

CONTRACTS & SPECIFICATIONS COMMITTEE
Report to the Technical Specification Group

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Chair: Mr Wian Heath (South Africa)

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Report on Independent Laboratory Round Trial 4053 – 4156: January 2025 to December 2025

By
Independent Laboratory Round Trial (ILRT) Group

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SUMMARY

This ILRT Group Report covers 104 trials (4053 – 4156) for the period January 2025 to December 2025. The range of wool variables covered by this series is similar to the range covered in the previous series, and the source of sample material was similar. The ILRT Group attempts to ensure that the samples tested in the trial are representative of the wool types produced in the home nations of the participating laboratories and in proportion to the quantity of wool tested.

Overall, the mean, within-lab and between-lab standard deviation for the parameters reported are similar to the previous 5 trial periods, indicating continuing consistent performance of the member laboratories. Calculations of the 95% Confidence Limits confirm that the ILRT laboratories are producing results within the Confidence Limits reported in the respective IWTO Test Methods for most parameters.

For the reporting period, seven (7) outliers were due to differences in Wool Base, with two (2) of those within the same trial. Eight (8) were due to differences in VM Base, and two (2) of those were also in the same trial.

No outliers were due to differences in Laserscan Mean Fibre Diameter. Three (3) outliers were reported for Airflow Mean Fibre Diameter, with two (2) of those within the same trial. All laboratories continue to work together to improve performance.

By reporting⁽¹⁻²⁰⁾ the results of its round trials, the ILRT Group is providing commercial participants in the industry with a basis for confidence in the IWTO Certificates produced by its members. The ILRT Group is unique in reporting its technical performance and the series of trials provides a mechanism for ensuring that the member laboratories are harmonised and when differences are identified they can be addressed by the member laboratories.

INTRODUCTION

This report is prepared on behalf of the Independent Laboratories Round Trial (ILRT) Group. It covers 104 trials tested at a frequency of 2 per week over 52 weeks for the period January 2025 to December 2025.

The 5 laboratories currently participating in the first series ILRT are:

- Australian Wool Testing Authority Ltd (AWTA Ltd) – Bibra Lake, Australia.
- Australian Wool Testing Authority Ltd (AWTA Ltd) – Melbourne, Australia.
- New Zealand Wool Testing Authority Ltd (NZWTA Ltd) - Napier, New Zealand.
- Wool Testing Bureau S.A. (WTBSA) - Port Elizabeth, South Africa; and
- Wool Testing Authority Europe Ltd (WTAE Ltd) – Gwynedd, United Kingdom.

The ILRT Group Members comprise Members from the largest independent wool testing laboratories in the world. The objectives and aims of the Group are:

- To develop co-operation between the Members' laboratories, with a view to ensuring the most correct and uniform application of approved testing and sampling methods as may be set out in the Specifications of the International Wool Testing Organisation (IWTO) and in any associated IWTO regulations.
- To ensure that the Members' laboratories obtain accurate test results having a high level of precision, in their application of those specific IWTO Test Methods and procedures which are relevant to the Group's agreed annual work programme.
- To collect such precision data, with respect to those IWTO specifications being utilised in the ILRT programme, as is required or desirable, but having regard to the principle ILRT functions of harmonising and monitoring the technical performance of the Members' laboratories.
- To assist Members' laboratories in resolving disputes arising from differences in test results, by ascertaining the causes of any discrepancies; and
- To the extent feasible, allow non-competing commercial laboratories to become Participating Laboratories in the inter-laboratory round trials from time to time.

The ILRT Group report is presented to every IWTO Congress.

SOURCE OF SAMPLE MATERIAL

The ILRT attempts to ensure that the samples tested in the trials are representative of the wool types produced in the home nations of the participating laboratories and in proportion to the quantity of wool tested. Table 1 summarises the countries of origin for the samples used in this series.

Table 1: *Source of Sample Material*

Country of Origin	Number of Samples
Australia	79
New Zealand	10
South Africa	13
United Kingdom	2
TOTAL	104

RANGE OF WOOL TESTED

Sample material covers a similar range of Wool Base, Vegetable Matter Base, Mean Fibre Diameter and Standard Deviation of Fibre Diameter to that reported at previous meetings⁽¹⁻²⁰⁾ (Table 2).

Table 2: *Ranges of Parameters of Wool Tested (Trials 4053 to 4156)*

Parameter	Mean	Range
Wool Base (%)	59.07	45.30 – 67.73
Vegetable Matter Base (%)	1.56	0.10 – 8.50
Mean Fibre Diameter (µm) (Based on IWTO-28)	25.08	15.17 – 37.00
Mean Fibre Diameter (µm) (Based on IWTO-12)	24.92	14.60 – 37.05
Standard Deviation of Fibre Diameter (µm) (Based on IWTO-12)	5.72	2.90 – 9.30

OVERALL RESULTS

Means and Standard Deviations

The between sub-samples within-laboratory and between-laboratory variation for Wool Base, Vegetable Matter Base are compared, by calculating the Standard Deviation for each and comparing them with data from previous ILRT reports. Similarly, for Mean Fibre Diameter the between test specimens within-laboratory and between-laboratory variation is compared. Comparisons of the overall values for each parameter against values obtained in the 6 previous reporting periods are reported in Table 3 for yield and Table 4 for diameter.

Table 3: *Within and Between Laboratory Standard Deviations for Yield Parameters*

TRIAL PERIOD	WOOL BASE			VEGETABLE MATTER BASE		
	MEAN	BETWEEN SUBS WITHIN LABS	BETWEEN LABS	MEAN	BETWEEN SUBS WITHIN LABS	BETWEEN LABS
3531– 3634	56.66	0.39	0.23	1.77	0.20	0.18
3635– 3740	58.31	0.38	0.26	1.75	0.20	0.15
3741– 3844	59.45	0.38	0.17	1.65	0.20	0.12
3845– 3948	60.36	0.42	0.24	1.65	0.21	0.14
3949 - 4052	59.33	0.39	0.25	1.59	0.20	0.14
4053 - 4156	59.07	0.40	0.21	1.56	0.20	0.13
OVERALL MEAN	58.87	0.39	0.23	1.66	0.20	0.14

Table 4: Within and Between Laboratory Standard Deviations for Diameter Parameters

TRIAL PERIOD	MEAN FIBRE DIAMETER AIRFLOW			MEAN FIBRE DIAMETER LASERSCAN			SD OF FIBRE DIAMETER LASERSCAN		
	MEAN	BETWEEN SUBS WITHIN LABS	BETWEEN LABS	MEAN	BETWEEN SUBS WITHIN LABS	BETWEEN LABS	MEAN	BETWEEN SUBS WITHIN LABS	BETWEEN LABS
3531 – 3634	24.95	0.15	0.17	24.81	0.32	0.07	5.70	0.24	0.06
3635 – 3740	25.03	0.16	0.17	24.98	0.30	0.07	5.61	0.24	0.04
3741 – 3844	25.18	0.15	0.19	25.01	0.34	0.06	5.60	0.25	0.05
3845 – 3948	25.23	0.16	0.16	25.04	0.33	0.08	5.61	0.25	0.05
3949 - 4052	25.05	0.15	0.19	24.92	0.34	0.08	5.62	0.25	0.07
4053 - 4156	25.08	0.16	0.17	24.92	0.30	0.07	5.72	0.23	0.05
OVERALL MEAN	25.09	0.16	0.17	24.95	0.32	0.07	5.64	0.24	0.06

From the variances reported for each trial in Tables 3 and 4 above, the 95% confidence limits for a normal presale test can be calculated. For the purposes of calculation, in the case of Wool Base and VM Base a 2 sub-sample test is assumed. In the case of mean Fibre Diameter, a 2-test specimen test (with 2 readings per test specimen) is assumed. For the Laserscan results, a 4-test specimen test is assumed. These assumptions are the minimum requirements that must be met to issue an IWTO Certificate.

The calculated 95% Confidence Limits are presented in Table 5, along with the Confidence Limits for the respective IWTO Test Method (calculated for the overall mean for each parameter). Comparing the Overall Confidence Limit to the Test Method Confidence Limit confirms that the ILRT laboratories are producing results within the limits of the respective IWTO Test Methods.

Table 5: 95% Confidence Limits

TRIAL PERIOD	WOOL BASE		VM BASE		AIRFLOW		LASERSCAN			
	Mean	Con. Limit	Mean	Con. Limit	Mean	Con. Limit	Mean Fibre Diameter		Fibre Diameter SD	
							Mean	Con. Limit	Mean	Con. Limit
3531 – 3634	56.66	0.70	1.77	0.45	24.95	0.40	24.81	0.47	5.70	0.26
3635 – 3740	58.31	0.73	1.75	0.40	25.03	0.40	24.98	0.43	5.61	0.25
3741 – 3844	59.45	0.62	1.65	0.36	25.18	0.42	25.01	0.49	5.60	0.26
3845 – 3948	60.36	0.75	1.65	0.40	25.23	0.38	25.04	0.48	5.61	0.27
3949 - 4052	59.33	0.73	1.59	0.39	25.05	0.42	24.92	0.49	5.62	0.28
4053 - 4156	59.07	0.69	1.56	0.37	25.08	0.39	24.92	0.44	5.72	0.25
OVERALL MEAN	58.87	0.70	1.66	0.40	25.09	0.40	24.95	0.47	5.64	0.26
(TEST METHOD)		(1.10)		(0.41)		(0.57)		(0.47)		(0.25)

For any given parameter, the consistency of the confidence limits indicates the laboratory performance has been stable over the periods reported in Tables 3 to 5 inclusive.

Data for IWTO-19 and IWTO-28 for each trial and over all trials in the current reporting period are summarised in Table 6. Corresponding data for IWTO-12 is reported in Table 7.

Table 6: Within and Between Laboratory Standard Deviation Data for IWTO-19 and IWTO-28

Trial	Wool Base			Vegetable Matter Base			Mean Fibre Diameter (AIRFLOW)		
	Grand Mean	Standard Deviation		Grand Mean	Standard Deviation		Grand Mean	Standard Deviation	
		Between Subs Within Labs	Between Labs		Between Subs Within Labs	Between Labs		Between Subs Within Labs	Between Labs
4053	65.71	0.39	0.21	0.2	0.04	0.05	33.8	0.21	0.17
4054	64.03	0.29	0.00	0.3	0.07	0.10	31.0	0.19	0.23
4055	57.48	0.34	0.30	0.7	0.13	0.10	20.3	0.14	0.11
4056	57.38	0.26	0.00	2.9	0.29	0.00	21.3	0.18	0.23
4057	55.80	0.45	0.00	0.7	0.11	0.08	21.2	0.10	0.25
4058	59.52	0.37	0.45	3.2	0.32	0.07	20.2	0.08	0.22
4059	66.45	0.28	0.30	0.2	0.03	0.04	36.9	0.17	0.38
4060	58.31	0.30	0.21	0.5	0.08	0.08	22.3	0.13	0.16
4061	62.50	0.29	0.14	0.3	0.14	0.00	35.4	0.20	0.25
4062	64.07	0.34	0.25	0.4	0.15	0.06	25.5	0.17	0.13
4063	63.62	0.29	0.14	0.7	0.16	0.14	15.2	0.22	0.24
4064	47.18	1.06	0.00	6.2	0.72	0.22	18.4	0.14	0.13
4065	63.36	0.37	0.00	1.3	0.11	0.13	29.0	0.10	0.13
4066	46.94	0.82	0.59	2.7	0.61	0.72	25.5	0.08	0.25
4067	65.50	0.22	0.23	0.2	0.03	0.05	30.3	0.20	0.36
4068	61.00	0.33	0.00	1.2	0.15	0.12	27.4	0.11	0.21
4069	65.02	0.31	0.17	0.2	0.05	0.06	26.3	0.19	0.08
4070	56.01	0.48	0.00	4.5	0.42	0.00	22.1	0.12	0.19
4071	63.13	0.33	0.12	0.4	0.11	0.02	23.8	0.16	0.22
4072	56.63	0.30	0.23	1.2	0.29	0.16	33.2	0.15	0.10
4073	61.66	0.33	0.37	1.2	0.24	0.02	17.4	0.11	0.12
4074	53.39	0.75	0.20	6.6	0.50	0.24	20.4	0.15	0.02
4075	56.05	0.27	0.04	0.6	0.12	0.15	22.3	0.37	0.06
4076	61.97	0.30	0.27	1.4	0.17	0.14	25.3	0.45	0.00
4077	62.81	0.47	0.00	0.3	0.08	0.09	33.8	0.18	0.30
4078	60.65	0.45	0.27	2.6	0.25	0.00	23.8	0.13	0.13
4079	59.28	0.29	0.19	0.7	0.12	0.11	19.3	0.11	0.24
4080	61.87	0.28	0.16	0.4	0.10	0.09	31.4	0.18	0.27
4081	62.24	0.26	0.00	0.3	0.07	0.02	22.1	0.13	0.20
4082	55.76	0.39	0.00	3.6	0.42	0.10	22.0	0.09	0.28
4083	58.38	0.36	0.14	1.6	0.16	0.10	20.2	0.14	0.32
4084	60.71	0.52	0.00	0.3	0.05	0.06	32.7	0.30	0.30
4085	58.30	0.32	0.21	0.4	0.05	0.12	21.1	0.10	0.19
4086	67.24	0.31	0.00	0.3	0.06	0.03	36.8	0.17	0.14
4087	58.06	0.38	0.00	0.4	0.10	0.06	20.0	0.11	0.19
4088	62.51	0.25	0.12	0.4	0.09	0.07	30.1	0.16	0.21
4089	62.56	0.22	0.00	0.5	0.10	0.13	31.0	0.18	0.00
4090	61.70	0.29	0.00	0.2	0.05	0.06	35.7	0.32	0.72
4091	58.90	0.30	0.24	3.4	0.28	0.00	23.0	0.11	0.23
4092	59.10	0.27	0.00	1.5	0.17	0.00	22.0	0.11	0.00
4093	56.87	0.26	0.23	0.6	0.27	0.00	22.2	0.14	0.12
4094	64.24	0.10	0.15	0.4	0.08	0.05	20.3	0.19	0.04
4095	60.21	0.23	0.24	1.1	0.22	0.00	30.4	0.22	0.28
4096	50.07	0.37	0.18	0.8	0.13	0.11	22.0	0.10	0.12
4097	60.50	0.25	0.26	0.4	0.08	0.12	34.6	0.23	0.23
4098	55.69	0.43	0.48	6.4	0.47	0.34	20.2	0.10	0.12
4099	58.93	0.27	0.30	0.6	0.10	0.15	22.2	0.14	0.24
4100	54.14	0.30	0.41	4.5	0.27	0.36	21.3	0.11	0.25
4101	64.97	0.22	0.00	0.2	0.05	0.12	33.6	0.27	0.23
4102	57.70	0.29	0.18	0.3	0.08	0.04	20.3	0.10	0.23

Trial	Wool Base			Vegetable Matter Base			Mean Fibre Diameter (AIRFLOW)		
	Grand Mean	Standard Deviation		Grand Mean	Standard Deviation		Grand Mean	Standard Deviation	
		Between Subs Within Labs	Between Labs		Between Subs Within Labs	Between Labs		Between Subs Within Labs	Between Labs
4103	53.60	0.48	0.42	0.8	0.18	0.24	20.2	0.08	0.25
4104	56.67	0.32	0.34	0.3	0.06	0.09	19.6	0.16	0.07
4105	67.73	0.16	0.33	0.2	0.06	0.05	35.4	0.28	0.44
4106	59.17	1.18	0.00	1.4	0.17	0.16	29.8	0.17	0.17
4107	61.95	0.25	0.40	0.6	0.12	0.15	24.3	0.19	0.14
4108	47.89	0.66	0.52	5.7	0.68	0.62	18.3	0.08	0.15
4109	55.78	0.31	0.29	3.4	0.30	0.35	22.1	0.11	0.10
4110	56.40	0.29	0.28	0.3	0.08	0.07	22.3	0.12	0.13
4111	58.63	0.21	0.36	0.6	0.12	0.12	17.5	0.17	0.12
4112	48.08	1.89	1.28	3.8	0.88	0.36	25.0	0.17	0.23
4113	57.83	0.57	0.54	2.1	0.19	0.17	26.2	0.25	0.00
4114	47.10	0.33	0.88	4.8	0.41	1.22	26.1	0.11	0.21
4115	61.43	0.27	0.19	0.2	0.04	0.04	20.3	0.13	0.18
4116	66.44	0.49	0.25	0.3	0.12	0.09	32.2	0.22	0.13
4117	58.71	0.22	0.11	1.5	0.17	0.28	31.1	0.11	0.24
4118	62.68	0.34	0.20	0.5	0.11	0.11	28.2	0.14	0.10
4119	57.60	0.31	0.22	1.6	0.18	0.00	20.6	0.08	0.08
4120	58.47	0.44	0.00	3.3	0.36	0.17	23.1	0.22	0.00
4121	63.38	0.39	0.04	0.5	0.15	0.09	25.4	0.16	0.14
4122	61.86	0.68	0.00	1.1	0.16	0.00	28.9	0.18	0.00
4123	52.59	0.24	0.28	0.9	0.16	0.19	20.5	0.16	0.14
4124	59.42	0.29	0.51	2.2	0.22	0.06	17.4	0.17	0.17
4125	65.13	0.25	0.41	0.4	0.12	0.09	26.4	0.15	0.11
4126	66.50	0.25	0.24	0.2	0.05	0.09	35.6	0.20	0.54
4127	61.71	0.81	0.24	1.3	0.23	0.10	23.8	0.19	0.07
4128	65.19	0.27	0.34	0.3	0.07	0.11	27.3	0.15	0.14
4129	58.37	0.29	0.00	1.4	0.35	0.08	18.5	0.10	0.10
4130	54.19	0.26	0.00	1.3	0.20	0.18	21.2	0.11	0.07
4131	45.30	1.08	0.00	8.5	1.01	0.58	18.3	0.10	0.16
4132	66.00	0.26	0.00	0.2	0.10	0.00	37.0	0.19	0.21
4133	58.06	0.41	0.24	0.8	0.12	0.24	17.5	0.12	0.03
4134	50.19	0.39	0.19	2.4	0.31	0.09	16.3	0.19	0.14
4135	46.39	0.81	0.00	6.0	0.58	0.21	19.4	0.16	0.08
4136	59.36	0.24	0.21	1.5	0.15	0.16	30.0	0.14	0.07
4137	57.26	0.36	0.31	0.5	0.16	0.12	22.2	0.18	0.11
4138	63.57	0.41	0.71	0.5	0.09	0.06	26.3	0.07	0.10
4139	65.58	0.23	0.00	0.1	0.05	0.00	34.0	0.21	0.21
4140	63.91	0.34	0.10	0.6	0.10	0.02	24.3	0.19	0.11
4141	50.65	0.52	0.17	0.8	0.17	0.12	22.3	0.16	0.12
4142	59.75	0.29	0.35	2.8	0.35	0.00	24.1	0.23	0.08
4143	57.18	0.52	0.35	3.2	0.26	0.30	26.7	0.14	0.08
4144	60.29	0.16	0.22	0.5	0.07	0.04	27.9	0.19	0.08
4145	49.00	0.56	0.00	6.2	0.57	0.00	20.5	0.19	0.06
4146	63.21	0.36	0.00	0.6	0.08	0.07	27.4	0.19	0.18
4147	64.19	0.30	0.25	0.4	0.05	0.08	25.3	0.18	0.00
4148	57.37	0.93	0.00	1.2	0.18	0.11	31.5	0.12	0.24
4149	64.43	0.31	0.23	0.2	0.05	0.06	33.0	0.21	0.20
4150	63.08	0.20	0.31	0.2	0.05	0.03	20.4	0.12	0.13
4151	61.69	0.27	0.28	0.8	0.13	0.14	16.4	0.11	0.12
4152	59.28	0.64	0.40	3.3	0.42	0.21	24.9	0.10	0.01
4153	57.39	0.50	0.47	2.4	0.29	0.00	23.1	0.10	0.10

Trial	Wool Base			Vegetable Matter Base			Mean Fibre Diameter (AIRFLOW)		
	Grand Mean	Standard Deviation		Grand Mean	Standard Deviation		Grand Mean	Standard Deviation	
		Between Subs Within Labs	Between Labs		Between Subs Within Labs	Between Labs		Between Subs Within Labs	Between Labs
4154	56.55	0.41	0.36	3.3	0.34	0.00	23.0	0.12	0.28
4155	59.55	0.27	0.28	1.0	0.10	0.11	31.2	0.15	0.20
4156	53.45	0.41	0.27	3.5	0.29	0.20	21.2	0.12	0.15
Mean	59.07	0.40	0.21	1.56	0.20	0.13	25.08	0.16	0.17
Min	45.30	0.10	0.00	0.10	0.03	0.00	15.17	0.07	0.00
Max	67.73	1.89	1.28	8.50	1.01	1.22	37.00	0.45	0.72

Table 7: Within and Between Laboratory Standard Deviation Data for IWTO-12

Trial	Laserscan MFD			Laserscan SD		
	Grand Mean	Standard Deviation		Grand Mean	Standard Deviation	
		Between Test Spec Within Labs	Between Labs		Between Test Spec Within Labs	Between Labs
4053	33.9	0.40	0.00	8.5	0.29	0.00
4054	30.9	0.30	0.00	7.2	0.21	0.10
4055	20.1	0.20	0.00	4.1	0.11	0.03
4056	20.9	0.24	0.00	4.6	0.24	0.05
4057	20.8	0.20	0.10	4.4	0.23	0.08
4058	19.9	0.16	0.00	3.8	0.23	0.05
4059	37.1	0.46	0.00	8.6	0.25	0.03
4060	22.1	0.20	0.00	4.8	0.21	0.11
4061	35.2	0.60	0.00	8.2	0.39	0.00
4062	25.4	0.18	0.00	5.9	0.18	0.07
4063	14.6	0.14	0.02	2.9	0.23	0.10
4064	18.1	0.18	0.00	4.0	0.18	0.08
4065	28.8	0.33	0.00	6.2	0.29	0.00
4066	25.6	0.44	0.19	5.9	0.31	0.00
4067	30.2	0.49	0.19	7.3	0.25	0.05
4068	27.1	0.32	0.00	6.3	0.16	0.00
4069	26.2	0.74	0.12	6.3	0.29	0.11
4070	21.9	0.19	0.13	4.3	0.12	0.17
4071	23.9	0.22	0.00	6.0	0.25	0.00
4072	33.4	0.40	0.00	7.4	0.31	0.00
4073	17.1	0.13	0.05	3.5	0.16	0.00
4074	20.2	0.27	0.13	4.0	0.30	0.00
4075	22.1	0.15	0.10	4.7	0.28	0.13
4076	25.1	0.28	0.00	6.4	0.18	0.00
4077	33.7	0.97	0.19	8.1	0.58	0.00
4078	23.8	0.26	0.21	5.8	0.17	0.14
4079	19.0	0.11	0.12	4.1	0.16	0.10
4080	31.6	0.44	0.00	7.7	0.27	0.10
4081	21.9	0.24	0.00	4.4	0.17	0.06
4082	21.8	0.17	0.15	4.2	0.16	0.08
4083	20.0	0.27	0.12	4.4	0.29	0.04
4084	33.5	0.56	0.13	8.9	0.35	0.13
4085	20.9	0.15	0.08	4.4	0.22	0.08
4086	36.5	0.46	0.00	8.5	0.30	0.12
4087	19.9	0.21	0.00	3.9	0.14	0.05
4088	30.2	0.38	0.09	7.5	0.22	0.00

Trial	Laserscan MFD			Laserscan SD		
	Grand Mean	Standard Deviation		Grand Mean	Standard Deviation	
		Between Test Spec Within Labs	Between Labs		Between Test Spec Within Labs	Between Labs
4089	30.9	0.53	0.31	7.8	0.26	0.00
4090	36.3	0.43	0.17	9.3	0.30	0.00
4091	23.1	0.25	0.00	5.7	0.17	0.08
4092	22.0	0.26	0.00	5.4	0.17	0.10
4093	22.0	0.18	0.11	4.5	0.16	0.00
4094	20.2	0.18	0.03	3.8	0.13	0.05
4095	30.3	0.44	0.08	7.5	0.22	0.00
4096	22.0	0.32	0.00	4.9	0.21	0.11
4097	34.6	0.44	0.13	8.1	0.24	0.00
4098	19.8	0.20	0.00	3.7	0.16	0.00
4099	22.3	0.15	0.12	5.4	0.23	0.11
4100	21.0	0.17	0.15	4.2	0.28	0.16
4101	33.8	0.65	0.25	7.8	0.39	0.00
4102	19.9	0.20	0.08	4.1	0.16	0.13
4103	20.0	0.23	0.00	4.7	0.20	0.02
4104	19.4	0.23	0.00	3.9	0.14	0.00
4105	35.5	0.48	0.18	8.4	0.24	0.11
4106	29.8	0.42	0.00	7.1	0.21	0.00
4107	24.2	0.20	0.19	6.0	0.19	0.09
4108	18.1	0.26	0.00	3.9	0.29	0.14
4109	22.1	0.31	0.16	5.5	0.25	0.00
4110	22.1	0.22	0.13	4.8	0.26	0.13
4111	17.2	0.14	0.00	3.7	0.18	0.08
4112	25.1	0.28	0.23	5.9	0.21	0.09
4113	26.0	0.24	0.04	6.1	0.18	0.00
4114	26.2	0.27	0.11	5.8	0.27	0.19
4115	20.0	0.14	0.07	4.0	0.29	0.00
4116	32.3	0.22	0.20	7.9	0.25	0.00
4117	30.9	0.38	0.27	7.7	0.24	0.00
4118	27.9	0.26	0.00	6.7	0.15	0.03
4119	20.1	0.11	0.06	4.2	0.19	0.03
4120	22.9	0.11	0.15	5.6	0.24	0.09
4121	25.1	0.25	0.00	6.0	0.17	0.07
4122	28.7	0.55	0.17	6.8	0.21	0.09
4123	20.0	0.29	0.00	4.3	0.19	0.00
4124	17.1	0.20	0.00	3.4	0.39	0.00
4125	26.0	0.26	0.00	6.2	0.17	0.11
4126	35.4	0.50	0.00	8.7	0.28	0.19
4127	23.8	0.31	0.17	5.9	0.14	0.09
4128	27.1	0.30	0.09	6.3	0.20	0.11
4129	18.0	0.16	0.09	4.0	0.20	0.00
4130	20.9	0.15	0.00	3.9	0.17	0.00
4131	18.0	0.28	0.00	3.8	0.23	0.00
4132	36.8	0.28	0.29	8.6	0.29	0.00
4133	17.2	0.21	0.02	3.8	0.20	0.11
4134	15.9	0.15	0.00	3.3	0.11	0.05
4135	19.0	0.19	0.07	4.1	0.25	0.00
4136	29.8	0.45	0.00	7.1	0.20	0.12
4137	21.9	0.18	0.10	4.5	0.12	0.00
4138	26.1	0.14	0.09	5.8	0.19	0.00

Trial	Laserscan MFD			Laserscan SD		
	Grand Mean	Standard Deviation		Grand Mean	Standard Deviation	
		Between Test Spec Within Labs	Between Labs		Between Test Spec Within Labs	Between Labs
4139	34.0	0.50	0.00	8.9	0.27	0.16
4140	24.1	0.31	0.00	5.5	0.23	0.09
4141	22.1	0.26	0.06	5.0	0.32	0.00
4142	24.1	0.77	0.00	6.1	0.22	0.01
4143	26.4	0.40	0.00	6.0	0.19	0.11
4144	27.8	0.33	0.00	6.3	0.23	0.00
4145	20.0	0.21	0.04	4.1	0.18	0.15
4146	27.1	0.60	0.00	6.0	0.20	0.00
4147	25.3	0.25	0.10	6.0	0.31	0.00
4148	31.6	0.37	0.00	7.4	0.19	0.07
4149	33.0	0.54	0.00	8.6	0.25	0.00
4150	20.1	0.16	0.00	4.2	0.18	0.07
4151	16.1	0.15	0.10	3.3	0.26	0.07
4152	25.0	0.22	0.17	6.2	0.18	0.05
4153	23.0	0.23	0.10	5.7	0.16	0.00
4154	22.9	0.24	0.00	5.7	0.27	0.03
4155	31.1	0.78	0.07	7.6	0.41	0.00
4156	20.9	0.16	0.08	4.2	0.18	0.12
Mean	24.92	0.30	0.07	5.72	0.23	0.05
Min	14.60	0.11	0.00	2.90	0.11	0.00
Max	37.05	0.97	0.31	9.30	0.58	0.19

Ranges of Laboratory Differences

The overall ranges of laboratory differences from the Grand Mean for four parameters are reported in Figures 1-4 together with the statistical limit values of these differences. In the case of Figure 4, which presents the ranges for LASERSCAN, the Airflow statistical limit values have been employed to enable easy comparison with the Airflow. The data are arranged in ascending order of Grand Mean for ease of interpretation, rather than on a trial-by-trial basis. Note also that to ensure easy reading of the graphs the Trial Mean Values for every third value only are printed on the horizontal axes.

FIGURE 1: DIFFERENCE FROM GRAND MEAN - WOOL BASE (%)

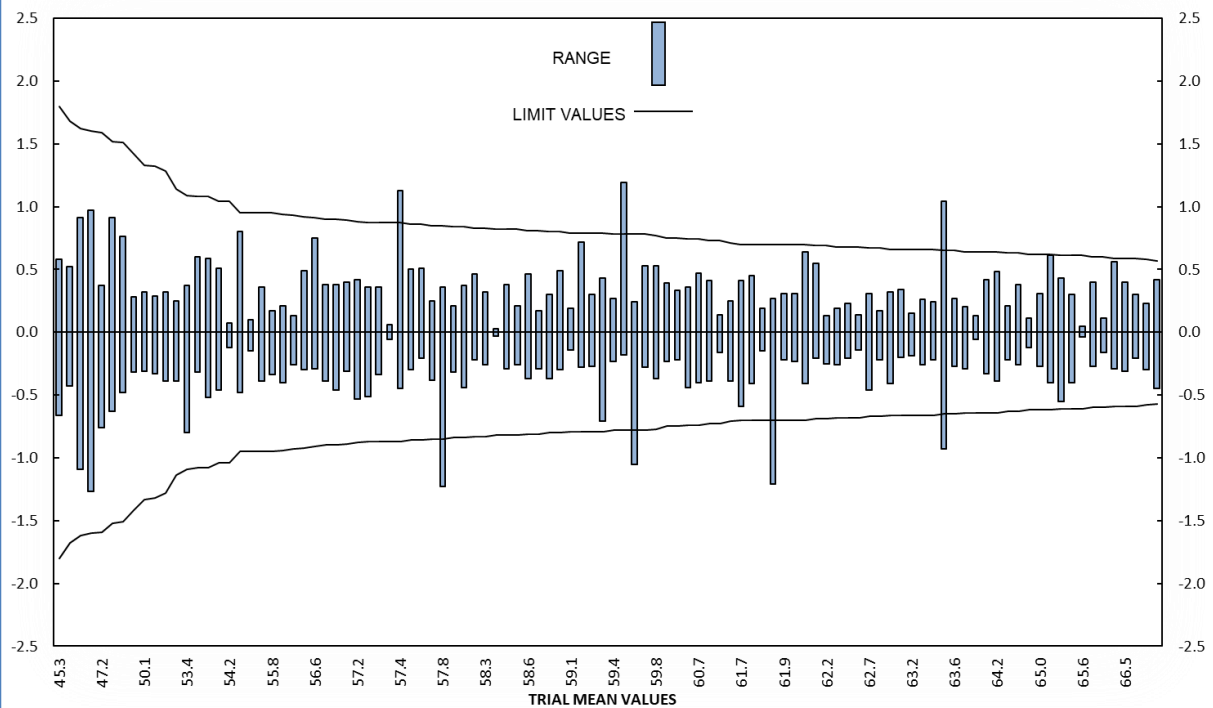
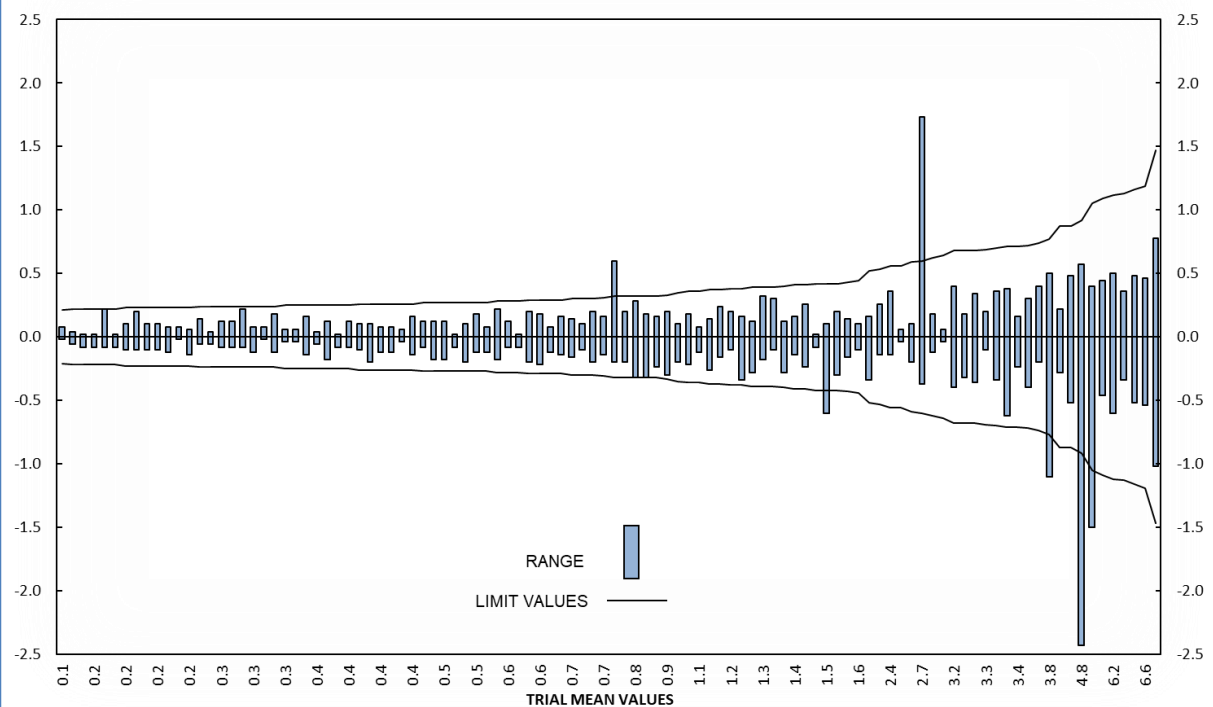
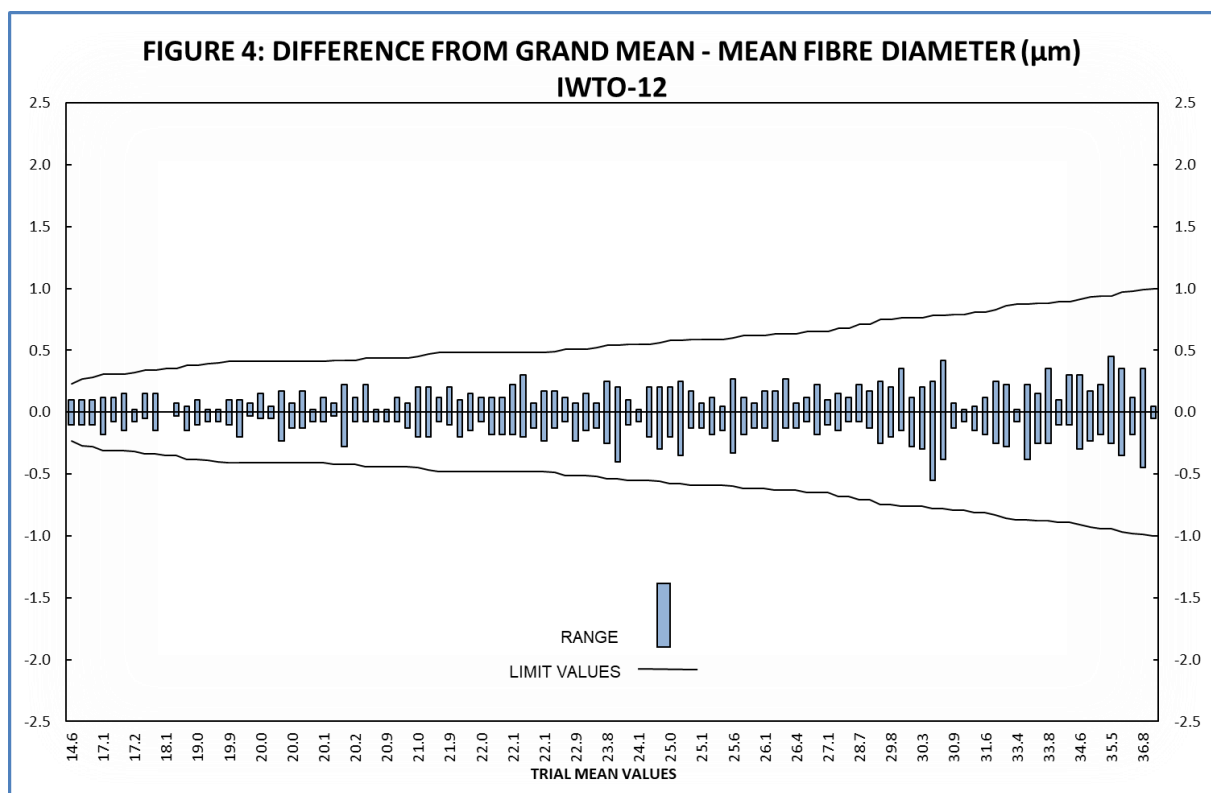
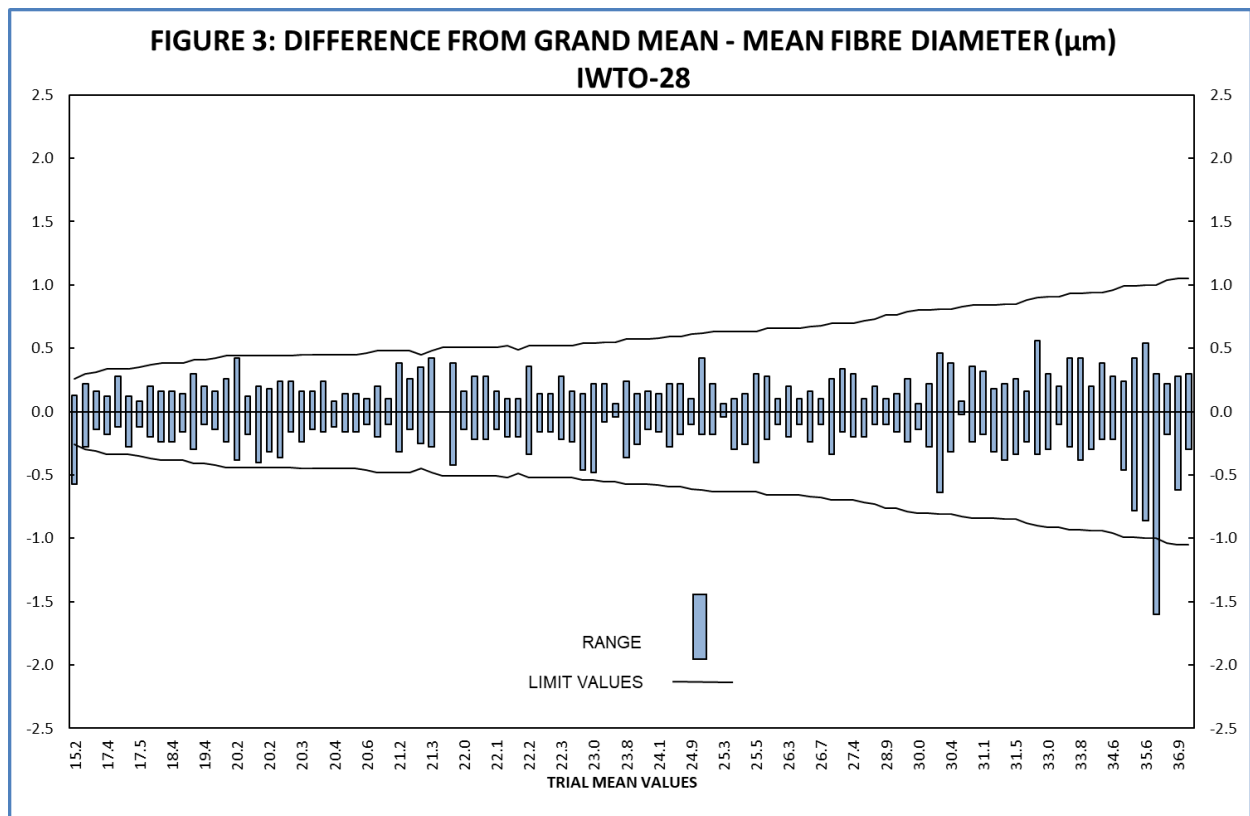


FIGURE 2: DIFFERENCE FROM GRAND MEAN - VEGETABLE MATTER BASE (%)





Overall, the mean, within-lab and between-lab standard deviation for the parameters reported are similar to the previous 5 trial periods, indicating continuing consistent performance of the member laboratories. Calculations of the 95% Confidence Limits confirm that the ILRT laboratories are producing results within the Confidence Limits reported in the respective IWTO Test Methods for most parameters.

For the reporting period, seven (7) outliers were due to differences in Wool Base, with two (2) of those within the same trial. Eight (8) were due to differences in VM Base, and two (2) of those were also in the same trial.

No outliers were due to differences in Laserscan Mean Fibre Diameter. Three (3) outliers were reported for Airflow Mean Fibre Diameter, with two (2) of those within the same trial. All laboratories continue to work together to improve performance.

By reporting⁽¹⁻²⁰⁾ the results of its round trials, the ILRT Group is providing commercial participants in the industry with a basis for confidence in the IWTO Certificates produced by its members. The ILRT Group is unique in reporting its technical performance and the series of trials provides a mechanism for ensuring that the member laboratories are harmonised and when differences are identified they can be addressed by the member laboratories.

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