Tailoring eucalyptus fibre for tissue paper production

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ABSTRACT

Papermakers are constantly optimizing the furnish of their products to improve either cost and/or quality. In parallel to what has been used in the pulpers, the technology available is also allowing or limiting such improvements. Illustrative examples could include increasing filler content, decreasing long fibre/short fibre ratio, correctly choosing among long and short fibres, improving refining strategy according to the furnish used, updating papermaking technology, to name a few.

This is also a reality in tissue production. The introduction of eucalyptus fibres in the 70's had boosted the knowledge on how to maximize the benefits of using short fibres. A sort of different factors had contributed to this trend. (1) eucalyptus fibres had been proved to optimize qualitative parameters when replacing birch, such as bulk in tissue; (2) eucalyptus fibres had been contributing to enhance tissue softness while replacing long fibres; (3) know-how in eucalyptus refining and the recent advances in refining that helped keeping reasonable tensile and saving refining energy; (4) forming/pressing/drying technologies, which have been developed aiming and achieving the same goals of improving softness and bulk (5) cost-driven approach, once euc fibres are historically cheaper than long fibers.

There also came the comparison among the different short fibers commercially available, and competitive in terms of quality, cost and supply. Under this approach one could name Birch, Northern Mixed Hardwood, Acacia, Mixed Tropical Hardwood (MTH), and a plenty of different eucalyptus fibres. These alternatives have been considered along the last decades, and recently the sustainability factor has consolidated eucalyptus as the best option. Among eucalyptus species, the dominant ones are those with the best agronomical performance in the planted forests.

Another benefit that also supports the increasing use of euc fibres in the furnish is the natural homogeneity of its morphology. This advantage is observed over birch and MTH, for instance. Nevertheless, in the case of eucalyptus, this homogeneity has been improved even further through the use of cloning technology, supported by advanced genetic improvement. Besides forest technology, considerable advances in pulp production technology (cooking/bleaching/drying) have also supported the continuous improvement of eucalyptus pulp, in both qualitative and quantitative aspects.