Soybean Oil Adds Green Comfort to Sofas, Mattresses and More

More than 30 Furniture Companies Turn to Soy-Based Foam

Over the past few years, a quiet transformation has begun to take shape within the furniture industry. Most people probably have not thought about the fact that the cushions

in their favorite chair, sofa or ottoman, and the foam in their mattress, contain petroleum. The good news is that the amount of petroleum in this cushioning is rapidly decreasing as more and more furniture manufacturers turn to an environmentally friendly alternative—foam made from soybean oil.

In an effort to lessen their environmental impact and reduce reliance on foreign oil, these companies are increasingly using soy-based foam in furniture cushions and mattresses. Soy-based foam provides the same quality, comfort and durability as petroleum-based foam, with the added benefits of being made from a renewable resource and better for the environment.

Cargill and Dow Chemical are the two primary manufacturers of soy-based polyols used by foam manufacturers to produce the soy cushioning. Cargill began development of its BiOH® polyols in 2003 with Hickory Springs Manufacturing Company, one of the largest foam producers in the U.S. By 2006, Hickory Springs produced the first soy-based foam (Preserve™) for furniture and bedding.

The United Soybean Board (USB) New Uses Committee funded several years of soy polyol research and that has lead the way for companies like Cargill and Dow to develop their own line of soybased polyols. Cargill has trademarked their product as BiOH® and Dow has developed RENUVA™ Renewable Resource Technology.

The foam manufacturing process involves a reaction between petroleum-based polyols and other petro chemicals. Soy polyols can be substituted for a portion of petroleum polyols. Currently, polyols are available with soy content ranging from 30 percent to 50 percent. Finished products using these polyols vary in soy content depending on the type of applications.

According to Hickory Springs National Foam Marketing Manager Brad McNeely, the industry is working to increase that percentage and eventually hopes to reach 100 percent use of the soy polyol, which would equate to about 67 percent bio-content in finished foam. That is still a few years away, and according to McNeely, the key will be to increase the soy content “without compromising the product.”

In 2006, Lee Industries, Inc., a family owned furniture company based in Newton, NC, became one of the first furniture companies to use soy-based foam. In business since 1969, Lee was at the forefront of the environmental movement well before it became standard practice and in the early '80s made a commitment to protect the environment through the sustainable manufacture of earth-friendly products. The company now uses the foam for all of its seat cushions and arm padding. “With this soy-based foam, we have taken steps to reduce our overall environmental footprint,” said Lee Industries Inc. Image & Branding Director Tonya Fischer. “The response from our dealers and customers has been extremely positive.”

Mattress companies have also embraced soy-based foam. In the summer of 2008,

Martha Stewart Living unveiled The Good Bed, which uses soy-based foam in its new line of mattresses. “The soy-based product performs well and is more environmentally friendly," said Dean Thompson, vice president of marketing for Martha Stewart The Good Bed. Several other mattress companies are using soy-based foam as well.

Home furnishings leader Crate & Barrel uses soy-based foam in the majority of its upholstered products. “We have taken the important step of minimizing petroleum-based foam in many of our upholstery cushions with more energy-efficient alternatives, such as soy or plant-based foam and fibers, without sacrificing an ounce of the quality or comfort that our furnishings are known for,” said William Doherty, assistant upholstery buyer, Crate and Barrel. “In addition, many of our upholstery frames incorporate recycled metal components and soy-based resins for bonding. And while green improvements are typically associated with higher costs, we are bringing these upgrades to our customers without added expense.”

Industry experts point to the environmental benefits of soy-based foam and predict that its use will continue to grow. According to Cargill's preliminary lifecycle analysis, the manufacturing process of BiOH polyols results in a 61 percent reduction in non-renewable energy use and a 36 percent reduction in greenhouse gas emissions. Additionally, it found that every million pounds of petroleum-based polyols replaced with BiOH polyols, saves nearly 2,200 barrels of oil.

Further, a life-cycle analysis conducted by Dow, which developed RENUVA™ Renewable Resource Technology, shows that its technology uses 60 percent fewer fossil fuel resources than the conventional polyol technology.

Click here for a list of furniture companies that use soy-based cushioning in one or more of their product lines*

Click here for *companies that manufacture soy-based foam**

Note: We realize that there may be other companies that are using or manufacturing soy-based foam that are not on these lists. If you know of one that should be added, please contact us and we will gladly update the list.