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COTTONREP.BH

The Australian Spinning Industry Skills Centre
TEXSKILL
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28th February 1994

Mr. R.R. Schulzé
Cotton R. & D. Corporation
Box 282
NARRABRI N.S.W. 2390

Dear Ralph,

Summary Of Cotton Fibre Round Trial

As you know, we are processing fifteen lots of cotton, representing eight important Australian varieties, into dyed knitted fabric. Schlafhorst are doing parallel research in West Germany, and you may have seen their fibre results presented at Moree in December. We have collated all the results and are returning relevant comparative data.

As the emphasis here is on comparing labs, this packet will have more detail than our final report, which will list only average values. The labs represent Australian merchants and spinners, La Trobe University, Texas Tech University and Spinlab, U.S.A. Lab B did not report back.

We also have our yarn results (but not Schlafhorst's) and will be glad to send you a copy on request. They will appear in the final report. We have also established correlations among 26 properties, and will extend this matrix when fabric properties become available.

The labs are identified by code letters; results are averaged. These subsamples were all from the same sample which we took, without cutting, from places around the outside of each bale. We also quote the published results of Schlafhorst, taken from separate bales of the same gin runs; and of Cotton Seed Distributors, taken from the previous year's harvest of the same varieties, from the same co-operating ginners at Narrabri and Merah North.

The column of C.V. values gives an idea of the variability between labs. These figures include variability between instruments and test specimens. Mean C.V.'s vary from 2% in fibre length to 120% in sugar content; or, on Schlafhorst's, utility scale, the standard deviation between labs is from 0.2¢/lb. in colour, to 27¢/lb. in sugar content, with 10¢/lb. in both maturity and hair weight.

Two labs, notably lab. G which supplied six readings of each result, sent individual readings that gave us an idea of variability between specimens within a single lab, instrument and bulk sample. Their coefficients of variation are shown in brackets. Being generally lower, these lab C.V. results show only a small part of the total variation and normally should not be used in calculating confidence intervals. Until we know what the five levels of variance are, we cannot quote confidence intervals for mean values.

Maturity and fineness measurements have room for improvement. Some years may elapse before some technology develops for measuring these important properties precisely. These two properties should show a slight relationship with each other, as a ripening fibre also becomes heavier. This proportionality is the basis of the concept of standard hair weight or varietal fineness, Hs = H/M, which should be a constant for each variety. Determining the extent to which a lab's results converge on this SHW for a variety is a way of estimating the quality of its testing. The computing formulas used in the Shirley FMT magnify testing errors when expressed as H, M and especially Hs. The errors in H and M go off in opposite directions, giving an apparent ***negative*** correlation between the two properties, and magnifying the uncertainty in Hs. We have calculated this for each lab and shown the coefficient on the bottom of the Hair Weight page; the less negative, the better. The good C.S.D. result is based on only 8 values, without any measure of variation within varieties. We are preparing a blended bulk sample of calibration cotton having known transverse dimensions, including maturity, measured during Stuart Gordon's Ph.D. project.

Length results look good in every sense. The Spinlab computing formulas for uniformity and short fibre contact are so similar (correlation = -.94) that we dropped SFC from the report to focus on more practical relationships. Tenacity is measured more precisely than elongation.

Only two labs reported colorimetric measurements, giving reproducible results. The two labs measuring sugar content (by near-infra-red where Spinlab have made some recent changes) differed so much that we sent one sample to Texas Tech for extraction by the Perkins method, as recommended in the Schlafhorst scale. They managed to extract more sugar than the Schlafhorst standard of 0.15%. We have no analysis between metabolic and entomological sugars, referring to immature fibre and insect secretions respectively.

An overseas lab supplied the fibre nep results. "Lab A" represents several labs both in Australia and U.S.A. A lab shown as "A" measured length using a Peyer Almeter comb sorter and was the only one to see the whole fibre length distribution, rather than estimate it from the protruding fibres in a tuft. It also supplied numerical mean and C.V., as used in the wool trade. Its measures of uniformity and short fibre content are probably the most reliable, even if they are slightly displaced from the others.

Our biggest limitation was in measuring trash, dust and fibre fragments. Two labs reported HVI optical measures of leaf: These are meant only to shed light on classer's grade. The closest we got to an analysis of these problems was one lab's results on an old Shirley analyser. These gave trash and (by subtraction) dust, which are combined in the report as visible foreign matter. The cottons were all well lint-cleaned, giving a very narrow range, and probably no meaningful correlations.

As trash and dust are two of the nine components of Schlafhorst's utility value and dust has a great effect on rotor spinning, these estimates represent a hole in the fabric of our knowledge of ginned Australian cottons.

Interpreting the Four Bottom Lines of the Tables

The unbiased mean of the fifteen lots is clear enough. These tell us at a glance the high quality of this Namoi cotton as well as the overall variation between labs.

The second line is the coefficient of variation (= standard deviation as a percentage of the mean) between the 15 cottons. These relatively low values reflect the close relationships between the 15; adding some Pima, or stripper, cotton, or both would raise these values and increase the sensitivity of the experiments. As there are many reasons for this variation, we have subjected it to a simple analysis of variance to find out how much of it is:

(a) between the eight varieties

(b) due to locational effects, ginning, sampling and testing variations.

The ratio of these two variances is the F ratio; as (b) is already included in (a), the population F ratios are at least one, though some sample ratios are lower.

By calculation, which includes subtracting (b) from (a) we get the true or nett C.V. between varieties. If the F ratio was less than 1 this is shown as less than 0. This C.V., as well as the F ratio, should be high if the lab is doing a good job of testing and if the property is due more to the cotton's heredity (variety) than it its environment. The table shows one person's estimate of a hierarchy.

MOST HEREDITARY	standard hair weight	HIGH F RATIO
	tenacity	
	elongation	
	hair weight	
	length uniformity/short fibre length	
	micronaire	
	cleanability	
	neps	
	colour	
	maturity	
	reflectance	
	sugar content	
MOST ENVIRONMENTAL	trash and dust	LOW F RATIO (1)

All labs received samples in coded form; the first column in the tables relates code to variety. Otherwise the last two rows, at least, would be invalid, as the results might be confounded with testing sequence. A lab scoring many F ratios below 1 may need to review procedures. Statistically good F ratios are marked with asterisks.

Please address any enquiries to me at Tel: (03) 479-1372, Fax: (03) 479-2173.

Yours Sincerely,

Bob.

Ralph.

Should one of us send a copy to David Swallow?

Robert G. Steadman,
Consultant to TexSkill.

TEXSKILL VARIETY TRIALS: SINGLE-LABORATORY TESTS

PROPERTY		TRASH + DUST (NON-LINT)	AFIS	AFIS DUST	NEPS/ gram		MEAN FIBRE LENGTH	C.V. OF FIBRE LENGTH			
LABORATORY		A	A	A	A		A	A			
INSTRUMENT		SHIRLEY ANALYSER	AFIS T	AFIS T	AFIS-N		ALMETER 101	ALMETER 101			
VARIETY	CODE										
DELTAPINE 90	N 10	.8	27	193	337		.84	37.5			
	MN 2	2.0	27	271	291		.91	29.7			
	AV	1.4					.875	33.6			
SIOKRA L23	N 3	1.0	23	280	338		.81	37.9			
	MN 7	1.4	38	292	267		.87	35.3			
	AV	1.2					.84	36.6			
SIOKRA 1-4	N 1	2.7	55	340	454		.85	39.2			
	MN 14	1.8	42	433	345		.86	37.9			
	AV	2.25					.855	38.6			
CS 50	N 6	2.0	28	308	399		.75	46.2			
	MN 4	1.0	43	388	327		.84	37.4			
	AV	1.5					.795	41.8			
SICALA V-1	N 8	1.0	31	224	344		.83	36.3			
	MN 5	1.2	46	396	240		.81	38.4			
	AV	1.1					.82	37.4			
SICALA 34	N 13	.7	20	243	338		.83	40.7			
	MN 9	.6	21	203	338		.86	38.8			
	AV	.65					.845	39.8			
CS 189 +	N 15	1.0	28	269	315		.85	35.7			
	MN 11	1.3	36	348	311		.92	30.7			
	AV	1.15					.885	33.2			
SIOKRA S324	N 12	1.0	37	286	424		.82	36.7			
OVERALL MEAN		1.30			338		.843	372			
C. V. (%)		45			16.4		4.86	10.3			
F RATIO BN/WN VARIETIES		1.68			1.45		1.06	1.31			
C.V. B/N VARIETIES (%)		17			7.0		.58	2.8			

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE

REMARKS:

PREMIUMS FOR SCHLAFHORST UTILITY SCALE – AUSTRALIAN VERSION

TEXSKILL VARIETY AND INTERLABORATORY TRIALS

[redacted] MATERIAL: [redacted] 55 c/lb UTILITY

LABORATORY		FINE	MATU	LENG	SFC	TRASH	DUST	STRE	ELON	STIC	COLOR	TOTAL	VALUE	
INSTRUMENT														
VARIETY	CODE													
DELTAPINE 90	N 10	4	-3	2	6	8	2	15	6	-6	4	38	75.9	72.9
	MN 2	0	-2	2	10	5	-4	14	4	-6	4	27	69.9	
											4			
SIOKRA L23	N 3	9	-4	2	6	7	1	16	7	-6	4	42	78.1	77.55
	MN 7	5	-3	3	8	5	3	16	5	-6	4	40	77.0	
	AV										4			
SIOKRA I-4	N 1	12	-1	3	7	3	-6	13	4	-6	4	33	73.2	74.55
	MN 14	8	-1	4	8	4	3	11	3	-6	4	38	75.9	
	AV										4			
CS 50	N 6	8	0	2	3	7	-6	13	4	-6	4	29	71.0	73.2
	MN 4	4	1	3	6	8	0	12	5	-6	4	37	75.4	
	AV										4			
SICALA V-1	N 8	4	-1	2	7	7	2	13	5	-6	4	37	75.4	75.4
	MN 5	6	-3	2	8	6	2	15	3	-6	4	37	75.4	
	AV										4			
SICALA 34	N 13	10	1	4	6	8	1	17	4	-6	4	49	82.0	82.0
	MN 9	8	0	4	9	8	3	17	2	-6	4	49	82.0	
	AV										4			
CS 189 +	N 15	6	-2	2	7	8	0	14	5	-6	4	38	75.9	75.9
	MN 11	6	-2	3	9	8	-4	15	5	-6	4	38	75.9	
	AV										4			
SIOKRA S324	N 12	8	0	2	8	4	3	11	5	-6	4	39	76.5	76.5
OVERALL MEAN		6.5	-1.3	2.7	7.2	6.5	0.0	14.1	4.5	-6.0	4.0		76.0	
C. V. (%)													4.29	
F RATIO BN/WN VARIETIES													3.66	
C.V. BN VARIETIES (%)													3.24	

REMARKS: Range 12 3 2 7 5 9 6 3 0

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE

TEXSKILL VARIETY AND INTERLABORATORY TRIALS

FIBRE PROPERTY: SUGAR CONTENT MATERIAL: LINT SCHLAFHORST BASE LEVEL: .15 %

LABORATORY		A	B	C	D	E	F	G	AV	CV	CSD	SCHL	AV
INSTRUMENT		NOT COUNTED		NIR 900 A	NIR 900 A	NO	NO	NO			NO	NO	SAME
VARIETY	CODE												
DELTAPINE 90	N 10			1.18	.13				.66	113			
	MN 2			1.29	.10				.70	121			
				1.24	.12				.68	116			
SIOKRA L23	N 3			.83	.14				.49	101			
	MN 7			1.04	.18				.61	99.7			
	AV			.94	.16				.55	100			
SIOKRA I-4	N 1			.93	.17				.55	97.7			
	MN 14			.78	.05				.42	124			
	AV			.86	.11				.49	109			
CS 50	N 6			.92	.02				.47	135			
	MN 4	.47[a]		1.18	.07				.63	126			
	AV			1.05	.04				.55	131			
SICALA V-1	N 8			.81	.13				.47	102			
	MN 5			1.27	.14				.71	113			
	AV			1.04	.14				.59	108			
SICALA 34	N 13			.85	.06				.46	123			
	MN 9			1.26	.09				.68	123			
	AV			1.06	.08				.59	122			
CS 189 +	N 15			1.09	.07				.58	124			
	MN 11			1.18	.08				.63	123			
	AV			1.14	.08				.61	123			
SIOKRA S324	N 12			1.15	.26				.71	89.3			
OVERALL MEAN		—		1.05	.11				.58	115			
C. V. (%)		—		17.3	54				17.3				
F RATIO BN/WN VARIETIES		—		.73	4.1				.72				
C.V. BN VARIETIES (%)		—		<0	30				<0				

REMARKS: [a] mean of 10 extractions by Perkins method - check test on sample where C and D differed most. CV of these 10 was 3.2%. Not counted in averages, as it is available for only one cotton.

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE

TEXSKILL VARIETY AND INTERLABORATORY TRIALS

FIBRE PROPERTY: +b (YELLOWNESS) MATERIAL: LINT SCHLAFHORST BASE LEVEL: "spotted" +b = 10 if R_D = 75

LABORATORY		A	B	C	D	E	F	G	AV	CV	CSD	SCHL	AV
INSTRUMENT											NO	NO	SAME
VARIETY	CODE												
DELTAPINE 90	N 10			7·9				8·2 (1·5)	8·1	2.64			
	MN 2			7·8				7·9(·7)	7·9	.90			
				7·8				8·1 (1·1)	8·0	2·67			
SIOKRA L23	N 3			7·2				7·3 (·9)	7·3	.98			
	MN 7			7·4				7·8 (1·0)	7·6	3.72			
	AV			7·3				7·6 (1·0)	7·5	2·85			
SIOKRA 1-4	N 1			7·9				7·4 (·9)	7·7	4.62			
	MN 14			7·5				7·5 (2·0)	7·5	0			
	AV			7·7				7·5 (1·5)	7·6	1.86			
CS 50	N 6			7·0				7·2 (1·0)	7·1	1.99			
	MN 4			6·7				7·2 (1·0)	7·0	5.09			
	AV			6·8				7·2 (1·0)	7·0	4.04			
SICALA V-1	N 8			8·0				7·8 (·6)	7·9	1.79			
	MN 5			7·6				7·9 (1·5)	7·8	2·74			
	AV			7·8				7·9 (1·1)	7·9	.90			
SICALA 34	N 13			7·4				7·4 (1·4)	7·4	0			
	MN 9			7·1				7·3 (·7)	7·2	1.96			
	AV			7·2				7·3 (1·1)	7·3	.98			
CS 189 +	N 15			7·7				7·7 (·9)	7·7	0			
	MN 11			7·4				7·3 (1·5)	7·4	.96			
	AV			7·6				7·5 (1·2)	7·6	.94			
SIOKRA S324	N 12			6·9				7·1 (1·7)	7·0	2.02			
OVERALL MEAN				7·43				7·53(1·2)	7·5	.95			
C. V. (%)				5·30				4·34	4·73	14.1			
F RATIO BN/WN VARIETIES				5·79*				4·64*	10·3**				
C.V. BN VARIETIES (%)				3·26				2·55	4·29				

REMARKS: LOWER b IS BETTER.

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE

TEXSKILL VARIETY AND INTERLABORATORY TRIALS

FIBRE PROPERTY: REFLECTANCE **MATERIAL:** LINT **SCHLAFHORST BASE LEVEL:** NONE

LABORATORY		A	B	C	D	E	F	G	AV	CV	CSD	SCHL	AV
INSTRUMENT		NO		SPINLAB 900 A	NO	NO	NO	SPINLAB 900 A			NO		SAME
VARIETY	CODE												
DELTAPINE 90	N 10			76.6				79.8 (.7)	78.2	2.89			
	MN 2			76.5				80.5 (.5)	78.5	3.60			
				76.6				80.2 (.6)	78.4	3.25			
SIOKRA L23	N 3			76.8				80.7 (.7)	78.8	3.50			
	MN 7			79.3				80.8 (.5)	80.1	1.82			
	AV			78.0				80.8 (.6)	79.4	2.49			
SIOKRA I-4	N 1			78.7				80.6 (.2)	79.7	1.69			
	MN I4			76.0				80.7 (.6)	78.4	4.24			
	AV			77.4				80.6 (.4)	79.0	2.86			
CS 50	N 6			78.4				81.0 (.4)	79.7	2.31			
	MN 4			78.9				80.5 (.6)	79.7	1.42			
	AV			78.6				80.8 (.5)	79.7	1.95			
SICALA V-1	N 8			77.5				79.4 (.4)	78.5	1.71			
	MN 5			78.4				80.1 (.4)	79.3	1.52			
	AV			78.0				79.8 (.4)	78.9	1.61			
SICALA 34	N 13			80.4				81.0 (.6)	80.7	.53			
	MN 9			79.0				81.6 (.6)	80.3	2.29			
	AV			79.7				81.3 (.6)	80.5	1.41			
CS 189 +	N 15			77.1				79.5 (.4)	78.3	2.17			
	MN I1			77.2				78.9 (1.3)	78.1	1.54			
	AV			77.2				79.2 (.9)	78.2	1.81			
SIOKRA S324	N 12			80.1				81.4 (.7)	80.8	1.14			
OVERALL MEAN				78.1				80.4 (.6)	79.3	2.05			
C. V. (%)				1.74				.94	1.18	42.2			
F RATIO BN/WN VARIETIES				2.11				7.18**	4.71*				
C.V. BN VARIETIES (%)				.76				.60	.95				

REMARKS:

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE

TEXSKILL VARIETY AND INTERLABORATORY TRIALS

FIBRE PROPERTY: AREA OF "LEAF" MATERIAL: LINT SCHLAFHORST BASE LEVEL: —

LABORATORY		A	B	C	D	E	F	G	AV	CV	CSD	SCHL	AV
INSTRUMENT				900A				900 A					
VARIETY	CODE												
DELTAPINE 90	N 10			·5				·29	.40	37.6			
	MN 2			·7				·11	.41	103			
	AV			·6				·20	.40	70.7			
SIOKRA L23	N 3			·6				·11	.36	97.6			
	MN 7			·5				·11	.31	90.4			
	AV			·55				·11	.33	94.3			
SIOKRA 1-4	N 1			1·1				·14	.62	109			
	MN 14			1·6				·28	.94	99.3			
	AV			1·35				·21	.78	103			
CS 50	N 6			·8				·12	.46	105			
	MN 4			·8				·08	.44	116			
	AV			·8				·10	.45	110			
SICALA V-1	N 8			·6				·12	.36	94.3			
	MN 5			·5				·11	.31	90.4			
	AV			·55				·11	.33	94.3			
SICALA 34	N 13			·4				·12	.26	76.1			
	MN 9			1·4				·04	.72	134			
	AV			·9				·08	.49	118			
CS 189 +	N 15			1·1				·11	.61	116			
	MN 11			·4				·13	.27	72.0			
	AV			·75				·12	.44	102			
SIOKRA S324	N 12			·6				·10	.35	101			
OVERALL MEAN				·77				·17	.47	90.3			
C. V. (%)				48				67	41.2	23.4			
F RATIO BN/WN VARIETIES				1·10				5·05	1·32				
C.V. BN VARIETIES (%)				7·6				40	15·6				

REMARKS:

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE

TEXSKILL VARIETY AND INTERLABORATORY TRIALS

FIBRE PROPERTY: COUNT OF "LEAF" MATERIAL: LINT SCHLAFHORST BASE LEVEL: —

LABORATORY		A	B	C	D	E	F	G	AV	CV	CSD	SCHL	AV
INSTRUMENT		NO		900A	NO	NO	NO	(CV)			NO	NO	SAME
VARIETY	CODE												
DELTAPINE 90	N 10			19				13 (20)	16	26.5			
	MN 2			23				15 (26)	19	29.8			
	AV			21				14 (23)	17.5	28.3			
SIOKRA L23	N 3			20				17 (20)	18.5	11.5			
	MN 7			19				13 (17)	16	26.5			
	AV			19.5				15 (18)	17	18.4			
SIOKRA 1-4	N 1			12				18 (19)	15	28.3			
	MN 14			10				18 (37)	14	40.4			
	AV			11				18 (28)	14.5	34.1			
CS 50	N 6			6				18 (16)	12	70.7			
	MN 4			15				14 (24)	14.5	4.88			
	AV			10.5				16 (20)	13	29.4			
SICALA V-1	N 8			28				18 (19)	23	30.7			
	MN 5			24				17 (11)	20.5	24.1			
	AV			26				18 (15)	22	25.7			
SICALA 34	N 13			22				18 (36)	20	14.1			
	MN 9			12				10 (34)	11	12.9			
	AV			17				14 (35)	15.5	13.7			
CS 189 +	N 15			6				14 (22)	10	56.5			
	MN 11			16				19 (34)	17.5	12.1			
	AV			11				16 (28)	13.5	26.2			
SIOKRA S324	N 12			13				17 (42)	15	18.9			
OVERALL MEAN				16.3				15.9 (25)	16	17.6			
C. V. (%)				40				16.3	22.7	59.5			
F RATIO BN/WN VARIETIES				2.79				.51	1.26				
C.V. BN VARIETIES (%)				20				<0	7.72				

REMARKS:

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE

TEXSKILL VARIETY AND INTERLABORATORY TRIALS

FIBRE PROPERTY: ELONGATION MATERIAL: BALED SCHLAFHORST BASE LEVEL: 6 %

LABORATORY		A	B	C	D	E	F	G	AV	CV	CSD	SCHL	AV
INSTRUMENT		NO	No		NO								
VARIETY	CODE												
DELTAPINE 90	N 10			6		8.1	6.9	7.6 (7.8)	7.15	12.7		7.1	7.1
	MN 2			7		8.1	6.5	6.0 (9.9)	6.9	13.0		7.0	6.9
				6.5		8.1	6.7	6.8 (8.9)	7.0	10.4		7.05	7.0
SIOKRA L23	N 3			7		8.2	6.9	7.8 (9.5)	7.4	9.82		7.1	7.3
	MN 7			7		8.0	6.6	6.3 (7.4)	7.0	10.6		7.0	7.0
	AV			7		8.1	6.25	7.0 (8.5)	7.2	8.36		7.05	7.2
SIOKRA I-4	N 1			7		8.2	6.5	6.0 (9.9)	6.9	13.6		7.5	7.0
	MN 14			6		8.2	6.5	5.5 (14.2)	6.6	17.9		7.2	6.7
	AV			6.5		8.2	6.5	5.8 (12.2)	6.8	18.1		7.35	6.9
CS 50	N 6			6		7.4	6.1	8.1 (5.1)	6.9	14.8		6.6	6.8
	MN 4			7		7.2	6.4	6.9 (10.1)	6.9	4.95		6.3	6.8
	AV			6.5		7.3	6.25	7.5 (8.0)	6.9	8.80		6.45	6.8
SICALA V-1	N 8			7		7.7	6.4	7.0 (4.0)	7.0	7.57		6.7	7.0
	MN 5			6		7.7	6.2	5.9 (5.6)	6.5	13.1		6.6	6.5
	AV			6.5		7.7	6.3	6.4 (4.8)	6.7	9.74		6.65	6.7
SICALA 34	N 13			6		6.8	6.1	7.7 (12.4)	6.7	11.8		6.0	6.5
	MN 9			6		6.9	6.4	6.3 (24.5)	6.4	5.85		6.2	6.4
	AV			6		6.85	6.25	7.0 (19.4)	6.5	7.31		6.1	6.4
CS 189 +	N 15			6		8.2	6.5	7.4 (6.2)	7.0	13.9		7.0	7.0
	MN 11			6		8.1	7.0	7.2 (12.7)	7.1	12.2		6.8	7.0
	AV			6		8.15	6.75	7.3 (10.0)	7.1	12.9		6.9	7.0
SIOKRA S324	N 12			6		8.1	6.9	6.5 (9.1)	6.9	13.0		7.4	7.0
OVERALL MEAN				6.4		7.8	6.53	6.8 (11.0)	6.9	9.21		6.8	6.9
C. V. (%)				4.7		6.81	4.43	11.8	4.27	50.3		5.97	3.99
F RATIO BN/WN VARIETIES				.80		67***	2.25	.87	1.54			22.1***	3.47
C.V. BN VARIETIES (%)				<0		4.55	2.58	<1	1.96			4.18	2.97

REMARKS:

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE

TEXSKILL VARIETY AND INTERLABORATORY TRIALS

FIBRE PROPERTY: TENACITY MATERIAL: LINT SCHLAFHORST BASE LEVEL: 24.0 g/tex

LABORATORY		A	B	C	D	E	F	G	AV	CV	CSD	SCHL	AV
INSTRUMENT		NO	NO		NO								
VARIETY	CODE												
DELTAPINE 90	N 10			30.1		31.1	30.2	28.9 (1.2)	30.1	3.0	29.1	30.2	29.9
	MN 2			30.4		30.7	28.6	29.1 (0.9)	29.7	3.40	31.8	30.6	30.2
				30.25		30.9	29.4	29.0 (1.1)	29.9	2.85	30.4	30.4	30.1
SIOKRA L23	N 3			30.1		31.5	30.0	30.0 (1.8)	30.4	2.42	29.5	32.1	30.5
	MN 7			30.8		31.9	29.6	29.5 (1.3)	30.5	3.72	32.6	30.4	30.8
	AV			30.45		31.7	29.8	29.8 (1.6)	30.4	2.94	31.0	31.2	30.7
SIOKRA 1-4	N 1			29.2		30.4	27.8	29.0 (1.3)	29.1	3.66	30.1	29.4	29.3
	MN 14			29.3		28.2	28.0	28.8 (0.6)	28.6	2.07	30.9	30.2	29.2
	AV			29.25		29.3	27.9	28.9 (1.0)	28.8	2.25	30.5	29.8	29.3
CS 50	N 6			28.7		29.1	28.5	28.5 (2.4)	28.7	.99	29.2	29.4	28.9
	MN 4			30.9		28.0	29.6	28.5 (1.8)	29.3	4.40	31.8	30.6	29.9
	AV			29.80		28.55	29.0	28.5 (2.1)	29.0	.80	30.5	30.0	29.4
SICALA V-1	N 8			29.2		29.3	29.5	29.3 (3.7)	29.3	4.29	29.7	30.0	29.5
	MN 5			29.8		29.9	29.8	30.3 (1.3)	30.0	.80	30.6	30.0	30.1
	AV			29.5		29.6	29.6	29.8 (2.5)	29.6	.43	30.2	30.0	29.8
SICALA 34	N 13			30.7		30.7	31.9	30.3 (1.8)	30.9	2.24	30.0	30.6	30.7
	MN 9			29.9		31.4	32.3	30.1 (1.4)	30.9	3.66	31.7	30.9	31.1
	AV			30.20		31.05	32.1	30.2 (1.6)	30.9	2.84	30.8	30.8	30.9
CS 189 +	N 15			28.8		30.6	30.1	28.9 (1.9)	29.6	3.01	29.8	30.9	29.9
	MN 11			28.9		31.4	30.9	29.5 (1.9)	30.2	3.88	31.2	30.5	30.4
	AV			28.85		31.0	30.5	29.2 (1.9)	29.8	3.60	30.5	30.7	30.1
SIOKRA S324	N 12			28.2		28.8	28.4	28.3 (1.6)	28.4	.93	28.1	28.8	28.4
OVERALL MEAN				29.7		30.2	29.7	29.3 (1.8)	29.7	1.24	30.4	30.3	29.9
C. V. (%)				2.73		4.14	4.45	2.27	2.71	31.2	4.10	2.55	2.51
F RATIO BN/WN VARIETIES				2.06		4.57*	9.06**	6.14**	10.16**		.45	2.10	7.04
C.V. BN VARIETIES (%)				1.22		2.43	2.92	1.41	2.46		<0	1.11	2.17

REMARKS:

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE

TEXSKILL VARIETY AND INTERLABORATORY TRIALS

FIBRE PROPERTY: SHORT FIBRE MATERIAL: BALED SCHLAFHORST BASE LEVEL: 12 %

LABORATORY		A	B	C	D	E	F	G	AV	CV	CSD	SCHL	AV
INSTRUMENT			NO		NO		NO	NO			NO		
VARIETY	CODE												
DELTAPINE 90	N 10	7.4		9.6		7.0			8.0	17.5		5.4	7.4
	MN 2	4.1		6.9		5.2			5.4	26.1		3.5	4.9
		5.8		8.25		6.1			6.7	19.9		4.4	6.1
SIOKRA L23	N 3	9.2		8.8		6.4			8.1	18.6		5.0	7.4
	MN 7	6.7		8.6		5.4			6.9	23.3		3.5	6.1
	AV	8.0		8.7		5.9			7.5	19.3		4.25	6.7
SIOKRA I-4	N 1	7.5		8.3		6.1			7.3	15.3		4.3	6.6
	MN 14	7.2		8.1		4.6			6.6	27.4		5.1	6.3
	AV	7.3		8.2		5.35			7.0	21.0		4.7	6.4
CS 50	N 6	13.0		11.0		6.7			10.2	31.5		3.5	8.6
	MN 4	9.0		8.8		6.9			8.2	14.1		4.2	7.2
	AV	11.0		9.9		6.8			9.2	23.6		3.85	7.9
SICALA V-1	N 8	7.4		8.0		5.9			7.1	15.2		3.5	6.2
	MN 5	8.1		7.6		4.7			6.8	27.0		4.3	6.2
	AV	7.8		7.8		5.3			7.0	20.7		3.9	6.2
SICALA 34	N 13	8.7		9.2		6.1			8.0	20.8		3.9	7.0
	MN 9	7.0		6.7		4.3			6.0	24.7		3.9	5.5
	AV	7.9		7.95		5.2			7.0	22.4		3.9	6.2
CS 189 +	N 15	6.7		9.0		5.8			7.2	23.0		4.6	6.5
	MN 11	3.5		8.4		5.9			5.9	41.3		3.5	5.3
	AV	5.1		8.7		5.82			6.5	29.1		4.0	5.9
SIOKRA S324	N 12	8.0		7.5		4.6			6.7	27.4		4.7	6.2
OVERALL MEAN		7.2		8.4		5.7		→	7.2	19.1		4.19	6.5
C. V. (%)		23.6		12.8		15.3			16.3	32.8		15.5	14.4
F RATIO BN/WN VARIETIES		2.07		.73		.82			1.09			.34	.79
C.V. BN VARIETIES (%)		10.2**		<0		<0			3.4			<0	<0

REMARKS: SHOWS NEGATIVE CORRELATION WITH STAPLE LENGTH
SFC = PERCENTAGE OF FIBRE BY MASS SHORTER THAN 0.5 INCH

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE

TEXSKILL VARIETY AND INTERLABORATORY TRIALS

FIBRE PROPERTY: LENGTH UNIFORMITY MATERIAL: LINT SCHLAFHORST BASE LEVEL: NONE

LABORATORY		A	B	C	D	E	F	G	AV	CV	CSD	SCHL	AV
INSTRUMENT		AL 101	NO	SPINLAB 900A	NO	SPINLAB 900	SPINLAB 900	SPINLAB			NO	NO	SAME
VARIETY	CODE												
DELTAPINE 90	N 10	83·5		80·7		82·8	82·7	82·1(5)	82·3	1·3			
	MN 2	86·4		82·7		84·2	82·4	83·1(5)	83·8	2·0			
		85·1		81·7		83·5	82·6	82·6(5)	83·1	1·5			
SIOKRA L23	N 3	82·9		81·2		82·9	81·9	81·8(6)	82·1	·9			
	MN 7	83·7		81·2		83·7	84·1	82·8(4)	83·1	1·4			
	AV	83·3		81·2		83·3	83·0	82·3(5)	82·6	1·1			
SIOKRA 1-4	N 1	83·1		81·4		83·1	82·3	82·4(4)	82·4	·9			
	MN 14	83·0		81·5		83·9	83·1	83·0(6)	82·9	1·0			
	AV	83·0		81·4		83·5	82·7	82·7(5)	82·7	·9			
CS 50	N 6	80·5		79·6		82·7	82·5	81·6(4)	81·4	1·6			
	MN 4	83·5		81·0		82·5	82·9	82·2(6)	82·4	1·1			
	AV	82·0		80·3		82·6	82·7	81·9(5)	82·5	2·1			
SICALA V-1	N 8	83·8		81·9		83·5	83·5	82·6(3)	83·0	1·0			
	MN 5	83·7		82·2		84·4	82·7	83·3(3)	83·2	1·0			
	AV	83·7		82·0		84·0	83·1	83·0(3)	83·2	0·9			
SICALA 34	N 13	82·9		80·7		82·9	83·0	81·6(8)	82·2	1·3			
	MN 9	83·2		82·6		84·1	83·5	82·3(3)	83·1	·9			
	AV	83·5		81·6		83·5	83·2	82·0(6)	82·8	1·1			
CS 189 +	N 15	84·2		81·5		83·4	83·7	82·0(4)	83·0	1·4			
	MN 11	85·5		81·4		83·6	83·1	82·1(7)	83·1	1·9			
	AV	84·8		81·4		83·5	83·4	82·0(6)	83·0	1·6			
SIOKRA S324	N 12	84·6		82·2		84·2	83·5	82·7(5)	83·4	1·2			
OVERALL MEAN		83·6		81·5		83·5	83·0	82·4	82·7	1·25			
C. V. (%)		1·61		·99		·74	·72	·65	·74				
F RATIO BN/WN VARIETIES		1·41		·88		·92	·42	1·14	·95				
C.V. BN VARIETIES (%)		·66		<0		<0	<0	·12	<0				

REMARKS: UNIF. INDEX = MEAN LENGTH / UPPER HALF MEAN LENGTH, IN PERCENT

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE

TEXSKILL VARIETY AND INTERLABORATORY TRIALS

FIBRE PROPERTY: LENGTH MATERIAL: BALED SCHLAFHORST BASE LEVEL: 1·10 inch

LABORATORY		A	B	C	D	E	F	G	AV	CV	CSD	SCHL	AV
INSTRUMENT			NO		NO								
VARIETY	CODE												
DELTAPINE 90	N 10	1.15		1.13		1.13	1.13	1.14 (0.8)	1.14	.79	1.13	1.14	1.14
	MN 2	1.14		1.15		1.14	1.14	1.18 (1.4)	1.15	1.51	1.14	1.17	1.15
		1.145		1.14		1.135	1.135	1.16 (1.1)	1.14	.95	1.145	1.155	1.15
SIOKRA L23	N 3	1.12		1.14		1.17	1.15	1.16 (1.5)	1.15	1.68	1.14	1.18	1.15
	MN 7	1.17		1.16		1.17	1.19	1.18 (0.9)	1.17	.97	1.18	1.20	1.18
	AV	1.15		1.16		1.17	1.17	1.17 (1.2)	1.16	.77	1.16	1.19	1.17
SIOKRA 1-4	N 1	1.18		1.16		1.17	1.17	1.19 (1.0)	1.17	.97	1.15	1.19	1.17
	MN 14	1.18		1.17		1.21	1.19	1.23 (1.7)	1.20	2.01	1.17	1.19	1.19
	AV	1.18		1.165		1.19	1.18	1.21 (1.4)	1.19	1.40	1.16	1.19	1.18
CS 50	N 6	1.13		1.12		1.16	1.15	1.16 (1.0)	1.14	1.59	1.14	1.20	1.15
	MN 4	1.15		1.16		1.17	1.17	1.19 (1.1)	1.17	1.30	1.20	1.18	1.17
	AV	1.14		1.14		1.165	1.16	1.17 (1.1)	1.16	1.22	1.17	1.19	1.16
SICALA V-1	N 8	1.12		1.14		1.15	1.15	1.15 (1.0)	1.14	1.14	1.13	1.16	1.14
	MN 5	1.11		1.14		1.14	1.15	1.17 (1.3)	1.14	1.96	1.14	1.16	1.14
	AV	1.12		1.14		1.145	1.15	1.16 (1.2)	1.14	1.30	1.135	1.16	1.14
SICALA 34	N 13	1.17		1.16		1.19	1.17	1.19 (1.6)	1.18	1.14	1.18	1.20	1.18
	MN 9	1.19		1.17		1.22	1.21	1.23 (1.7)	1.20	2.00	1.18	1.20	1.20
	AV	1.18		1.165		1.205	1.19	1.21 (1.7)	1.19	1.54	1.18	1.20	1.19
CS 189 +	N 15	1.14		1.10		1.17	1.17	1.17 (1.2)	1.15	2.68	1.15	1.17	1.15
	MN 11	1.18		1.15		1.17	1.17	1.18 (1.6)	1.17	1.95	1.15	1.18	1.17
	AV	1.16		1.125		1.17	1.17	1.18 (1.4)	1.16	1.84	1.15	1.175	1.16
SIOKRA S324	N 12	1.11		1.15		1.18	1.15	1.18 (2.1)	1.15	2.50	1.12	1.15	1.15
OVERALL MEAN		1.15		1.15		1.17	1.16	1.18	1.16	1.12	1.15	1.18	1.16
C. V. (%)		2.4		1.67		2.1	1.83	2.12	1.77	1.40	2.01	1.64	1.66
F RATIO BN/WN VARIETIES		3.19		1.01		5.07*	2.10	1.67	2.85		1.60	4.82*	3.03
C.V. BN VARIETIES (%)		1.27		.09		1.26	.80	.78	1.23		.71	.97	1.18

REMARKS:

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE

TEXSKILL VARIETY AND INTERLABORATORY TRIALS

FIBRE PROPERTY: STANDARD H. W (HS) MATERIAL: SCHLAFHORST BASE LEVEL: NONE, BUT "206" IMPLIED

LABORATORY		A	B	C	D	E	F	G	AV	CV	CSD	SCHL	AV
INSTRUMENT		FMT Mk.1	NO			FMT	FMT Mk. 3	NO			NOT COUNTED		
VARIETY	CODE												
DELTAPINE 90	N 10	207(7)		222	275	158	183		209	21.1	209	181	204
	MN 2	215(16)		288	269	171	187		216	18.2		189	212
		211		230	272	164.5	185.5		212	19.2		185	208
SIOKRA L23	N 3	185(11)		212	246	167	188		200	15.3	205	174	195
	MN 7	197(10)		223	267	163	187		213	20.6		183	207
	AV	191		217.5	256.5	165	187.5		204	17.2		178	199
SIOKRA I-4	N 1	173(22)		210	247	141	162		187	22.5	213	162	183
	MN 14	159(9)		228	266	144	177		195	26.1		165	190
	AV	166		219	256.5	142.5	169.5		191	24.2		164	186
CS 50	N 6	184(11)		221	265	139	168		195	25.0	216	177	192
	MN 4	182(14)		242	268	134	179		201	26.7		189	199
	AV	183		231.5	266.5	136.5	173.5		198	25.7		183	196
SICALA V-1	N 8	197(18)		219	266	164	175		204	19.8	231	183	201
	MN 5	197(10)		220	259	151	188		203	19.7		182	200
	AV	197		219.5	262.5	157.5	181.5		204	19.6		182	200
SICALA 34	N 13	167(8)		218	261	131	172		190	26.6	219	164	186
	MN 9	176(12)		226	269	133	162		193	28.0		165	189
	AV	172		222	265	132	167		192	27.2		164	187
CS 189 +	N 15	188(13)		225	261	160	182		203	19.6	221	175	199
	MN 11	194(12)		213	272	154	177		202	22.2		178	198
	AV	191		219	266.5	157	179.5		203	20.8		176	198
SIOKRA S324	N 12	199(17)		214	242	144	169		194	19.8	221	171	190
OVERALL MEAN		188(13)		222	262	150	177	→	200	21.7	217	175	196
C. V. (%)		8.0		4.1	3.76	8.81	5.08		4.11	38.8	—	5.07	4.10
F RATIO BN/WN VARIETIES		11.2**		0.7	1.52	10.5	2.44		4.76*		—	2.88	4.74*
C.V. BN VARIETIES (%)		2.83		<0	1.25	5.86	2.41		3.32		3.72	2.58	3.31

REMARKS: CALCULATED AS FIN/MAT.

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE

TEXSKILL VARIETY AND INTERLABORATORY TRIALS

FIBRE PROPERTY: HAIR WEIGHT (H) MATERIAL: BALED SCHLAFHORST BASE LEVEL: 185 millitex

LABORATORY		A	B	C	D	E	F	G	AV	CV	CSD	SCHL	AV
INSTRUMENT		FMT Mk. 1	NO	MIR, 900A		FMT Mk-3	FMT	NO			NOT COUNTED		
VARIETY	CODE												
DELTAPINE 90	N 10	183(4)		186	193	155	166		177	8.86	172	181	177
	MN 2	190(9)		197	201	166	170		185	8.60		189	186
		186		191.5	197	160.5	168		181	8.67		185	181
SIOKRA L23	N 3	165(7)		175	179	154	161		167	6.12	165	174	168
	MN 7	177(5)		185	192	156	167		175	8.15		183	177
	AV	171		180	185.5	155	164		171	7.14		178	172
SIOKRA 1-4	N 1	159(12)		176	179	141	149		161	10.3	167	162	161
	MN 14	157(4)		188	190	145	158		168	12.1		165	167
	AV	158		182	184.5	143	153.5		164	11.1		164	164
CS 50	N 6	171(7)		186	190	144	157		170	11.4	175	177	171
	MN 4	173(8)		199	196	146	167		176	12.4		189	178
	AV	172		192	193	145	162		173	11.8		183	175
SICALA V-1	N 8	179(11)		188	195	161	163		177	8.47	187	183	178
	MN 5	177(6)		181	188	152	166		173	8.16		182	174
	AV	178		184.5	191.5	156.5	164.5		175	8.20		182	176
SICALA 34	N 13	166(5)		187	188	140	151		166	12.8	176	164	166
	MN 9	168(6)		187	190	142	154		168	12.3		165	168
	AV	167		187	189	141	152.5		167	12.6		164	167
CS 189 +	N 15	174(7)		186	190	155	164		174	8.44	180	175	174
	MN 11	176(8)		183	192	152	163		173	9.18		178	174
	AV	175		184.5	191	153.5	163.5		174	8.79		176	174
SIOKRA S324	N 12	177(10)		182	185	147	157		170	9.85	177	171	170
OVERALL MEAN		173		186	190	150	161	→	172	9.25	175	176	173
C. V. (%)		5.1(7.3)		3.44	3.06	5.07	3.91		3.38	22.7	—	5.07	3.61
F RATIO BN/WN VARIETIES		9.1**		.93	1.12	5.83*	3.39		3.03		—	6.21*	3.07
C.V. BN VARIETIES (%)		3.3		<0	.53	3.12	2.11		2.40		4.02	3.16	2.58

REMARKS: CORRELATION WITH MATURITY: −.66 −.15 +.02 −.71 −.11 −.24 +.60 −.35 −.30
REALLY "COARSENESS" IN mg/km

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE

TEXSKILL VARIETY AND INTERLABORATORY TRIALS

FIBRE PROPERTY: MATURITY (M) MATERIAL: BALED SCHLAFHORST BASE LEVEL: .897 (MAT RATIO)

LABORATORY		A	B	C	D	E	F	G	AV	CV	CSD	SCHL	AV
INSTRUMENT			NO					NO			NOT COUNTED		
VARIETY	CODE												
DELTAPINE 90	N 10	(3) .89		.839	.701	.98	.909		.864	12.1	.830	.92	.873
	MN 2	(7) .89		.827	.748	.97	.907		.868	9.72		.935	.880
		.89		.833	.724	.975	.908		.886	10.9		.928	.876
SIOKRA L23	N 3	(4) .90		.825	.726	.92	.857		.846	9.04	.809	.91	.856
	MN 7	(7) .90		.831	.718	.96	.892		.860	10.7		.95	.875
	AV	.90		.828	.722	.94	.875		.853	9.82		.93	.866
SIOKRA 1-4	N 1	(9) .93		.839	.724	1.00	.915		.882	11.9	.794	.96	.895
	MN 14	(5) .97		.824	.715	1.01	.895		.883	13.3		1.00	.902
	AV	.95		.831	.719	1.00	.905		.881	12.5		.98	.898
CS 50	N 6	(5) .93		.837	.716	1.04	.937		.892	13.7	.813	1.00	.910
	MN 4	(6) .96		.824	.730	1.09	.935		.908	15.1		.988	.921
	AV	.95		.830	.723	1.06	.936		.900	14.2		.994	.916
SICALA V-1	N 8	(7) .92		.859	.734	.98	.932		.885	10.7	.815	.975	.900
	MN 5	(3) .90		.824	.726	1.01	.885		.869	12.0		.935	.880
	AV	.91		.841	.73	.995	.909		.877	11.3		.955	.890
SICALA 34	N 13	(4) .99		.859	.721	1.07	.879		.904	14.8	.811	1.05	.928
	MN 9	(6) .96		.826	.705	1.07	.951		.902	15.5		1.06	.929
	AV	.975		.842	.713	1.07	.915		.903	15.0		1.055	.928
CS 189 +	N 15	(6) .91		.825	.727	.97	.902		.867	10.8	.821	.948	.880
	MN 11	(5) .91		.860	.706	.99	.922		.878	12.1		.975	.894
	AV	.91		.842	.716	.98	.912		.872	11.5		.962	.887
SIOKRA S324	N 12	(7) .90		.860	.765	1.02	.927		.894	10.4	.806	.988	.910
OVERALL MEAN		(57) .92		.837	.724	1.01	.909	→	.880	12.1	.812	.973	.896
C. V. (%)		3.44		1.7	2.3	4.6	2.79		2.03	37.6	—	3.64	2.41
F RATIO BN/WN VARIETIES		6.45*		.32	1.30	9.8**	.91		9.52**		—	7.14**	10.1**
C.V. BN VARIETIES (%)		2.15		<0	.66	3.0	<0		1.83		1.30	2.33	2.18

REMARKS:

CONVERSION FROM US PM (%) TO UK MATURITY ABOVE

PM :	60	65	70	72	74	76	78	80	82	84	86	88	90	92
MAT :	.68	.73	.78	.80	.83	.85	.873	.897	.922	.948	.975	1.002	1.031	1.06(

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE

TEXSKILL VARIETY AND INTERLABORATORY TRIALS

FIBRE PROPERTY: MICRONAIRE MATERIAL: LINT SCHLAFHORST BASE LEVEL: 4.2

LABORATORY		A	B	C	D	E	F	G	AV	CV	CSD	SCHL	AV
INSTRUMENT		FMT Mk.1		HVI	HVI	FMT	FMT	HVI					
VARIETY	CODE												
DELTAPINE 90	N 10	4.18(1)		4.1	3.9	4.0	4.03	4.0 (0.0)	4.04	2.4	3.9	4.0	4.01
	MN 2	4.32(3)		4.3	4.2	4.2	4.12	4.1 (1.1)	4.21	2.2	4.4	4.1	4.22
		4.25		4.2	4.05	4.1	4.08	4.05 (0.5)	4.12	1.9	4.15	4.05	4.12
SIOKRA L23	N 3	3.87(3)		3.8	3.7	3.8	3.79	3.8 (1.3)	3.79	1.4	3.7	3.8	3.78
	MN 7	4.12(2)		4.0	3.9	4.0	4.01	3.9 (1.3)	3.99	2.1	4.2	4.0	4.02
	AV	4.00		3.9	3.8	3.9	3.90	3.85 (1.3)	3.89	1.8	3.95	3.9	3.90
SIOKRA I-4	N 1	3.84 (3)		3.9	3.6	3.8	3.72	3.8 (1.3)	3.78	2.6	3.7	3.8	3.77
	MN 14	3.99(2)		4.1	3.9	3.9	3.85	3.9 (1.2)	3.94	2.3	4.3	3.8	3.97
	AV	3.92		4.0	3.75	3.85	3.79	3.85 (1.3)	3.81	3.3	4.0	3.8	3.87
CS 50	N 6	4.11(2)		4.0	3.9	4.0	3.95	3.9 (0.0)	3.98	1.9	3.9	4.1	3.98
	MN 4	4.22(3)		4.3	4.0	4.2	4.14	4.2 (0.9)	4.18	2.4	4.1	3.9	4.13
	AV	4.17		4.15	3.95	4.1	4.03	4.05 (0.5)	4.08	1.9	4.0	4.0	4.06
SICALA V-1	N 8	4.21(4)		4.2	4.0	4.2	4.06	4.1 (1.4)	4.13	2.1	4.1	4.1	4.12
	MN 5	4.12(4)		3.9	3.9	4.1	3.97	3.9 (1.3)	3.98	2.6	4.2	4.0	4.01
	AV	4.17		4.05	3.95	4.15	4.02	4.0 (1.4)	4.05	2.3	4.15	4.05	4.06
SICALA 34	N 13	4.19(4)		4.1	3.9	4.0	3.96	4.0 (0.0)	4.02	2.6	3.9	4.0	4.0
	MN 9	4.14(2)		4.1	3.9	4.0	3.93	4.0 (0.9)	4.00	2.7	4.2	4.1	4.06
	AV	4.17		4.1	3.9	4.0	3.95	4.0 (0.5)	4.01	2.3	4.05	4.05	4.02
CS 189 +	N 15	4.08(2)		4.1	3.9	4.0	3.99	4.0 (0.0)	4.07	1.8	4.0	4.0	4.05
	MN 11	4.13(2)		4.1	3.9	4.0	4.02	4.0 (1.2)	4.02	2.0	4.3	4.1	4.07
	AV	4.11		4.1	3.9	4.0	4.01	4.0 (0.6)	4.04	2.4	4.15	4.05	4.06
SIOKRA S324	N 12	4.12(3)		4.0	3.8	4.0	3.93	3.9 (1.3)	3.96	2.7	3.9	4.0	3.96
OVERALL MEAN		4.11(28)		4.07	3.90	4.0	3.96	3.97(1.0)	4.01 →	1.8	4.05	3.99	4.01
C. V. (%)		3.08		3.44	3.43	3.1	2.86	2.81	2.98 →	2.5	5.35	2.73	2.92
F RATIO BN/WN VARIETIES		2.47		.82	1.08	2.10	2.02	1.17	1.49		.21	1.96	1.16
C.V. BN VARIETIES (%)		1.47		<0	.49	1.35	1.22	.57	1.32		<0	1.18	.79

REMARKS:

N = NARRABRI MN = MERAH NORTH, APPROX. 80km DOWNSTREAM AV = AVERAGE