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Biocomposite technologies have been around for decades now, especially ones where the underlying motivation is to repurpose an agricultural or manufacturing byproduct or, in other words, to discover and use a cost-cutting filler. There are certainly valuable applications for such technology. But two critiques arise. First, the fillers frequently make biocomposites with restricted mechanical and aesthetic qualities and, thus, with limited applications. Second, while using bio-ingredients might appear to provide eco-merits for their ability to replace fossil-fuel derived plastic, instead these technologies could replace renewable feedstocks simply because they're cheaper. Trifilon, a Swedish green-tech company, has developed a second generation of biocomposite from a different approach – material performance. Its first commercial offering, BioLite, is a hemp-based biocomposite in which the plant fibers are selected and treated to enhance performance of the end material both mechanically and aesthetically. Because of their newly developed industrial processes for working with hemp fibers, BioLite achieves greater mechanicals and lighter colors than other biocomposites. Challenges still exist - from general food approval to UV resistance, to industrial hemp's continued confusion with its more infamous cousin marijuana. These challenges and early results from Trifilon's newly developed flax fiber biocomposites will be presented at the 8th Biocomposite Conference this November.