of yarn under investigation. The overall trend is that an increase in bamboo content decreases yarn tenacity. Here again, 50:50 blended yarns show values that are comparable with those of 100% cotton yarn for all three sets of yarn.

The influence of bamboo content in blended yarn on yarn elongation is displayed in Figure 1.f. The decrease in elongation with an increase in bamboo content is clearly visible. The elongation of 50:50 blended yarns is seen to be similar to that of 100% cotton yarn, irrespective of the yarn linear density.

While the overall trend appears to indicate that the bamboo content distinctly influences yarn properties, it may also be observed that the properties of the 33:67 blend show values that appear to deviate from the trend, especially in the case of the number of neps and yarn tenacity. The cause of the visible departure from consistency is not clear at present, and more elaborate work will need to be done to ascertain the reasons. Moreover further work is planned for a study of the comfort properties of knitted fabric produced from these yarns.

**Conclusions**

The following conclusions were arrived at from the above study.

- An increase in the bamboo content of bamboo:cotton blended yarn has a significant influence on the overall quality of the yarn in terms of yarn imperfections and mechanical properties, such as strength and elongation, for the linear density of yarns studied.
- It is also interesting to note that the quality of 50:50 bamboo/cotton blended yarn is most closely comparable with that of 100% cotton yarn. Hence it would seem advisable to blend cotton with bamboo to obtain the necessary fabric comfort rather than opting for 100% bamboo, which has less desirable properties and is also not cost-effective.

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**References**