(in/min) ,

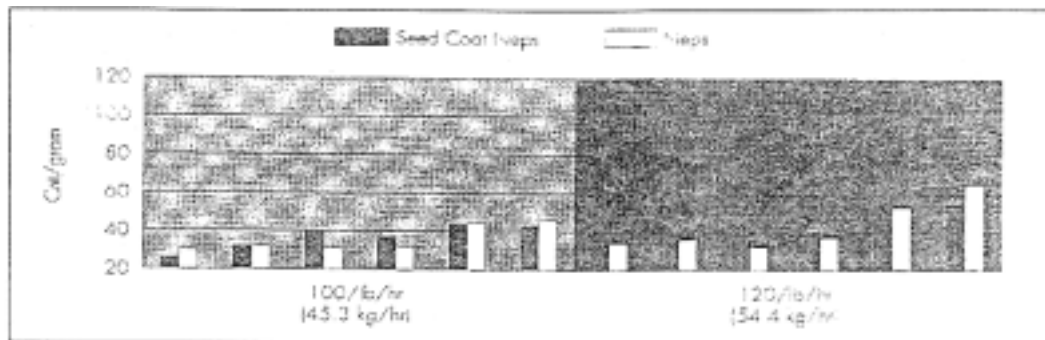
가 0.008 " , 0.01 " 0.014 " 가

4.3ktex < 4.5>.

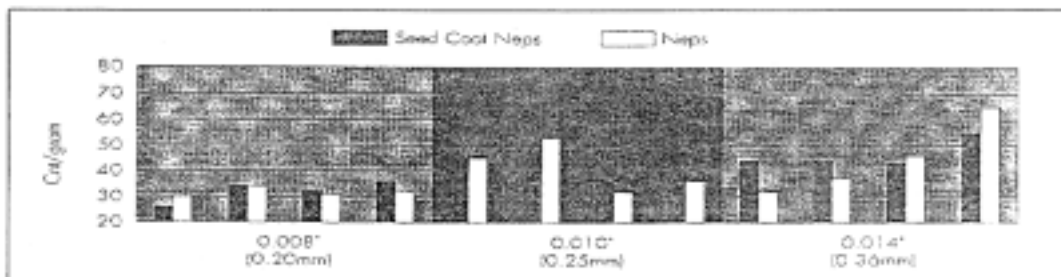
<

4.10>~< 4.12> (lb/hr, kg/hr),

3가 가

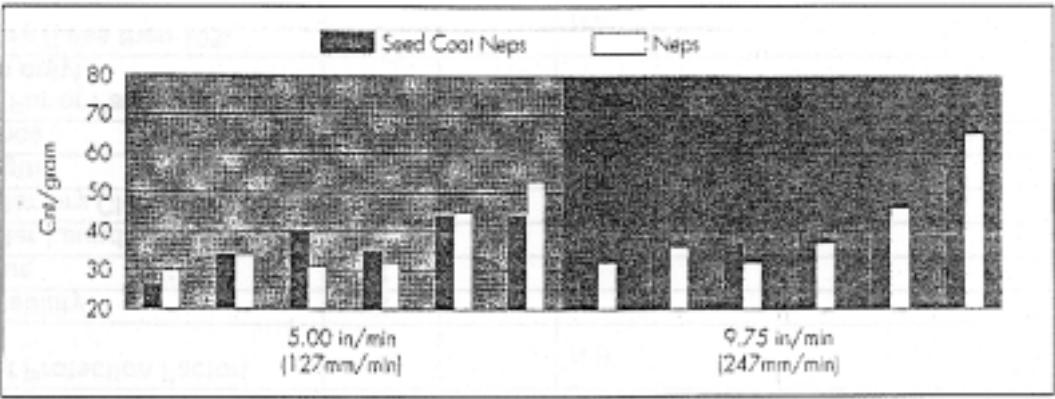


< 4.10>



< 4.11>

가



< 4.12> 가

9
44~86% < 4.6> ,

< 4.6> AFIS

	1				
	/				
	(/)				
1	69	75	72	40	44
2	64	76	81	44	45
3	36	44	51	20	61
4	62	50	72	22	69
5	38	57	77	11	86
6	63	56	65	28	57
7	46	68	65	16	75
8	46	57	55	15	73
9	40	42	44	10	77

4.6

가

가

가

A :

- (0.008 " (0.2mm)
- 5in/min(127mm/min)
- 100lb/hr(45.3kg/hr)

B :

- 0.014 " (0.36mm)
- 9.75in/min(247mm/min)
- 120lb/hr(54.4kg/hr)

A,B 9 3가 (Ne10, 22, 30)

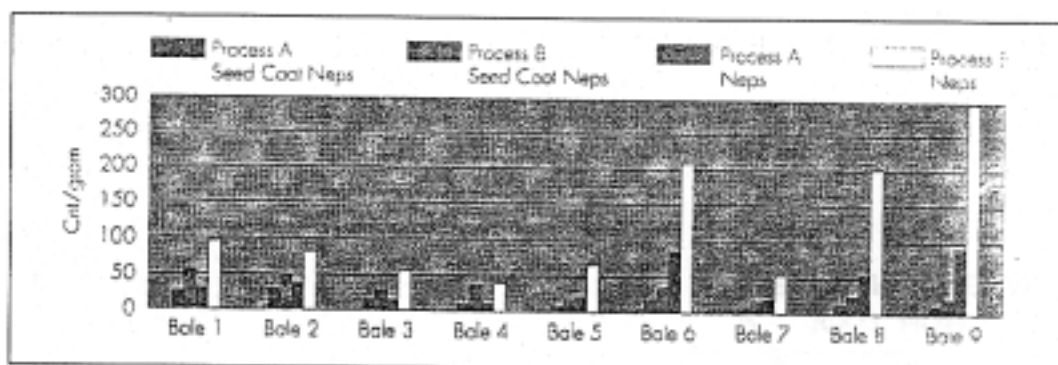
3가 (Ne10,22,30) , USTER

EVENESS TESTER 3(UT3) USTER TENSORAPID

< 4.13> 2가

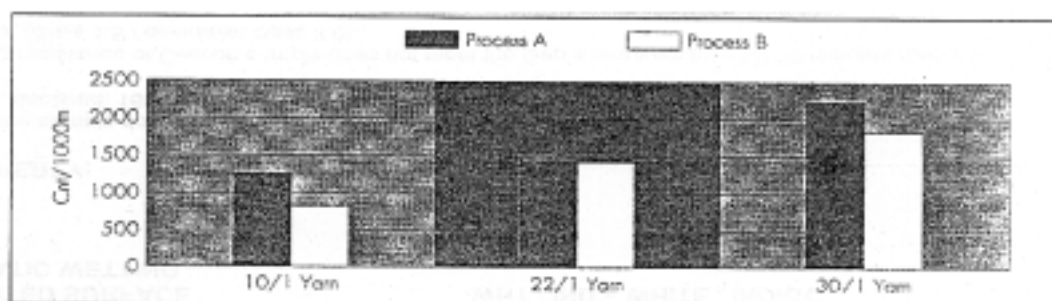
65%

50%

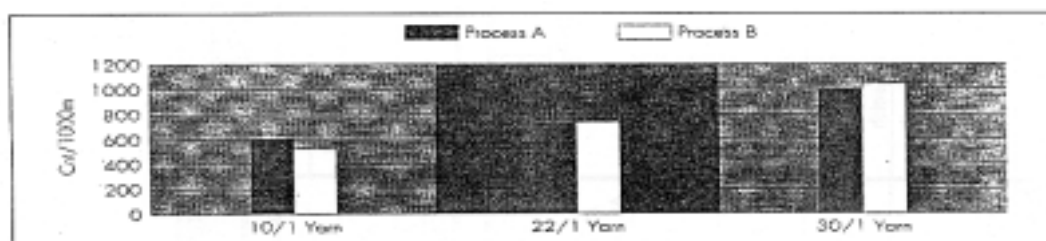


< 4.13>

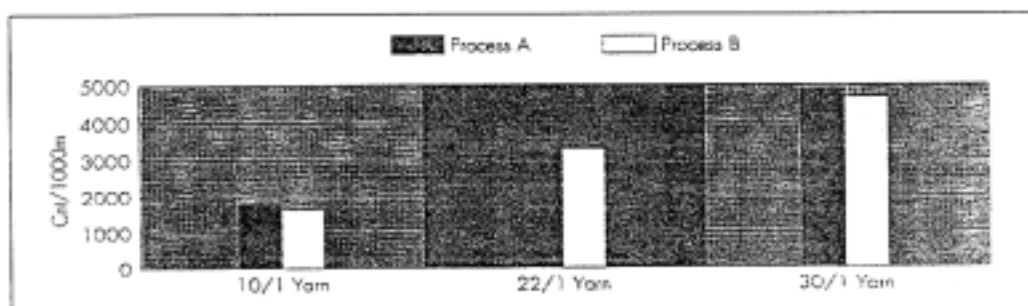
(4.15 e) 2가 가
 , (4.14 e) 가 .
 < 4.15 f> A 가
 ,
 . A (ASTM) ,



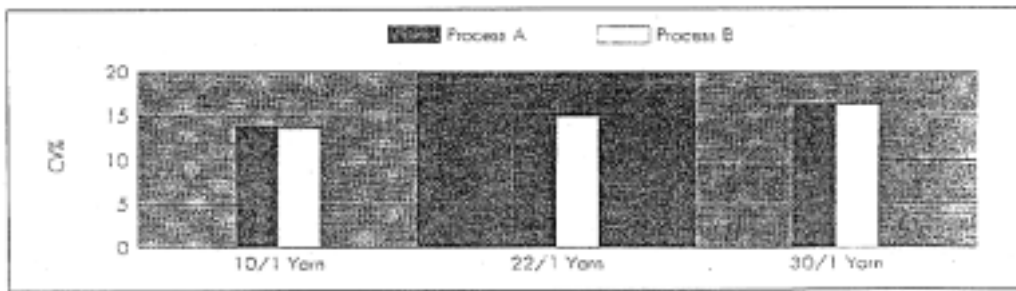
< 4.14 a> (+140%)



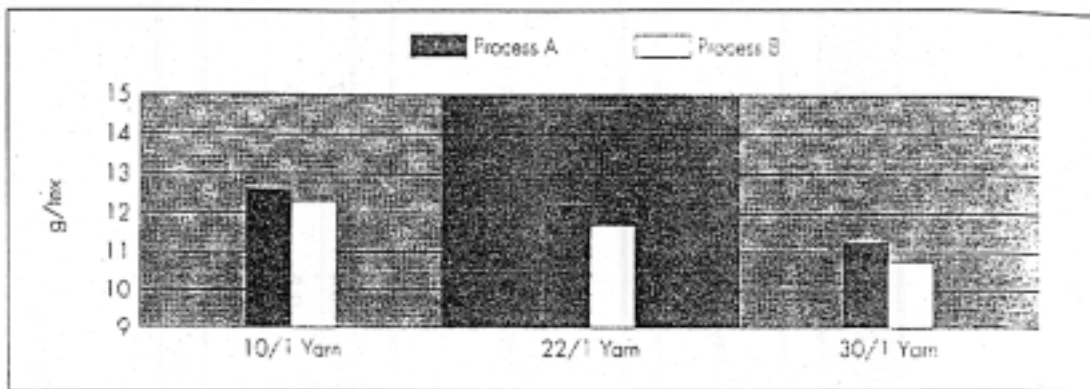
< 4.14 b> (+35%)



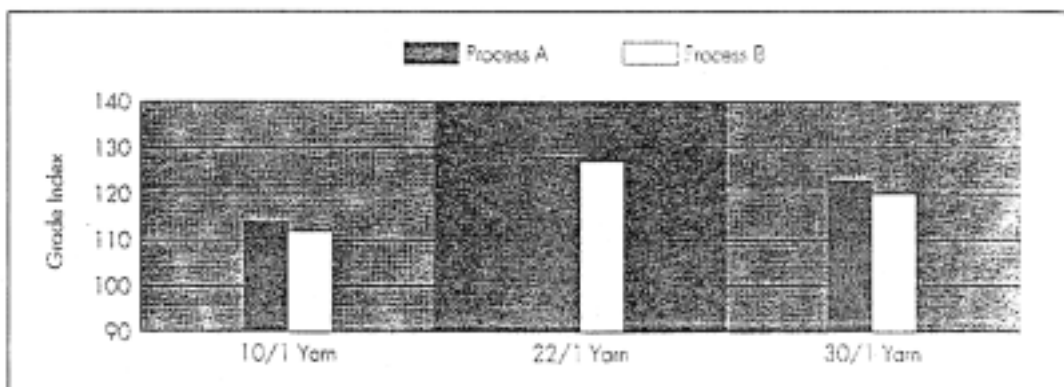
< 4.14 c> 가 (-30%)



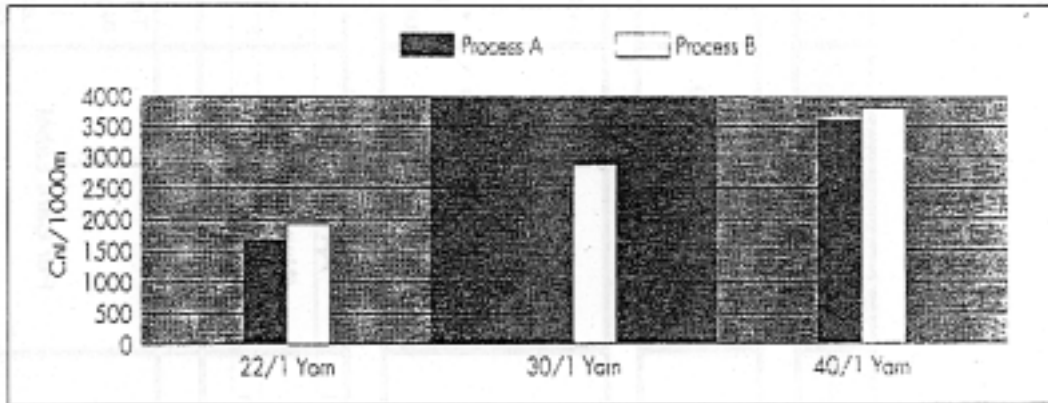
< 4.14 d> CV%



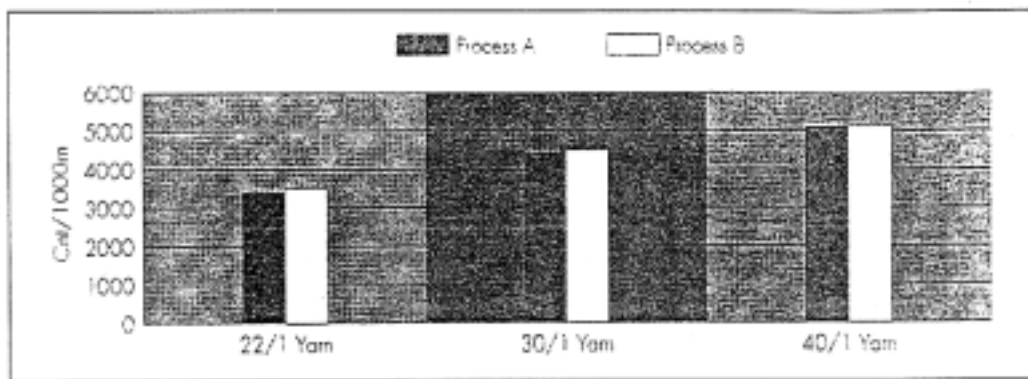
< 4.14 e>



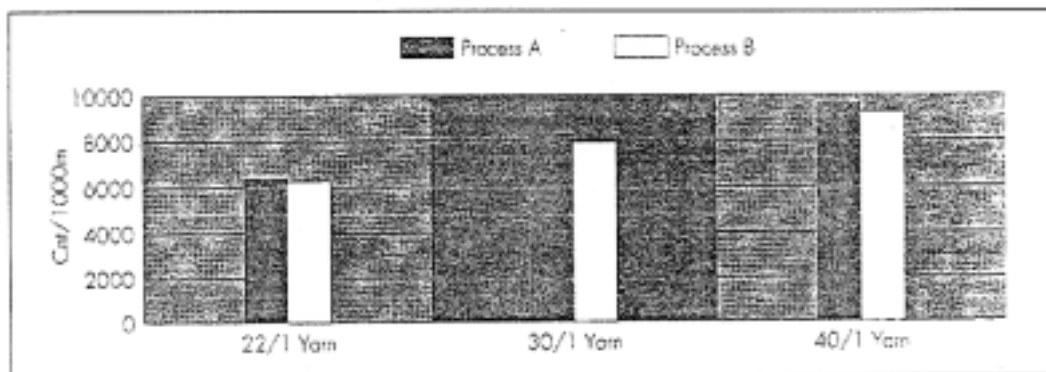
< 4.14 f>



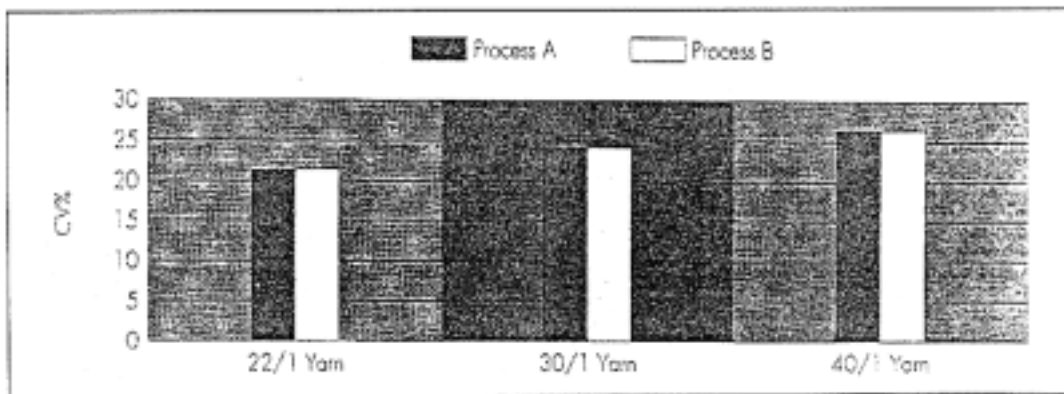
< 4.15 a> (+140%)



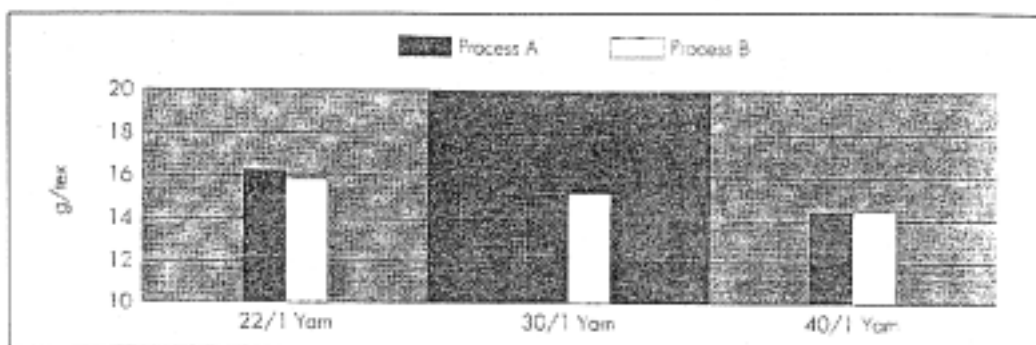
< 4.15 b> (+35%)



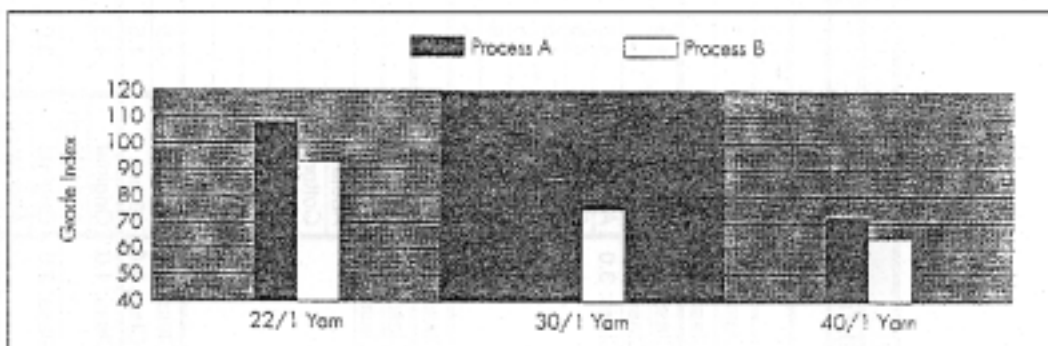
< 4.15 c> 가 (-30%)



< 4.15 d> CV%>



< 4.15 e>



< 4.15 f>