Submission to

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RAW WOOL GROUP

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Laboratory Scouring Commercially Dual Solvent Scoured Wool During Yield Determination by IWTO - 19-85(E).

by

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SUMMARY

The effect of including a laboratory scouring step in the yield test procedures defined in IWTO-19 when applied to commercially dual solvent scoured wool was investigated. For the 18 consignments tested, the average difference in wool base due the inclusion of the laboratory scouring step was 2.07%.

INTRODUCTION

The effect of including a laboratory scouring step, for commercially scoured wool which contains no more than 5% ethyl extractable matter has been raised at recent IWTO Meetings. At the New Delhi Meeting in March 1994 the effect on aqueous commercially scoured wool was to reduce the wool base by 1.28%. It was agreed that comparable data should be reported for the alternate dual solvent scoured wool system. This paper reports the findings for 18 consignments that had been commercially scoured through the dual solvent scouring system.

MATERIALS AND METHODS

Reference core samples of commercially dual solvent scoured wool which had been tested for wool base in accordance with IWTO - 19 were retested incorporating an aqueous laboratory scouring step.

The testing procedure used was:

- redry the reference core sample;

- select 3 x 100gm subsamples;

- scour the subsamples in accordance with Appendix C of IWTO - 19 (Note: Flotations were collected for each subsample);

- determine the Oven Dry Weight of the subsample and, as the subsamples were taken on an oven dry basis, it was corrected to reflect the moisture content of the sample when originally cored, using the conditioning test results; and

- determine the residuals and calculate the wool base as specified in IWTO - 19.

RESULTS AND DISCUSSION

Table 1 below compares the wool base results of the original test, without the laboratory scouring step, to that with the laboratory scouring step included.

TABLE 1: Effect of Laboratory Scouring on the Wool Base of Dual Solvent Scoured Wool.

	Laboratory Scouring Step		
Sample	No	Yes	Difference
1	85.55	84.02	1.52
2	85.88	84.85	1.04
3	84.13	83.62	0.51
4	82.48	81.61	0.87
5	84.95	84.12	0.83
6	87.42	85.37	2.04
7	86.95	84.64	2.31
8	88.58	85.85	2.73
9	85.78	83.69	2.09
10	86.84	84.65	2.19
11	78.23	74.83	3.40
12	84.69	82.93	1.76
13	84.74	82.89	1.85
14	87.40	84.82	2.58
15	86.95	83.48	3.47
16	83.60	79.50	4.10
17	87.73	84.91	2.82
18	86.40	85.22	1.18
Average	85.46	83.39	2.07
St. Dev.			1.00

The results indicate an apparent average reduction in wool base of 2.07% when a laboratory scouring step is included in the test method. The reasons for this reduction are not known. A separate study is in progress to try and establish the source of the reduced wool base. The average loss compares to a 1.28% reduction previously reported (Marler and Jackson 1994) for commercially aqueous scoured wool. The Standard Deviation of the Differences is also higher for the dual solvent scoured wool (1.00(18 samples)) when compared to the aqueous scoured wool (0.62(33 samples)). Despite the type and style of wools that were scoured by the aqueous and dual solvent systems being potentially different, and the fact that a greater number of samples were used for the aqueous trial, the difference between the two scouring systems of 0.79% could in part be explained by the presence of a higher level of water soluable material remaining with the dual solvent scoured wool after the commercial scouring.

As reported previously, the sectors of the industry that trade in scoured wool have developed relationships between commercial processing yields that are achieved in practice and the yield provided on a Certificate. Any change that could impact on these relationships will need to be addressed by those sectors of the wool industry that are directly affected.

CONCLUSION

Including a laboratory scouring step in IWTO - 19 when determining the wool base of dual solvent scoured wool reduced the wool base by 2.07%, on average, for the wools studied. This trial did not investigate the source of the reduction.

REFERENCES

Jackson, M.A. and Marler, J.W., " Laboratory Scouring Commercially Aqueous Scoured Wool During Yield Determination (IWTO-19-85(E))", IWTO Tech. Cttee., Raw Wool Group Appendix 6, New Delhi Meeting, March 1994.