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12 HPLC H2SD

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< 2> HPLC and H2SD results on twelve contaminated bales and one uncontaminated module.

Bale ID	Glucose(a)	Fructose(a)	Trehalulose(a)	Sucrose(a)	Melezitose(a)	Total Sugars(b)	H2SD
2	45.3	32.9	1.7	6.8	12.8	0.234	2.0
3	47.6	32.5	1.7	4.3	13.9	0.231	1.9
4	42.9	15.2	2.7	8.9	29.5	0.112	2.3
5	18.4	19.0	30.1	0.6	31.9	0.163	12.6
6	25.6	36.5	15.5	2.3	19.7	0.386	18.9
7	44.4	33.1	3.0	0.8	18.8	0.133	14.5
8	18.8	15.3	39.8	0.0	26.1	0.176	22.4
9	18.2	27.0	18.1	7.2	28.7	0.792	38.2
10	18.4	27.9	18.3	8.1	27.1	0.705	42.8
11	42.8	29.3	6.5	6.9	14.5	0.276	41.5
12	13.6	22.8	34.7	0.2	28.9	0.536	64.7
13	17.6	23.3	34.8	0.0	24.2	0.541	69.9
Average	29.5	26.2	17.2	3.8	23.0	0.357	27.6
Minimum	13.6	15.2	1.7	0.0	12.8	0.112	1.9
Maximum	47.6	36.5	39.8	8.9	31.9	0.792	69.9
1*	44.4	23.6	3.2	10.6	18.1	0.216	2.5

* Corresponds to the non-sticky module (a) Expressed in percent of total sugars (b) Expressed in percent of the fiber weight

Trehalulose 1.7% 39.8% ,

Meleitose 12.8% 31.9% , H2SD

1.9 69.9 .

< 3> HPLC and H2SD results on the card slivers of seventeen cotton mixes.

(G = Glucose, F = Fructose, T = Trehalulose, S = Sucrose, Me = Melezitose)

Mix ID	Bale ID	Non-sticky Module %	G (a)	F (a)	T (a)	S (a)	Me (a)	Total Sugars(b)	H2SD † meas.	H2SD ‡ Calc.
A	1	100	42.5	21.7	3.4	14.5	17.9	0.207	3.2	2.5
B	2	0	44.9	33.5	2.4	5.7	13.1	0.245	2.0	2
C	3	0	49.1	33.6	1.8	5.0	10.2	0.220	2.3	1.9
D	4	0	40.7	10.6	1.8	5.3	40.7	0.113	3.2	2.3
E	5	50	29.8	20.8	14.3	9.5	25.6	0.168	8.3	7.6
F	5	75	36.6	21.2	9.8	11.9	20.7	1.093	6.5	5.0
G	6	50	30.0	32.9	10.7	7.2	19.2	0.307	8.9	10.7
H	6	75	36.1	29.1	4.1	10.7	19.7	0.244	4.5	6.6
I	7	50	42.5	28.1	1.3	5.6	21.9	0.160	10.2	8.5
J	8	75	41.5	24.5	2.1	11.2	20.7	0.188	4.8	5.5
K	8	50	27.7	17.8	16.8	6.9	30.7	0.202	15.1	12.5
L	8	75	34.0	19.8	9.9	10.8	25.5	0.212	6.0	7.5
M	9	87.5	29.8	23.8	9.8	14.0	22.5	0.315	4.7	7.0
N	10	87.5	34.2	24.1	7.5	14.3	19.5	0.266	5.3	7.5
O	11	87.5	42.6	23.8	2.5	13.4	17.8	0.202	15.7	7.4
P	12	93.75	35.0	21.0	9.7	12.1	21.8	0.257	9.3	6.4
Q	13	93.75	40.3	23.6	6.9	11.2	18.5	0.233	9	6.7
Average			37.5	24.1	6.8	10.0	21.5	0.219	7.0	6.3
Minimum			27.7	10.6	1.3	5.0	10.5	0.113	2.0	1.9
Maximum			49.1	33.6	16.8	14.5	40.7	0.315	15.7	12.5

† H2SD readings measured on card slivers ‡ H2SD calculated from the raw material.

(a) Expressed in percent of total sugars. (b) Expressed in percent of the fiber weight.

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HPLC

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< 5> Expected percentage sugar and H2SD redings versus measured percentage sugar and H2SD readings.

HPLC(% of the fiber weight)					
Variable	Slope	± 95%Cnf. Lmt	Offset	± 95%Cnf. Lmt	Adujsted R ²
Glucose	1.060	[0.923, 1.197]	- 0.012	[-0.025, 0.001]	0.944
Fructose	1.137	[1.058, 1.217]	- 0.010	[-0.015, -0.005]	0.983
Trehalulose	0.961	[0.757, 1.164]	- 0.001	[-0.004, 0.004]	0.863
Sucrose	1.749	[1.547, 2.040]	- 0.009	[-0.014, -0.003]	0.911
Melezitose	0.993	[0.554, 1.433]	0.003	[-0.016, 0.022]	0.582
Total sugars	1.086	[0.924, 1.248]	- 0.022	[-0.058, 0.015]	0.927

H2SD					
Variable	Slope	± 95%Cnf. Lmt	Offset	± 95%Cnf. Lmt	Adjusted R ²
H2SD	1.050	[0.562, 1.539]	0.4	[-3.0, 3.7]	0.556

H2SD

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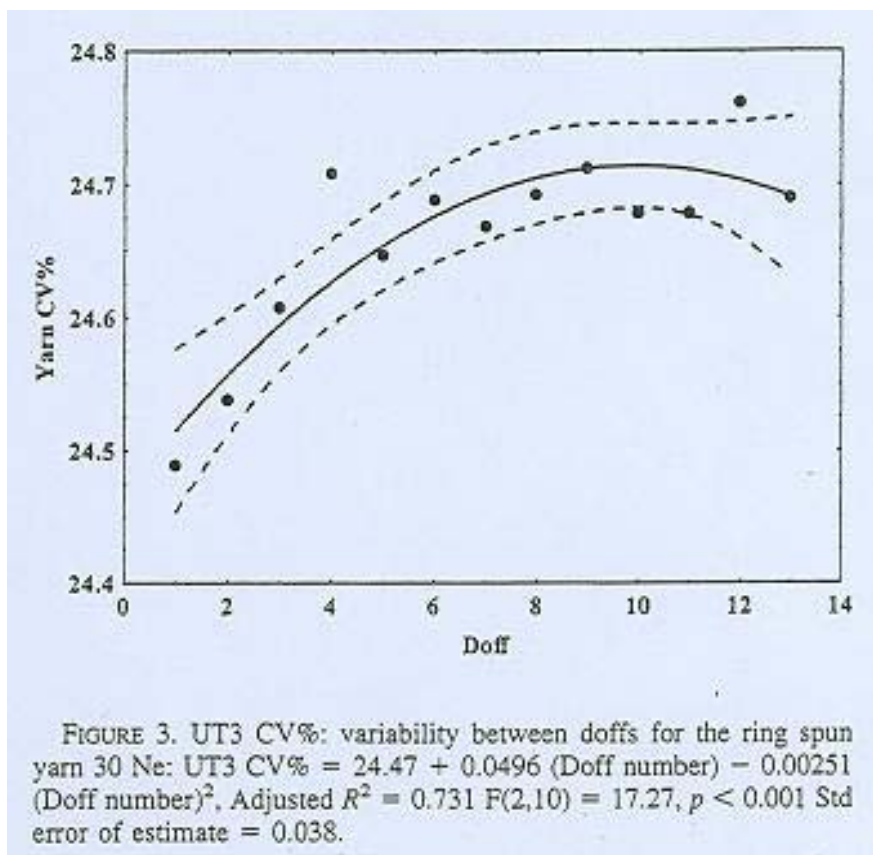
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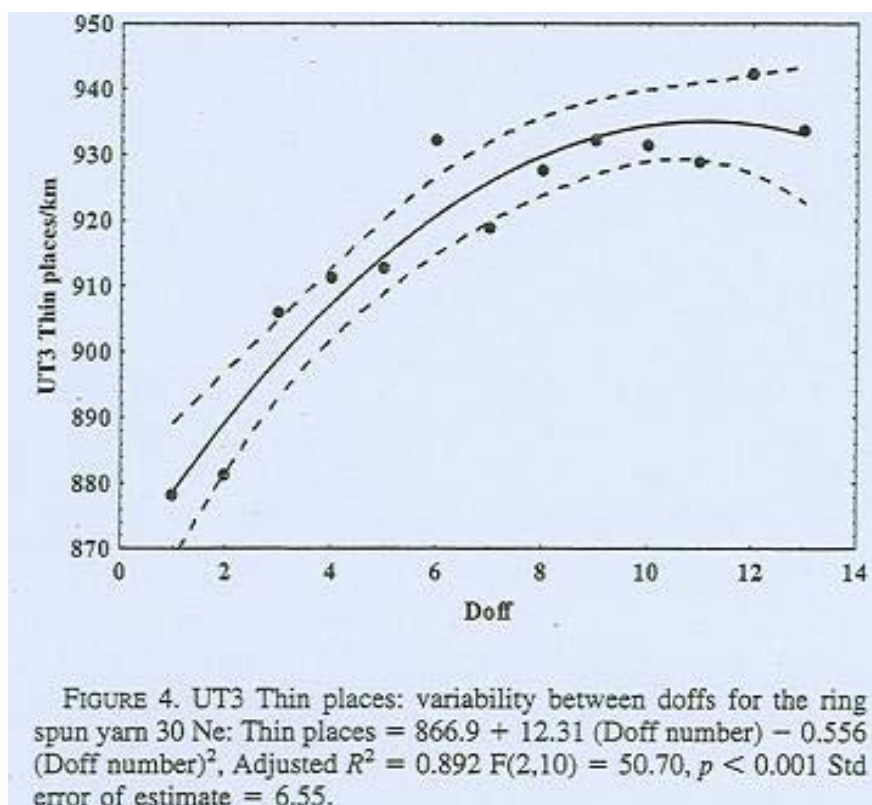
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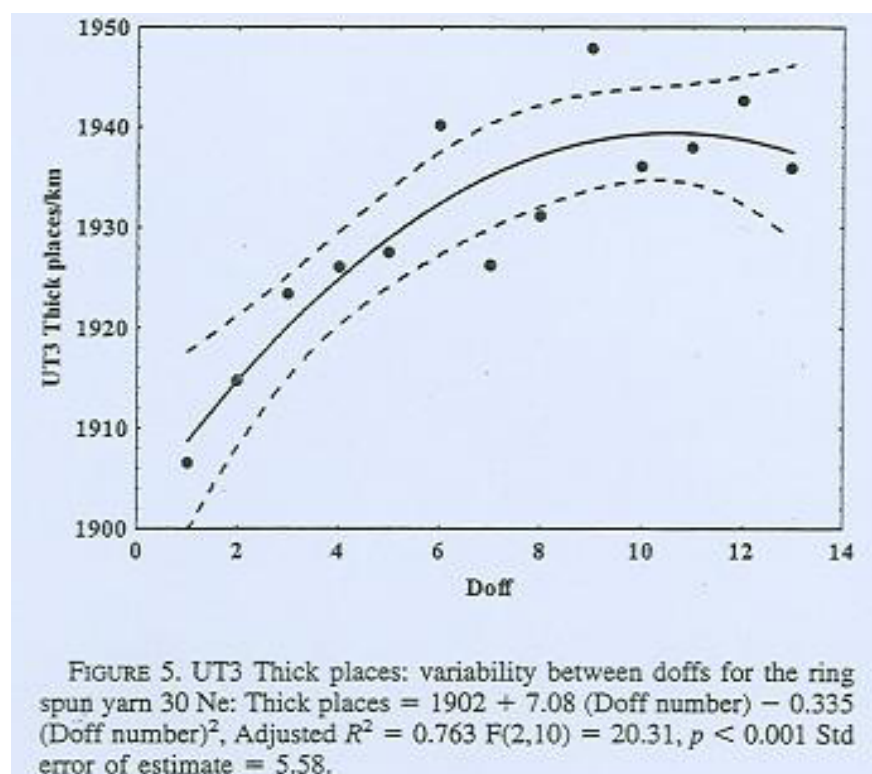
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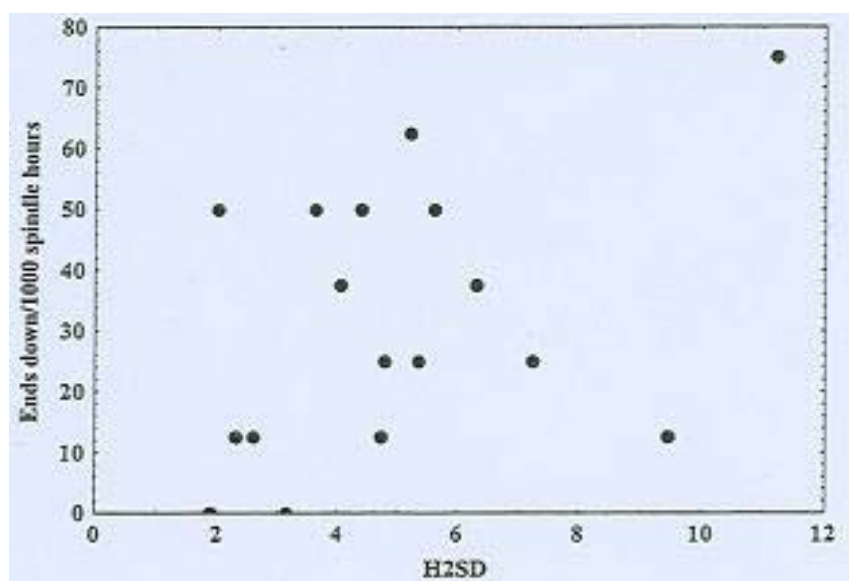


FIGURE 6. H2SD versus number of ends down for 1000 spindle hours

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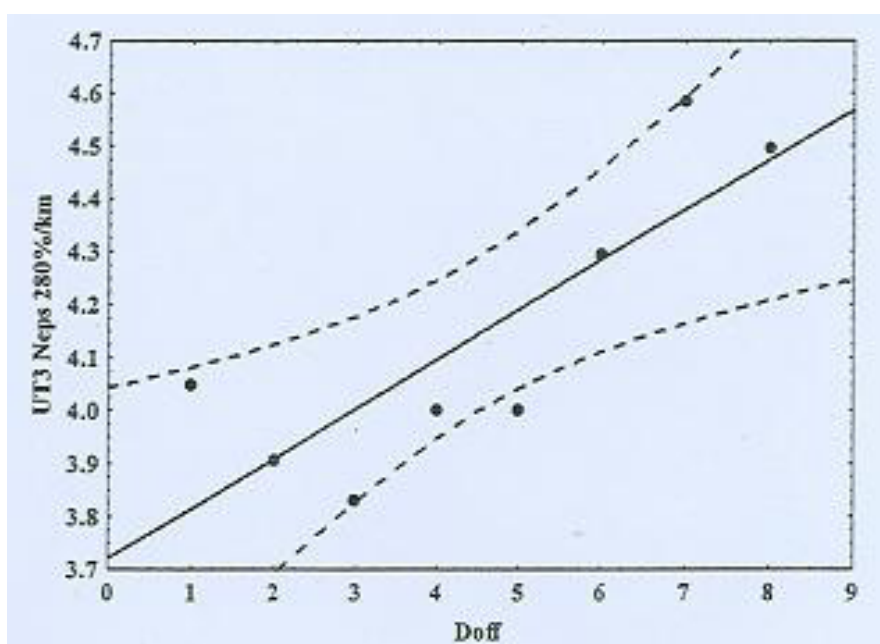


FIGURE 7. UT3 Neps (280%): variability between doffs for the rotor spun yarn 22 Ne: $\text{Neps } 280\% = 3.72 + 0.094 (\text{Doff number})$ Adjusted $R^2 = 0.632$ $F(1,6) = 13.01$, $p < 0.011$ Std error of estimate = 0.17.

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< 4> HPLC on 160 samples for spinning trials.

	% of the fiber weight			% of the total sugars		
	Average	Mini	Maxi	Average	Mini	Maxi
Glucose	0.081	0.030	0.168	63.1	37.8	83.3
Fructose	0.031	0.004	0.101	19.9	7.5	33.0
Trehalulose	0.002	0.000	0.006	1.7	0.1	11.1
Sucrose	0.008	0.000	0.046	5.2	0.0	17.4
Melezitose	0.013	0.002	0.036	10.2	2.9	24.2
Total	0.135	0.036	0.357			

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H2SD 2 15.7

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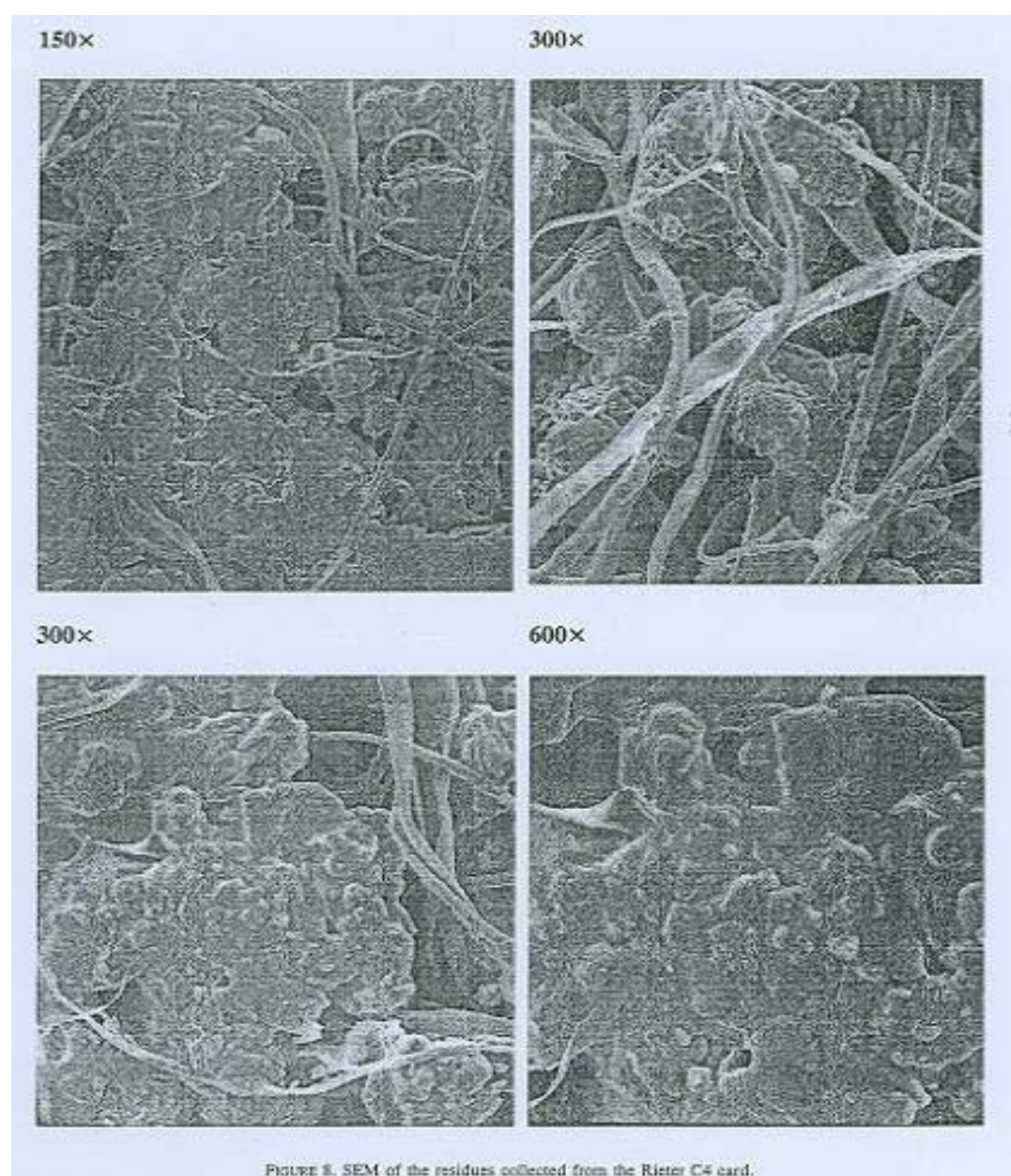
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