

# Myths surrounding the sector

*In spite of the sector's effort to inform consumers and NGOs about pulp and paper production processes, false data stating that eucalyptus dries the soil or that virgin fiber paper should be substituted for recycled continue being spread*

**By Marina Faleiros**

Who hasn't received an e-mail and read at the bottom a phrase that says "Please consider the environment before printing this e-mail" or "Save trees. Print only when necessary"? They are the reflex of myths about the pulp and paper sector that perpetuate even though they do not reflect today's reality about the industry. Therefore, one of the main challenges for professionals in the segment has been to prove these concepts are false

and provide the public more pertinent answers to doubts regarding the planting of eucalyptus and products coming from forests.

The internet is one of the tools that spreads the most deceitful concepts about pulp and paper production, particularly via those so-called "pass it on e-mails", through which users retransmit e-mails without checking the veracity of information. One such message, for example, says that people should consume more

recycled paper if they want to be environmentally correct, further stating that: "The production of recycled paper consumes between 70% and 90% less energy than regular paper. And save our forests."

According to Cláudio Mudado, professor and researcher at the Federal University of Viçosa (UFV), this type of information only confuses consumers. "If they are referring to mechanical pulp it may be that recycled paper consumes less energy, but it is important

BY BAHIA SUL



**Studies showed that eucalyptus is not a "water absorbing machine" as accused**

to clearly define the comparison parameters, or else we'll be committing major information errors by comparing the wrong products", he says. Mudado explains that if we compare recycled paper against white paper produced using chemical pulp, the most common produced in Brazil, the second can be produced with even less energy consumption.

In the forestry area, the myths are even bigger and difficult to be overcome, since there are various NGOs and environmentalists who defend the end of eucalyptus planting, coining phrases such as "green desert" to attack plantations in the sector. "The era of 'anti-soy' and 'anti-sugarcane' has already ended. Now it's eucalyptus' turn, the martyr of the environmentalist movement, and the problem behind this is that the ignorance of fundamentalist environmentalism has led society to have a totally mistaken awareness about the soil-related demands of eucalyptus", says Pedro Piza, Pöyry Tecnologia's legal environmental consultant.

Celso Foelkel, a consultant in the pulp and paper area and partner at consulting firm Grau Celsius, has already published an article about this subject matter in the Eucalyptus Online news bulletin and believes that, like any other activity of major extension carried out by human beings, eucalyptus plantations do in fact have an impact on the soil, waters, fauna and flora, but it is possible to minimize the negative impacts and boost the positive ones. "The planting that complies with rich and complex eco-forest mosaics, the respect towards natural forests and ecosystems in areas of permanent preservation (river-bordering vegetation, flooded areas, lagoons, etc.), the creation of legal reserve areas, all this has contributed so that today's forest management has a much smaller impact than those systems used in the past", he said.

### EUCALYPTUS IN THE SPOTLIGHT

To end the old myth that eucalyptus dries and degrades the soil is even more difficult, despite several studies explaining that the correct managing of planted forests does not harm the land or the pluviometric regime of a region.

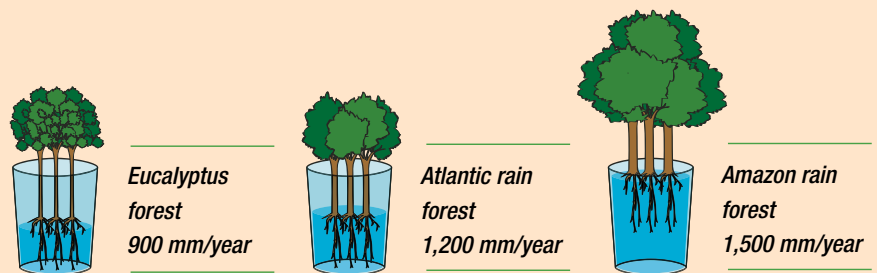
Piza explains that because eucalyptus grows quickly while young, it needs a good supply of nutrients in its initial stage. "In the case of a seven-year cycle, the majority of nutrients are returned to the soil through a nutrient cycling process, while nutrients are replenished after each forest harvest, ensuring the productive capacity of soils." The problem only occurs, he says, when forest harvesting is done at the time when the tree is still very young, not giving enough time for a balance between the economic and ecologic rotation.

Many times, the weakening of soil does not occur on account of the eucalyptus, but rather by the utilization of inappropriate land-clearing methods, such as burning, which may cause irreversible damage in the short term. "The use of fire in forestry areas generally

causes major damage to the soil, particularly in its physical characteristics. Destruction of the soil's organic coverage, exposing it directly to inclement weather, causes significant changes to its physical properties, especially porosity and permeability", says Piza.

A good example that eucalyptus does not "steal" nutrients and does not dry the soil is VCP's Forest Reserve project. In an experience with small rural producers in Rio Grande do Sul, the company is encouraging the planting of corn and beans between eucalyptus trees. Participants of the Forest Reserve project each harvested more than 50 sacks of corn planted between the young eucalyptus trees. "Whenever talking about water consumption by eucalyptus forests it is necessary to take into account the pluviometric regime of the region in question, as well as location of the plantation within the context of the water basin where it is located", says Piza. He points out that water consumption by eucalyptus forests depends on the density of plantation, genetic material, soil-climate characteristics,

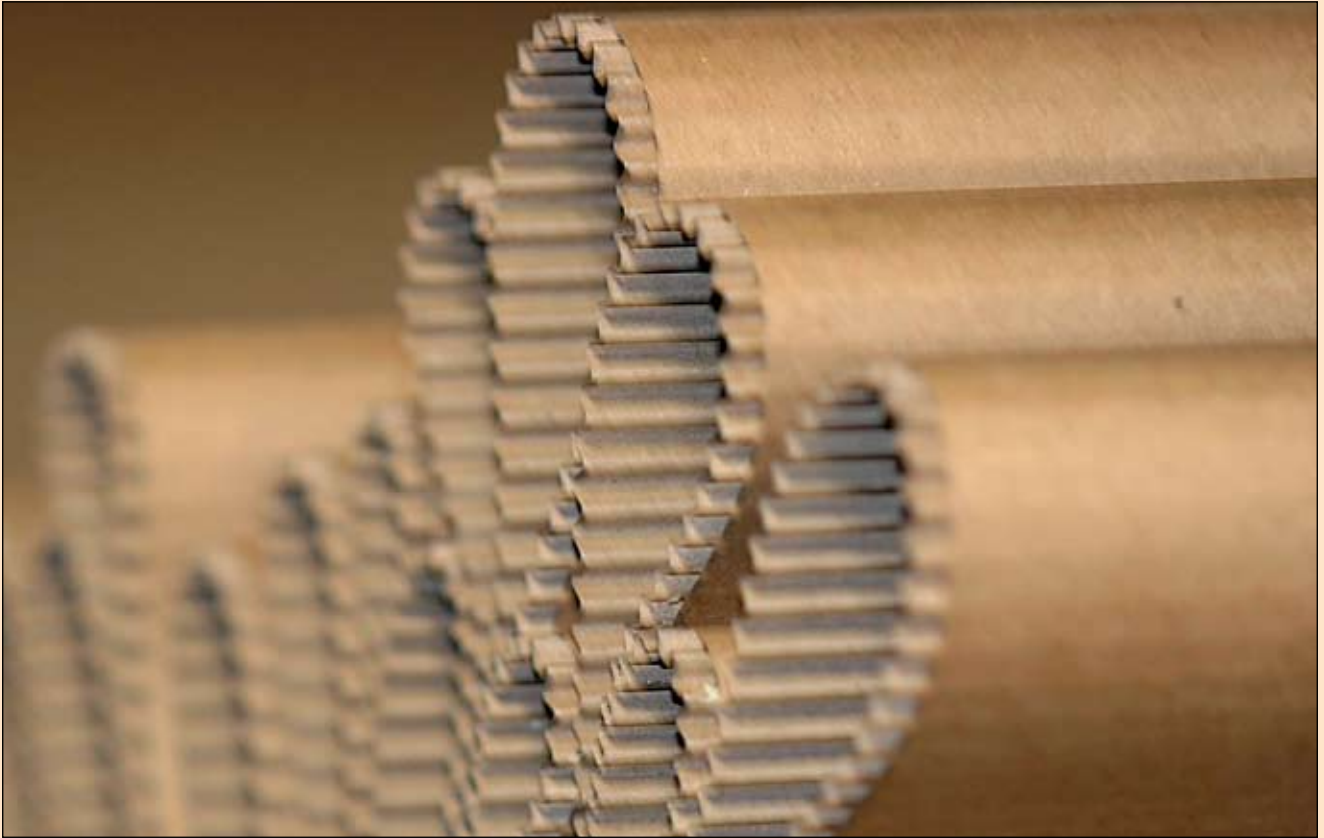
### Water consumption by forests (mm/year)



Source: Suzano  
\* 1 mm corresponds to 1 L per square meter

Comparison between eucalyptus water consumption and other crops	
Crop/Coverage	Water utilization efficiency
Potato	1 kg of potato / 2,000 L
Corn	1 kg of corn / 1,000 L
Sugarcane	1 kg of sugar / 500 L
Cerrado	1 kg of wood / 2,500 L
Eucalyptus	1 kg of wood / 350 L

Source: NOVAIS et al., 1996



**People should consume both types of paper, recycled and virgin fiber, since each one has its advantages**

percentage occupied of the water basin and solar radiation of where the species is planted.

In the book *Eucalyptus, a Century in Brazil*, written by Luiz Roberto de Souza Queiroz and Luiz Ernesto George Barrichelo, the species' water consumption is also well mapped. The authors mention Professor Mário Guimarães Ferri, who carried out a study at ESALQ/USP in 1952 to compare water consumption of native and exotic species, the result of which showed that eucalyptus is not a "water absorbing machine" as accused. "According to Ferri, a Brazilian cedar consumes 37.5 thousand liters of water annually, while eucalyptus absorbs 19.6 thousand liters, practically half the amount", says the book. Contrary to the native trees tested, says the book, eucalyptus consumes more water in the summer, precisely during the rainy season.

Studies, such as those conducted

by Mauro Schumacher (2003), Júlio César Lima Neves (2000), José Leonardo de Moraes Gonçalves and Mello Sérgio Luis de Miranda Mello (2004), also put an end to the myth that eucalyptus roots suck up the water available in the water table for being deep, and state that the eucalyptus roots reach an average depth of 1.5 to 2.5 meters. "The vast majority of these roots, which are the main ones responsible for absorbing water and nutrients, are found in the first 20 centimeters of soil depth, therefore, it's obvious that the eucalyptus roots will absorb water, if available, that's around them, but most probably will not reach all the way down to the water table, especially since the roots are unable to establish themselves in an anaerobic environment", explains Piza.

Foelkel points out that forests also help in the recovery of soils degraded by grazing, for example, which are compacted. "Forests are very useful in the case of more intense rains and that go

on for several hours or days, since they allow water to hit the soil, infiltrate and replenish the underground water table with a new quantity of water."

Piza, at Pöyry, comments about the same fact, pointing out that satellite images prove that various areas used for planting eucalyptus and pine trees were recovered from degradation on account of planted forests. "The forest bases of pulp and paper companies allow for the forest recovery of extensive areas and the interconnection of forest fragments previously unconnected."

In order for this information to reach the population in the correct manner, Bracelpa (Brazilian Pulp and Paper Association), through its Environmental and Communication Committees, has joined forces with producers in the sector to provide consistent data about planted forests and the sector as a whole. Even the term "myth" has been abolished from the various pieces of information divulged to the

general public, with the objective of eliminating any fear about the subject matter. In addition, this subject has attracted the attention of researchers from all over the world, who have explained in various technical articles these themes and presented data about eucalyptus with greater technical backing, many times proving through concrete examples that the species is beneficial to the environment in various situations.

### **WHITE PAPER: THE VILLAIN OF FORESTS?**

As already mentioned earlier in this article, it is common to still see campaigns against the use of white paper, even stating that native trees are cut down to produce it. "But in Brazil, the sector has the premise of using planted forests to supply the raw material, and many times these areas have already been cut down and degraded, so the planting of eucalyptus ends up generating greater environmental preservation", says Piza.

Another problem, says Mudado from UFV, is that many times companies that produce recycled products help increase conceptual errors, stating that recycled is more eco-friendly. "Both types of companies (recycled and virgin fiber) are important, but this doesn't mean that recycled, in principle, is more eco-friendly, since this depends on other aspects that need to be analyzed. There exists, for example, recycled paper mills that need paper scrap from other states, involving distances that are so big that truck emissions cause a huge impact", he says.

According to him, it's very important that everybody be aware that recycling is a way of reutilizing valuable material and that it should not end up in a landfill or be incinerated, in addition to help minimizing consumption in certain countries like the United States, where

consumption per capita amounts to 300 kilos per year. "On the other hand, the fiber cannot be recycled indefinitely. Some articles suggest that this can be done up to a maximum of five times, since the fiber then loses its physical characteristics of being transformed into paper again".

On account of this, says Mudado, virgin fiber white paper will always have to exist, and it is not healthy that this production segment be deemed bad by consumers. "People mistake trees cut down to make paper with native forests, which in the past many times were cut down. But today there exists environmental awareness about the theme, whereby a lot more is planted than harvested." He mentions Finland as an example, which country suffered from deforestation, but turned around the situation and now has more forests than 50 years ago.

Several years ago, large Brazilian companies that favored sustainability began using recycled paper to print their publications and documents, alleging that in doing so they were actively contributing to environmental protection. Natura was one such company, but after analyzing the product's lifecycle, it ended up opting in 2008 to resume using virgin fiber paper, this time using paper produced from wood certified by the Forest Stewardship Council (FSC). In an official announcement, the company said that since coated paper has less weight, it allows the company to reduce its paper consumption by 3.5 thousand tons yearly and, consequently, the amount of waste generated by its disposal will also be smaller.

In calculating energy consumption to produce recycled and virgin fiber paper, Mudado points out that in the case where wood undergoes the kraft process, the lignin itself is used as a source of energy, in a self-sufficient process in which the total energetic balance can



**Mudado says that many companies that produce recycled products help increase conceptual errors, stating that recycled paper is more eco-friendly**

even be positive. In comparing recycled paper against virgin fiber paper, it is important to consider the entire lifecycle of the product, including the transport of wood and scrap paper. "The balance can be very economic for recycled, but this is going to depend a lot on the type of paper being produced and the operating efficiency of each mill. There's no way for consumers to really know whether they are buying sustainable recycled paper", he says.

When other factors are compared, such as water consumption, recycled paper mills tend to do better, since they are benefitted in the closing of circuits, since the process does not require high quality for the end product. "On the other hand, recyclers have a process called deinking, which may constitute a problem if not done properly, since the ink removed from the paper to be recycled may turn into toxic sludge and even contain traces of heavy metals", says Mudado.

All this information, says the professor, is relevant in order for consumers to understand that it is important to balance their consumption. "People should consume both types of paper, since each one has its advantages".