International Fiber Journal
February 2006 - Volume 21 / Number 1

Brazil Sisal Producers Aim to Recapture Market Share Lost to Synthetic Fibers

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Brazil's sisal producers and processors have their sights set on the USA and Europe as they aim to take back market share lost over the years to synthetic fibers. Major markets where they hope to make inroads are farming, marine and automotive.

"Baling twine in the US, for example, used to be made of 100% natural sisal fibers, as did most fishing nets and mooring cables," said Wilson Andrade, chairman of the more than 100-member Sindifibras, the Brazilian association of sisal fiber growers, manufacturers and exporters. "But over the years those markets have been lost almost completely to synthetic fibers, notably polypropylene."

World consumption of sisal has plummeted over the last two decades from a peak of 800,000 tons a year to current demand of around 350,000 tons. Brazil is far and away the world's largest producer of sisal fiber, producing 150,000 tons per year, with annual revenue of $130 million. The northeastern state of Bahia accounts for 90% of the total Brazilian production.
Mr. Andrade blamed the lost market share on supply and demand problems, substitution of synthetic fibers in many industrial applications, the cost and performance advantages of polypropylene and polyester fiber, and lack of market development initiatives on the part of the sisal industry.

But that situation is changing with escalating petroleum prices, growing environmental consciousness and regulation and productivity enhancements by sisal producers. "We have hit the bottom of the water and now we are starting to go up again," Mr. Andrade said. "But we are not just sitting under a coconut tree on the beach and waiting for the market to come back."

Sisal

Sisal fiber is derived from the leaves of the plant called sisal (Agave sisalana) belonging to the agave family. The fiber is obtained by crushing the leaf and putting it through a process of natural drying, brushing and preparation depending on its final use. The lustrous strands average from 80 to 120 cm in length and 0.2 to .4 mm in diameter.

In Brazil, sisal is the only crop that resists the semi-arid climate of the northeast region where the average rainfall is around 400-500 mm per year, but may only reach between 100 to 200 mm. Sisal production is hugely important to the approximately 800,000 inhabitants of the region who are people who have few production alternatives to sisal for their livelihood. Without it, many people who be forced to migrate to urban areas, thus putting more social pressure on the cities.

Sisal is valued for cordage use because of its strength, durability, ability to stretch, affinity for dyeing, and resistance to weather conditions. Among the end uses for sisal fiber are bailing twine, yarn, ropes, cords, carpets, matting, netting and bags.

SINDIFIBRAS

Sindifibras is a private institution created 27 years ago in the state of Bahia to represent the sisal industry among governmental and international agencies and to search for the most benefits for the fiber industry. The association is made up of 16 sisal fiber industries, 10 sisal fiber exporters, and approximately 80 small brushing companies. It is active in organizing and promoting international expositions, establishing key alliances and hosting different activities such as the Meeting of the International Group on Hard Fibers of the FAO and the Meeting of the Intergovernmental Group on Jute, Kenaf and Allied Fibers. By all accounts, the group is making notable advancements due mainly to the dedication of its chairman Mr. Andrade, who calls himself a "sisal-made man."

Mr. Andrade has strongly emphasized the protection of worker rights and benefits as well as the environment as part and parcel of the association's push to increase awareness of and demand for sisal.

Outlook and Initiatives

One of the factors contributing to a renewed international interest in sisal is the rising price of petroleum and related chemicals, the raw materials for synthetic fibers. Growing demand for oil and an uncertain and unstable supply side is likely to drive prices even higher, many analysts believe.

Mr. Andrade said that sisal is now price competitive with synthetic fiber for baling twine for the US farm market at about $26 for a 40 lb. bale. "As oil prices rise, we become even more competitive," he said.

In addition, a number of countries that competed with Brazil in sisal exports when demand was booming are now consumers of the fiber as they have turned their lands over to production of more profitable crops. These include such large countries as Mexico and China.
Another factor working in sisal's favor is growing environmental awareness and worldwide initiatives in the areas of recyclability and sustainability. This bodes well for sisal especially in the automotive market, where sisal competes directly with fiberglass.

It is expected that in a few years fiberglass will make way for composite materials made out of both natural and manmade fibers instead of 100% non-recyclable synthetic materials. For example, Brazil alone consumes 12,000 tons of sisal in the automobile industry where it has applications in seat cushions, insulation parts, door trim panels and dashboards.

Mr. Andrade noted that Mercedes Benz, which makes the Class A model in Brazil, now uses 100% natural sisal in door panels, ceilings and dashboards where fiberglass was once used. The advantage sisal has over fiberglass is threefold, he said: Fiberglass costs more, weighs more (thus adding to the overall weight of a vehicle and reducing fuel economy) and is non-recyclable.

It is believed that up to 40 kg. of sisal can be used in the production of a single automobile. Sindifibras now has its eyes on Europe where the European Union has approved a law requiring that at least 95% of the materials used in the auto industry by 2010 be recyclable.

New Uses, Markets

Another advantage sisal has over fiberglass is that it has better stiffness-to-weight properties, Mr. Andrade said. This means sisal can be used in polypropylene compounds to make

materials used in different industrial sectors such as construction, furniture, electronics and a host of decorative articles.

Geotextiles are a new use of sisal and may well become the largest potential market for sisal fiber in the near future. These textile fabrics are used in or near the ground to enhance the ground's characteristics and are applied in civil, environmental and geotechnical engineering for a wide variety of purposes which include: soil erosion control, mulching and paving. The final product may be in various forms, including woven and nonwoven nets, grids and strips.

Raising Productivity, Quality

The third factor leading to an improved outlook for sisal is the initiative taken by Brazil's sisal industry itself to improve quality and productivity. Sindifibras is placing strong emphasis on research and investment towards the improvement of production standards and the promotion of new uses for sisal. The sisal marketing and promotional push is strongly supported by APEX-BRASIL, the Brazilian Trade and Investment Promotion Agency.

Different governmental entities such as the Secretary of Science and Technology of Bahia, the Federal University of Bahia, the APAEB (Sustainable and Solidarity Development Association for the Sisal Region), and EBDA (Bahia Enterprise for Agricultural Development) are carrying out technical research and supporting sisal producers with the elements needed to increase the sisal production per hectare from 600/700 Kg to 1200/1500 Kg., thus doubling the present production in the next years as it fulfills new demands and aims for equilibrium without decreasing international prices.

"It is very important that we increase productivity per hectare," Mr. Andrade said. At present, these agencies and associations are working on new and improved machinery used to decorticate the sisal leaves and separate the fiber (4%) from the mucilage (96%), guaranteeing quality, economy, speed and safety. They are also attracting producers from the different stages of the sisal industry to participate in workshops and teach them how to implement new techniques and machinery in the proper way.

Consequently, new attention is being paid to the use of the byproducts from sisal production, which could be used as animal feed, foliar pesticides, and organic fertilizers among others.

In addition, Sindifibras is an active participant in INMETRO, a manufacturing standards process similar in concept to ISO and now recognized in 80 countries. INMETRO, or the National Institute of Metrology, Standardization and Industrial Quality, was created by law 30 years ago to support Brazilian enterpries, to increase their productivity and to enhance the quality of goods and services. In addition to the emphasis on quality, the organization also factors in environmental and social standards. Sisal products manufactured under these standards are identified with a quality seal named Brazilian Sisal 100% Natural. "Our main goal is quality, competitiveness and on-time delivery," Mr. Andrade said. "We are not waiting for the market to come back, we are preparing and doing our homework. Given current and expected economic and market conditions, coupled with strong initiatives by Brazil's sisal industry, world demand for sisal could rise to 500,000 tons in the next three years, he estimates.

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